0150-13033-0000

TRANSMITTAL

TO	DATE	COUNCIL FILE NO.
The City Council	08/27/2025	
FROM		**COUNCIL DISTRICT**
The Mayor		ALL

Personal Services Contract with Lyncole Grounding Solutions, LLC for the installation and maintenance of lightning and overvoltage protection systems.

Transmitted for your consideration. The Council has 60 days from the date of receipt to act, otherwise the contract will be deemed approved pursuant to Administrative Code Section 10.5(a). See the attached report from the City Administrative Officer.

Jenny Delwood

MAYOR

(Jenny Delwood for)

MWS:ADP:11260002

CAO 649-d

Report From
OFFICE OF THE CITY ADMINISTRATIVE OFFICER
Analysis of Proposed Contract
($25,000 or Greater and Longer than Three Months)

To: Mayor	Date: 07-28-25	C.D. No. All	CAO File No.: 0150-13033-0000
Contracting Department/Bureau: Information Technology Agency (ITA)		Contact: Maria Ramos 213-935-5639	
Reference: Transmittal from ITA dated July 11, 2025			
Purpose of Contract: For the installation and maintenance of lightning and overvoltage protection systems.			
Type of Contract: (X) New contract ( ) Amendment		Contract Term Dates: Three years from the date of attestation with two one-year options to extend	
Contract/Amendment Amount: $ 15,000,000 Proposed amount $ 15,000,000 + Prior award(s) $ 0 = Total $ 15,000,000			
Source of funds: General Funds in ITA's Communications Services Account			
Name of Contractor: Lyncole Grounding Solutions, LLC Address: 90 Cutler Dr, N. Salt Lake, UT 84054			

	Yes	No	N/A	Contractor has complied with:	Yes	No	N/A
1. Council has approved the purpose	X			8. Business Inclusion Program	X		
2. Appropriated funds are available	X			9. Equal Benefits & First Source Hiring Ordinances	X		
3. Charter Section 1022 findings completed	X			10. Contractor Responsibility Ordinance	X		
4. Proposals have been requested	X			11. Disclosure Ordinances	X		
5. Risk Management review completed		X		12. Bidder Certification CEC Form 50	X		
6. Standard Provisions for City Contracts included	X			13. Prohibited Contributors (Bidders) CEC Form 55	X		
7. Workforce that resides in the City: 8%				14. California Iran Contracting Act of 2010	X		

RECOMMENDATION

That the Council authorize the General Manager of the Information Technology Agency, or designee, to execute a Personal Services Contract with Lyncole Grounding Solutions, LLC for the installation and maintenance of lightning and overvoltage protection systems with a total expenditure authority of up to $15,000,000 and a three-year term from the date of execution with two one-year options to extend, subject to the approval of the City Attorney.

SUMMARY

The Information Technology Agency (ITA) requests approval to execute a Personal Services Contract (Contract) with Lyncole Grounding Solutions, LLC (Contractor) to provide installation and maintenance of lightning and overvoltage protection systems for radio towers and communications shelters compliant with R56 grounding and lightning protection guidelines (Services). The proposed contract term is three years from the date of attestation, with two additional one-year options to extend, for a total potential term of five years.

ITA is responsible for maintaining all communications equipment and providing communications services to all Council-controlled departments and offices of the City, including radio and microwave radio tower sites which handle Citywide emergency communications. Due to the high altitudes, radio

Austin Patrick			
ADP	Analyst	11260002	City Administrative Officer

towers and communications shelters on rooftop and mountaintop sites have historically suffered damages from lightning strikes, resulting in costly repairs and service interruptions. In order to improve site resilience against lightning strikes, ITA sought the installation of overvoltage protection systems, and on October 26, 2023 issued a Request for Proposal (RFP) for R56 grounding services for the City's communications systems. The Contractor was the only vendor that submitted a response to the RFP by the deadline of January 18, 2024. The submission was evaluated by a committee of three City employees on the following criteria: company information and qualification; scope of services; contract rates and fees; customer service; warranties; and, client references. Based on the evaluation, the committee and ITA recommend awarding the contract to Lyncole Grounding Solutions, LLC.

The proposed Services will be provided by the Contractor on an as-needed basis as requested by ITA; execution of the Contract does not obligate the City to utilize the Contractor's Services. In accordance with Charter Section 1022, the Personnel Department determined that there are no City classifications with the expertise to perform the work proposed to be contracted. As the total Contract duration would have a term longer than three years if the extension options are exercised, it requires Council approval pursuant to Administrative Code Section 10.5(a). The Contractor is in the process of uploading its insurance certificate for the approval of the City's Risk Manager, which must occur prior to Contract execution. The Contractor has complied with all other contracting requirements.

FISCAL IMPACT STATEMENT

Funding for 2025-26 anticipated Contract expenditures is available in ITA's Communication Services Account as part of the funding approved for Citywide telecommunications services in the 2025-26 Adopted Budget. There is no additional impact to the General Fund.

FINANCIAL POLICIES STATEMENT

The recommendation of this report is in compliance with the City's Financial Policies as Contract expenditures are limited to the appropriation of funds made by the City for this purpose.

MWS:ADP:11260002

TED M. ROSS
GENERAL MANAGER
CHIEF INFORMATION OFFICER

MARYAM ABBASSI
ASSISTANT GENERAL MANAGER

BHAVIN PATEL
ASSISTANT GENERAL MANAGER

EDUARDO MAGOS
ASSISTANT GENERAL MANAGER

CITY OF LOS ANGELES

CALIFORNIA

KAREN BASS
MAYOR

ITA
INFORMATION TECHNOLOGY AGENCY

CITY HALL EAST
200 N MAIN ST, ROOM 1400
LOS ANGELES, CA 90012
213.978.3311

ita.lacity.gov

July 11, 2025

REF: EXE-115-25

Honorable Karen Bass
Mayor, City of Los Angeles
Room 303, City Hall
Los Angeles, CA 90012

Attention: Legislative Coordinator

Subject: **REQUEST APPROVAL FOR PERSONAL SERVICES CONTRACT WITH LYNCOLE GROUNDING SOLUTIONS, LLC, TO PERFORM R56 GROUNDING SERVICES**

Dear Mayor Bass:

Attached for your review and approval is the draft contract between the City of Los Angeles and Lyncole Grounding Solutions, LLC, (Lyncole) to perform R56 grounding services. The contract will commence on the date of the agreement's execution and will terminate three years therefrom with two one-year options to extend. The contract has a total expenditure limit of $15,000,000.

Background

The Information Technology Agency (ITA) is responsible for maintaining all communications equipment and providing communications services to Council-controlled departments and offices of the City. ITA's responsibility to provide communications services includes managing the City's radio and microwave radio tower sites, which handle Citywide emergency communications and comprise a major component in the emergency interoperations communications infrastructure.

At high altitudes, the radio towers and communications shelters on rooftop and mountaintop sites have a history of being damaged by remote and direct lightning strikes. The most significant events were both financially and operationally costly and required the City to bring in a portable generator. In order to make these sites more resilient against lightning-related interruptions, ITA recommends improving the City's radio and microwave tower sites through the installation and maintenance of overvoltage protection systems that adhere to the R56 grounding and lightning protection guidelines.

On October 26, 2023, ITA issued the Request for Proposal (RFP) for R56 Grounding Services to be performed on an as-needed basis for the City's communications systems. A mandatory pre-proposal conference was held on November 9, 2023 and one proposal was received by the January 18, 2024 deadline. An evaluation committee panel of three City employees evaluated the proposal from the single respondent.

The submission was rated based on the following criteria:

- Company Information and Qualifications
- Scope of Services
- Contract Rates and Fees
- Customer Service
- Warranties
- Client References

As a result of the evaluation and review of reference checks, the committee and ITA recommend awarding the contract to Lyncole Grounding Solutions, LLC.

On March 26, 2024, all respondents were notified by ITA of the evaluation and selection results.

The term of the proposed contract will be three years, commencing upon contract attestation and will terminate three years therefrom, with two one-year options to extend with a total expenditure limit of $15,000,000. The execution of this contract does not obligate the City to utilize any of the contractor's services or any of the allocated funds.

General Administrative Requirements

On October 17, 2023, in accordance with Charter 1022, the Personnel Department determined that City employees do not possess the expertise and required certification to perform the work being sought. Additionally, the intermittent nature of the work via short-term projects would result in employees being laid off at the end of such projects.

The Equal Benefits Ordinance/First Source hiring Ordinance was verified on November 18, 2023. The Disclosure Ordinance affidavit was verified on November 18, 2023.

The Contractor Responsibility Ordinance Questionnaire was submitted by the Contractor on January 26, 2024, and was verified by the Authorized Designated Administrative Agency (DAA) Representative on January 28, 2025.

The Bidder Certification CEC Form 50 and Ethics CEC Form 55 were completed by the vendor, and the CEC Form 55 was filed with the Ethics Commission on January 17, 2025.

The contractor is working with its insurance agent to upload an ACORD insurance certificate in the City's KwikComply website in the amounts subject to the determination of insurance requirements by Risk Management.

The Iran Contracting Act of 2010 Compliance Affidavit was completed and submitted by the vendor.

The headquarters' address and workforce information are as follows:

VFC Group, LLC / Lyncole Grounding Solutions, LLC
DBA Lyncole XIT Grounding
90 Cutler Drive
N. Salt Lake, UT 84054

Percentage of Workforce residing in the City: 8%

The contractor possesses a valid Business Tax Registration Certificate (BTRC).

The draft agreement has been approved by the City Attorney as to form.

Fiscal Impact Statement

Funding for the proposed contract is available in ITA's Communications Services Account. The execution of this contract does not obligate the City to utilize the contractor's services or any of the authorized contract authority.

Recommendation

Authorize the General Manger for ITA, or their designee, to execute a three-year contract with two one-year options to extend with Lyncole Grounding Solutions, LLC, to provide as-needed R56 Grounding Services. The total expenditure limit for this contract is $15,000,000.

Please contact Maria Ramos, Chief Management Analyst, at (213) 935-5639 with any questions.

Respectfully Submitted,

Bhavin P. Patel

For Ted Ross
General Manager

Attachment

ec: Bhavin Patel, ITA
Cristina Tolentino, ITA
Maria Ramos, ITA
Mei Ly, ITA
Baltazar Dasalla, ITA

CONTRACT

between

CITY OF LOS ANGELES

and

LYNCOLE GROUNDING SOLUTIONS, LLC

THIS CONTRACT (Contract or Agreement) is made and entered into by and between the City of Los Angeles, a municipal corporation (hereinafter referred to as City), acting by and through its Information Technology Agency, and Lyncole Grounding Solutions, LLC (Contractor).

WITNESSETH:

WHEREAS, the City Information Technology Agency (ITA), is responsible for providing communications services to the departments and offices of the City;

WHEREAS, ITA's responsibility includes managing the City's radio and microwave radio tower sites, which handle Citywide emergency communications and comprise a major component in the emergency interoperations communications structure;

WHEREAS, competitive bidding under Charter Section 371 is not required because the services required are for the performance of special services of a temporary and occasional character for which competitive bidding is not practicable or advantageous;

WHEREAS, the City performed a Charter Section 1022 evaluation and determined that (a) there are no existing City staff or classifications to perform the work proposed to be contracted herein and additional staff cannot be employed and trained in a timely manner to meet the department's needs, and (b) this work is of limited scope or intermittent nature and it is unlikely that the City would be able to continue the employment of persons hired for projects undertaken under this Agreement;

WHEREAS, ITA issued a Request for Proposals (RFP) on October 26, 2023, for R56 Grounding Services under Charter Section 372, and the Contractor was selected under such RFP;

WHEREAS, the City desires to engage the services of the Contractor to provide onsite R56 grounding and bonding work and installation and maintenance of lightning protection devices; and

WHEREAS, the Contractor has demonstrated to the City, through the RFP process, that Contractor is qualified to perform the services required herein.

NOW, THEREFORE, in consideration of the mutual promises, covenants, and agreements hereinafter set forth, the parties hereby promise, covenant, and agree as follows:

1.0 TERM OF CONTRACT

This term of this Contract shall commence upon its attestation and shall terminate three years therefrom, or at such time as all funding provided herein has been expended, whichever occurs first.

The City shall have the option in its sole discretion to extend the term of this Contract for two successive one-year periods upon written notice to the Contractor by the ITA General Manager or his/her designee.

2.0 COMPENSATION AND PAYMENT

2.1. City's Total Obligation

The City's total obligation under this Contract shall not exceed $15,000,000 (fifteen million dollars). Contractor further understands and agrees that execution of this Contract does not guarantee that any or all funds will be expended.

Contractor understands that the City may have, or subsequently enter into, other contracts with vendors for identical or similar services; therefore, Contractor agrees that this Contract does not grant an exclusive right to Contractor to provide services identified in this Contract.

2.2. Pricing

2.2.1. Services

The City shall receive the pricing for Services, defined in Section 3.0, as specified in Appendix B. Labor rates include all labor-related elements, such as employee benefits, payroll taxes, overhead, worker's compensation, and training.

All costs associated with estimating any job such as, but not limited to transportation, travel time, etc. (commonly referred to as a pre-field) will be borne by the Contractor.

2.2.2. Goods

Regarding the goods required for performance of Services, the City shall receive the pricing for goods produced by the Contractor as specified in Appendix B. For goods not produced by the Contractor (e.g., surge protection devices), the price shall be the price that Contractor pays to purchase the goods, after any discounts, and additionally a 15% markup to cover the costs of sourcing, funding, and carrying the goods. Contractor shall reasonably ensure that it purchases

goods at the lowest available price and shall submit the proposed purchase price to the City for pre-approval. City reserves the right to direct the purchase to be from a source offering a lower price.

2.2.3. Special Equipment Rentals

The Contractor shall not invoice the City, and the City shall not pay, for any tools or equipment that may be needed to complete an installation. Allowed exceptions are for the rental of special equipment, such as scissor lifts, concrete X-Ray machines, or wet coring equipment and tools. For each rental of special equipment, City shall request and evaluate quotations, from, at minimum, three vendors offering the special equipment for rent, and select the least expensive satisfactory option. Any such rental must be pre-approved in writing by an ITA Communications Engineer, Senior Communications Engineer, or Director of Communications.

3.0 STATEMENT OF WORK

Contractor hereby agrees to install and maintain lightning and overvoltage protection systems (Services) as requested by the City. Contractor warrants that the Services provided hereunder shall conform at all times to high professional industry standards.

3.1. Lightning/Surge Protection

On request, Contractor shall provide lightning and overvoltage protection for the radio and microwave tower sites, and replace and install appropriate surge protection devices (SPD) required for compliance with Motorola R56 standards and guidelines. The entire tower/facility shall be suitably protected against lightning by deploying the required number of lightning arrestors. Lightning protection should be provided as per industry standard.

Contractor shall comply with the following standards when providing grounding and bonding services for radio towers and communications shelters on rooftop and mountaintop sites:

- R56 Standard;
- L3Harris Standard;
- IEC 62305 Lightning protection standard;
- IEEE 81 Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Grounding System;
- National Fire Protection Agency (NFPA) 780 Standard for the Installation of Lightning Protection Systems;
- National Electrical Code (NEC);
- UL 96A Standard Installation Requirements for Lightning Protection Systems;

- Lightning Protection Institute (LPI) Standards

The standards listed shall serve as a guide and shall be superseded by any and all current applicable industry standards and/or local codes at the time of installation.

3.2. Barricades and Safety Measures

During the performance of Services, Contractor shall, at Contractor's own expense, furnish and erect such barricades, fences, lights, and danger signals, and shall take such other precautionary measures for the protection of persons, property, and the work as may be necessary. Contractor will be held responsible for all damage to the work due to failure of barricades, signs, and lights to protect it, and when damage is incurred, the damaged portion shall be immediately removed and replaced by Contractor at his own cost and expense. Contractor's responsibility for maintenance of barricades, signs, and lights shall not cease until the date of issuance to Contractor of the City's ATP of the project.

3.3. Protection of the Work

Contractor shall be responsible for the care, preservation, conservation, and protection of all materials, supplies, machinery, equipment, tools, apparatus, accessories, facilities, and all means of construction, and any and all parts of the work until the date the City issues its ATP to Contractor.

Contractor shall pack and ship all equipment to a local delivery point that is maintained by Contractor for receipt, inventory, and storage of equipment prior to the delivery to any specific site for installation. Contractor shall use this local warehouse as a central distribution location for all remote site installations. Contractor will store the equipment, as necessary, prior to installation for the duration identified in the Project Schedule. Equipment will not be delivered directly to a specific site for storage until it is ready for installation. The City and Contractor will jointly receive and perform a detailed inventory of all equipment delivered to Contractor's receiving facility.

3.4. Protection of Subsurface Lines and Structures

Contractor shall be responsible for exercising due care to locate and prevent damage to all underground pipelines, utility lines, conduits, or other underground structures which might or could be damaged by Contractor while providing services under this Contract. The City shall furnish the location of all such underground lines and utilities of which it has knowledge. However, such fact shall not relieve Contractor of the aforementioned responsibilities. All such underground lines or structures cut or damaged by Contractor during the prosecution of the services

under this Contract shall be repaired immediately by Contractor to the satisfaction of the City, at Contractor's expense.

3.5. Training

The Contractor shall provide train-the-trainer instruction for ITA CSD staff, so that City workers may maintain all site upgrades. Contractor shall provide two-day Grounding, Bonding, and Lightning Protection courses that are certified and approved by The Building Industry Consulting Service International, Inc. (BICSI) and the Electronics Technicians Association (ETA) and provide 1.8 Continuing Education Units (CEUs).

Contractor shall provide two complete trainings per City fiscal year at no cost to the City. Any and all coursework and materials for the allotted trainings shall be provided free of charge.

Each training shall accommodate up to 12 people and shall be video recorded for future reference. Trainings shall be conducted between the business hours of 8:00AM PST and 2:00PM PST.

Additional trainings may be provided by the Contractor at the rates shown in Appendix B.

4.0 WARRANTY/LEVEL OF SERVICE GUARANTEE

Contractor shall provide a service guarantee that all installations and services performed under the Contract will be warranted for 1 year, or for the stated warranty for the product and from the date of such installation or repair. Contractor shall reinstall or repair any defect caused by inferior installation or repairs regardless of when the error is discovered. Contractor shall not charge the City for performing any remedial, catastrophic, or major repair during the warranty period, no matter when the repair is ultimately performed.

If, during the product's stated warranty period, the product fails to perform as per manufacturer specifications as a result of defects in material or workmanship, Contractor shall replace and reinstall the product without charge within 60 days of receipt of a claim on this warranty. If Contractor cannot replace the product within 60 days, Contractor will replace and reinstall a comparable product, subject to the approval of ITA.

To make a claim under this warranty, the City must notify Contractor in writing of the failure of the product to conform to the warranty within 30 days of first discovering the failure of the product.

4.1. Materials And Workmanship

Only materials and workmanship of the best quality and grade will be furnished. The fact that the specifications may fail to be sufficiently complete in some detail will not relieve Contractor of full responsibility for providing materials of high quality and for protecting them adequately until incorporated into the project. The presence or absence of a representative of the City on the site will not relieve Contractor of full responsibility of complying with this provision.

4.2. Original Equipment Manufacturers' Warranties

Contractor shall pass the original equipment manufacturers' warranty to the City for all equipment that may have warranties for a period that extends beyond Contractor's warranty period for equipment.

5.0 MISCELLANEOUS ARRANGEMENTS AND PROVISIONS

5.1. Certification

Contractor shall possess and maintain a valid State of California Contractor's License and Public Works Contractor Number from the California Department of Industrial Relations for the duration of this Contract. Contractor shall also possess and maintain valid R56 Grounding Certification during the term of this Contract.

As contractor is a nationwide business, all Contractor personnel shall possess a valid Driver's License. Contractor personnel performing grounding and bonding work on radio towers shall possess a valid tower climbing certification.

5.2. Background Check

All Contractor personnel must be approved by the City prior to performing any of the services performed under this Contract. The City approval will include a background investigation by the Los Angeles Police Department.

5.3. Identification of Employees

All Contractor personnel must wear an identification badge, which must be clearly displayed when working in a City facility. Contractor installation and maintenance personnel shall be required to wear uniform shirts with the Contractor's name or logo printed on the shirt.

5.4. Jobsite Access and Inspection

Contractor personnel must be accompanied by ITA Staff while performing work at any City jobsite. All Contractor personnel shall be subject to a visual inspection by the City while working at the jobsite to ensure that proper uniform shirts, identification badges, tools, equipment, and/or safety devices are utilized. The City will not be liable for any costs associated with any work stoppage resulting from a

“stop work” order issued by any governmental agency due to the Contractor’s failure to properly equip, certify, or train its employees. A written notification will be issued to the Contractor to correct the deficiency. Repeated violations may result in termination of a JO or this Contract.

5.5. Tools and Test Equipment

The Contractor must equip its personnel with test instruments, tools, laptop computers, test meters, power drills and bits, coring equipment, hand trucks, pull line, dust masks, ladders, conduit benders, safety goggles, personal protective equipment (PPE), etc., as required, in order to perform their tasks in a safe and professional manner.

5.6. Marking of Cabling Requirement

5.6.1. Location of Markings

All cables and wires shall be identified at all cable termination points, at all points where cables enter or leave cable trays, conduit, and ducts, and at all points where cables enter or leave raised floors or dropped ceilings.

5.6.2. Type of Markings

Each cable marker shall be permanently attached to the cable using an attachment method that will not cause injury to the cable or present a hazard to maintenance personnel (through sharp edges).

5.7. Transportation and Insurance

In addition to any other insurance requirements under this Contract, Contractor agrees to provide the necessary transportation and automobile insurance for their employees to and from job sites. The City will not reimburse for any travel expenses incurred by Contractor.

5.8. Contractor Employee Parking

The City will not provide parking to Contractor or its employees for its personal vehicles. Contractor agrees to make parking arrangements for its employees for its personal vehicles. In addition, Contractor is advised to inform its employees of local parking ordinances when parking on the public streets.

5.9. Approval/Removal of Contractor Employees

Contractor shall notify the City in writing of any changes to staffing assignments as they occur. The City reserves the right to approve or disapprove any prospective employee based on the individual's technical background as it relates to the duties described in this Contract. The City reserves the right to request the Contractor to

immediately remove and replace any Contractor personnel who is not, in the City's opinion, satisfactorily performing his/her/their duties, repeatedly disrupts the workforce, or violates City policies and procedures.

The City reserves the right to increase or decrease the number of personnel provided by Contractor at any time without reason. This Contract does not grant an exclusive right to Contractor to provide all personnel or services identified in this Contract.

5.10. Maps, Drawings, and Floor Plans

The City may make available all maps, drawings and floor plans for each site that are pertinent to the Services. Such plans do not always accurately reflect the actual condition or current configuration of the various newly constructed or existing facilities. For this reason, the City does not warrant the accuracy of any maps, floor plans, or drawings. It is Contractor's responsibility to physically inspect all aspects of the City site that could impact their ability to properly provide the Services. The City will not be held responsible for problems, errors, or additional costs that arise as a result of Contractor's failure to assess all job sites prior to commencement of work.

All maps, drawings, floor plans, etc., provided by the City are confidential. Such data shall be protected by Contractor from unauthorized use and/or disclosure to unauthorized persons in accordance with the provisions of this Agreement. All such data shall be returned to the City upon the termination or expiration of this Contract. The provisions of this Section shall survive the termination or expiration of this Contract.

All maps, drawings, floor plans, etc., prepared by Contractor at the direction of the City become the property of the City and are to be considered confidential material. Such data shall be protected by Contractor from unauthorized use and/or disclosure to unauthorized persons. All such data shall be returned to the City upon the termination or expiration of this Contract. The provisions of this Section shall survive the termination or expiration of this Contract.

5.11. Rights in Data

5.11.1. Ownership of Rights

All original material, whether written or readable by machine, including maps, drawings, floor plans, software, flowcharts, written or recorded data, documents, graphic displays, reports, programs, card decks, tapes, listings, and other programming documentation or other materials that contain information relating to Contractor's performance here under and which are originated and prepared for the City and for which Contractor has been compensated by the City pursuant

to this Contract shall be considered to be "works for hire" for the City under the Copyright Act and are the sole property of the City. To the extent that any such works which are not deemed to be works for hire for the City, Contractor hereby assigns all its right, title, and interest in any intellectual property rights to the City. In addition, the City reserves the right to use, transfer, modify, duplicate, and disclose in whole, or in part, in any manner and for any purpose whatsoever all such material delivered to the City pursuant to this Contract and to authorize others to do so.

5.11.2. Confidentiality

Contractor understands that all original material, whether written or readable by machine, including maps, drawings, floor plans, software, flowcharts, written or recorded data, documents, graphic displays, reports, programs, card decks, tapes, listings, and other programming documentation or other materials that contain information relating to Contractor's performance hereunder are considered confidential property of the City. Contractor understands the sensitive nature of the above and therefore agrees that neither its officers, partners, employees, agents, contractors, or subcontractors will release, disseminate, or otherwise publish said reports or other such data, information, documents, graphic displays, or other materials except as provided herein or as authorized, in writing, by the City's representative. This Section shall remain in effect after the termination of this Contract until such time as the confidential information has been released by the City.

6.0 JOB ORDER REQUIREMENTS

6.1. Job Order Requests

Contractor shall be assigned work in the form of a Job Order. A Job Order will include instructions for Contractor personnel detailing the required service or installation at a particular City location. A preliminary site walk, if needed, will be scheduled and Contractor shall submit a quote to meet the City's needs. The City and Contractor may conduct negotiations if necessary.

All requested grounding services are to be completed in accordance with City-issued Job Orders at an agreed-upon price consistent with rates quoted in Appendix B. No work will be initiated before the price and milestone payment plan tied to deliverables has been agreed to by both the City and Contractor and a Notice to Proceed has been issued by ITA.

Contractor shall supervise all of Contractor's staff. Any incorrect or improperly completed Job Orders shall be resubmitted to the Contractor for correction. Any

additional cost, labor, and/or materials required for such correction shall be borne by Contractor.

The Job Order will be verified by ITA Communication Services Division (CSD) engineers and technicians for the Acceptance Test Procedures (ATP) to finalize the completion.

6.2. Job Order Tracking Database/Billing Audit Trail

The Contractor shall provide and maintain a relational database for detailed cost tracking, invoice tracking, and job order and work order tracking. The detailed cost tracking shall include employee name, social security number (or employee ID), hourly rate, overtime rate, date of the work performed, a description of the type of service or repair performed, City work order number, the total number of hours charged a specific work order, etc. The invoice tracking shall include the hourly rate of the specific employee who provided the service/repair, City work order number, City job order number, invoice number, invoice amount, payment status, etc. The database should provide the ability to perform look-ups on any data element(s) or range. Database information must be available either by terminal display or report output.

Access to this database must be given to authorized City representatives at no cost to the City.

7.0 INVOICING

Contractor shall submit invoices, with all supporting backup documentation, to the City upon completion and acceptance of services as described in Section 3 of this Contract, for all Services and goods, including both goods produced by Contractor and goods purchased elsewhere. A duplicate copy of all packing slips and invoices for materials furnished by Contractor shall be submitted with the billing to the City. All job orders submitted for payment must include the City's job order number.

All invoices must show the total cost for each deliverable outlined in the job order. All invoices must be received within 30 days of an issued ATP by the City for the completion of the services. Invoices initially received more than 45 days after the completion of any job will be rejected. All invoices for work performed during the month of June of any year, must be billed no later than July 20 of the same year. Payment of invoices shall be subject to approval by City. Complete records verifying pertinent labor and material costs shall be provided to the City with invoice(s) after the completion of the work. Invoicing for actual time worked shall be based on 30-minute increments.

Contractor's invoices must conform to City standards and include, at a minimum, the following information:

- Vendor name and address;
- Vendor invoice number and date of invoice;
- City's job order request number;
- Milestone deliverable phase;
- Inclusive dates of service;
- The actual number of hours worked to perform the installation and/or service, including materials and deliverables purchased by Contractor;
- If materials and deliverables are purchased by Contractor in order to perform the requested services, a copy of the packing slip and invoice;
- City contract number, the Contractor's State of California Sales and Use Tax Permit number, and City of Los Angeles Business Tax Registration Certification (BTRC) number;
- Summary of name, title, hours, rate, and total due for personnel working the time;
- Certification by a duly authorized officer of Contractor;
- Payment terms are 30 days after receipt and approval of invoice;
- Discounts and terms (if applicable);
- Remittance address (if different from Contractor address).

All invoices shall be submitted on Contractor's letterhead, contain Contractor's official logo, or contain other unique and identifying information, such as name and address of Contractor. Evidence that tasks have been completed in the form of a report, brochure, computer printout, or photograph shall be attached to all invoices. Invoices shall be submitted within 30 days of performance of services. Invoices are considered complete when appropriate documentation or services provided are signed off as satisfactory in an ATP by the City Project Manager.

Invoices and supporting documentation shall be prepared at the sole expense and responsibility of Contractor. In addition, the City will not compensate Contractor for any costs incurred for the preparation and delivery of any estimate, including any revisions that may be needed. The City may request, in writing, changes to the content and format of the invoice and supporting documentation at any time. The City reserves the right to request additional supporting documentation to substantiate costs at any time.

Invoices must be submitted to the billing department indicated on the job order and will be paid upon completion of the requested services to the satisfaction of the City. Billing invoices should be limited to one job order number per invoice. Invoices that include more than one job order number will be returned to the Contractor for correction. The total cost billed shall not exceed the cost estimate, unless otherwise agreed to in writing, by both the City and Contractor prior to any work being initiated. Invoices are to be submitted upon completion of all work for a designated milestone.

All assigned job orders submitted for payment will be checked after submission by the City Project Manager to verify completion of the work assigned. Failure to adhere to these policies may result in nonpayment or non-approval of demands, pursuant to Charter 262(a}, which requires the Controller to inspect the quality, quantity, and condition of services, labor, materials, supplies, or equipment received by any City office or department and approve demands before they are drawn on the Treasury.

8.0 CONTRACT AUDITS

Contractor agrees that the City or its delegates will have the right to review, obtain, and copy all records pertaining to performance of this Contract. Contractor agrees to provide the City or its delegate, at no cost, with any relevant information requested and shall permit the City or its delegate access to its premises, upon reasonable notice, during normal business hours, for the purpose of interviewing employees and inspecting and copying such books, records, accounts, and other material that may be relevant to a matter under investigation for the purpose of determining compliance with this requirement. Contractor further agrees to maintain such records for a period of three (3) years after final payment under the contract.

9.0 PARTIES TO THE CONTRACT AND REPRESENTATIVES

The following representative individuals and addresses shall serve as the place to which notices and other correspondence between the parties shall be sent.

9.1. Parties to the Contract

The parties to this Contract are:

1. **City**: The City of Los Angeles, a municipal corporation, having its principal office at 200 North Spring Street, Los Angeles, California 90012.

2. **Contractor**: Lyncole Grounding Solutions, LLC, having its principal office at 369 Van Ness Way, Suite 701, Torrance, CA

9.2. Contractor's Representative

Contractor hereby appoints the following person to represent Contractor with respect to all matters pertaining to this Contract. Said representative shall be responsible for submitting all of the respective notices, reports, invoices, and other documents or information as required by this Contract.

Name: Zahid Mitha

Title: National Sales Manager, Lyncole Grounding Solutions, LLC

Address: 369 Van Ness Way, Suite 701,

Torrance, CA 90501

Telephone: (310) 802-2790

Email: zahid.mitha@lyncole.com

9.3. City's Representative

The City hereby appoints the following person, or her designated representative, to represent the City in all matters pertaining to this Contract.

Name: Maria Ramos

Title: Chief Management Analyst

Address: 200 North Main Street, Room 1400

Los Angeles, CA 90012

Telephone: (213) 935-5639

Email: maria.ramos@lacity.org

9.4. City's Project Manager

The City hereby appoints the following person to act as the project manager.

Name: Cristina Tolentino

Title: Information Systems Manager II

Address: 200 N. Main St., CHE 1200

Los Angeles, CA 90012

Telephone: (213) 978-0863

Email: cristina.tolentino@lacity.org

9.5. Communications

Formal notices, demands, and communications from Contractor shall be given to the City's Representative with copies to the City's Project Manager.

Formal notices, demands, and communications required hereunder by either party shall be made in writing and may be effected by personal delivery or by registered or certified mail, postage prepaid, return receipt requested and shall be deemed communicated as of the date of mailing.

If the name of the person designated to receive the notices, demands, or communications or the address of such person is changed, written notice shall be given, in accordance with this Section, within 10 working days of said change.

10.0 PREVAILING WAGE

10.1. Prevailing Wage Requirements

Prevailing Wages must be paid on all City Public Works projects when the work is for construction, alteration, demolition, installation, maintenance, or repair when the work is done under Agreement and paid for in whole or in part out of public funds.

The Contractor and all subcontractors shall comply with all provisions of the California Labor Code relating to public works wages, and in specific, with Sections 1720-1861 of the Code requiring the Contractor to pay not less than the "General Prevailing Wage Rates" to all workers employed during the work. The prevailing wage rate is established by the State of California's Department of Industrial Relations. Information regarding prevailing wage rates may be obtained from the Office of Policy, Research and Legislation, Prevailing Wage Unit, P.O. Box 420603, San Francisco, CA 94142, Telephone (415) 972-8628, Fax (415) 972-8640, or for a copy of the prevailing wage rates, contact the Office of Contract Compliance at (213) 847-2636.

Contractor and all subcontractors shall comply with the provisions of the California Labor Code, relating to Public Works wages. These provisions require the Contractor to pay not less than the "General Prevailing Wage Rates" to all workers employed in the execution of the contract and to post a copy of the "General Prevailing Wage Rates" at the jobsite, in a conspicuous place available to all employees and applicants for employment.

The Contractor and all subcontractors shall submit Certified Payroll Records to the Office of Contract Compliance on a weekly basis using the City's Online Certified Payroll System (OCPS) throughout the project until completion of the project. In addition, the Contractor and all subcontractors shall employ apprentices in the ratio to journeymen as required by Section 1777.5 of the California Labor Code.

10.2. Pursuant to Section 1776 of the California Labor Code:

The Contractor must keep accurate payroll records, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each worker or other employee employed by the Contractor.

All payroll records shall be available for inspection at all reasonable hours at the principal office of the Contractor upon request by the City.

10.3. Registration with State Department of Industrial Relations

Contractor shall register with the State of California Department of Industrial Relations as a Public Works Contractor and provide ITA with their Public Works Contractor numbers. The City will not be liable for any costs associated with any work stoppage resulting from a "stop work" order issued by any governmental agency due to the Contractor's failure to register.

10.4. Jobsite Notices

Contractors are required to post all jobsite notices on public works requirements.

11.0 NAME CHANGE

In the event that Contractor undergoes either an ownership change and the new Owner is able to comply with all Contract terms and conditions, or a name change, the General Manager of the ITA may, at his discretion, execute an amendment to effect the assumption and/or change of the Contractor name.

12.0 DISCLOSURE OF BORDER WALL CONTRACTING ORDINANCE

Contractor shall comply with Los Angeles Administrative Code Section 10.50 et seq., 'Disclosure of Border Wall Contracting.' City may terminate this Contract at any time if City determines that Contractor failed to fully and accurately complete the required affidavit and disclose all Border Wall Bids and Border Wall Contracts, as defined in LAAC Section 10.50.1.

13.0 CONTRACTOR PERFORMANCE EVALUATION

At the end of this Contract, the City will conduct an evaluation of the Contractor's performance. The City may also conduct evaluations of the Contractor's performance during the term of the Contract. As required by Section 10.39.2 of the Los Angeles Administrative Code, evaluations will be based on a number of criteria, including the quality of the work product or service performed, the timeliness of performance, financial issues, and the expertise of personnel that the Contractor assigns to the contract. A Contractor who receives a "Marginal" or "Unsatisfactory" rating will be provided with a copy of the final City Evaluation and allowed 14 calendar days to respond. The City will use the final City evaluation, and any response from the Contractor, to evaluate proposals and to conduct reference checks when awarding other personal services contracts.

14.0 CONTRACT MODIFICATIONS, CHANGES, OR AMENDMENTS

This Contract plus specific documents cited herein constitutes the entire Contract between the City and Contractor and may be amended by further written agreement.

15.0 CITY'S OBLIGATION FOR FUTURE FISCAL YEARS

Notwithstanding anything to the contrary, (i) City's obligations hereunder are payable only from funds specifically appropriated by the City Council; and (ii) City shall not be obligated for Contractor's performance hereunder or by any provision of this Agreement during any of City's future fiscal years unless and until the City Council appropriates funds for this Agreement in City's budget for each such future fiscal year. In the event that funds are not appropriated for this Agreement, then this Agreement shall be subject to termination by the City as of the last day of the last fiscal year for which funds were appropriated. City will make a good faith effort to notify Contractor in writing of any such non-appropriation of funds at the earliest possible date, along with reasonable detail of the fiscal shortfall.

16.0 INSURANCE COMPLIANCE

Contractor will fulfill its insurance obligation by using the City's designated insurance portal, KwikComply at https://kwikcomply.org, to upload its certificate of insurance. Contractor is responsible for keeping its certificate current, and the date of expiration of the certificate on file shall never be less than 30 days in the future. City shall not pay invoices on contracts that are not in compliance with this Section and shall not be responsible for any late charges or fees that may accrue in consequence.

17.0 ELECTRONIC SIGNATURES

This Agreement may be executed in one or more counterparts, and by the parties in separate counterparts, each of which when executed shall be deemed to be an original but all of which taken together shall constitute one and the same agreement. The parties further agree that facsimile signatures or signatures scanned into .pdf (or signatures in another electronic format designated by City) and sent by email shall be deemed original signatures.

18.0 APPENDICES

The following appendices are hereby incorporated into and made a part of this Contract where referred to as though set forth at length. Contractor shall comply with the provisions set forth in the Standard Provisions for City Contract (Appendix A).

Appendix A: Standard Provisions for City Contracts (Rev. 1/25) [v.2]

Appendix B: Price Schedule

Exhibit 1: Lyncole Product Catalog 2024V1

Exhibit 2: VFC Product Catalog 2025V1

Exhibit 3: VFC Price List

IN WITNESS THEREOF, the parties hereto have caused this instrument to be signed by their respective duly authorized officers:

APPROVED AS TO FORM:

Hydee Feldstein Soto

City Attorney

By: _____

Joshua M. Templet

Deputy City Attorney

Date: _____

CITY OF LOS ANGELES:

By signing below, the signatory attests that they have no personal, financial, beneficial, or familial interest in this contract.

By: _____

Bhavin Patel

Assistant General Manager

Information Technology Agency

Date: _____

ATTEST:

Petty F. Santos

Interim City Clerk

By: _____

Date: _____

CONTRACTOR:

Lyncole Grounding Solutions, LLC

By: _____

By: _____

Date: _____

ATTACHMENT A

Standard Provisions for City Contracts (Rev. 1/25 [v.2])

STANDARD PROVISIONS FOR CITY CONTRACTS

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STANDARD PROVISIONS FOR CITY CONTRACTS

PSC-1. Construction of Provisions and Titles Herein

All titles, subtitles, or headings in this Contract have been inserted for convenience, and shall not be deemed to affect the meaning or construction of any of the terms or provisions of this Contract. The language of this Contract shall be construed according to its fair meaning and not strictly for or against **CITY** or **CONTRACTOR**. The word "**CONTRACTOR**" includes the party or parties identified in this Contract. The singular shall include the plural and if there is more than one **CONTRACTOR**, unless expressly stated otherwise, their obligations and liabilities shall be joint and several. Use of the feminine, masculine, or neuter genders shall be deemed to include the genders not used.

PSC-2. Applicable Law, Interpretation and Enforcement

Each party's performance shall comply with all applicable laws of the United States of America, the State of California, and **CITY**, including but not limited to, laws regarding health and safety, labor and employment, wage and hours and licensing. This Contract shall be enforced and interpreted under the laws of the State of California without regard to conflict of law principles. **CONTRACTOR** shall comply with new, amended, or revised laws, regulations, or procedures that apply to the performance of this Contract with no additional compensation paid to **CONTRACTOR**.

In any action arising out of this Contract, **CONTRACTOR** consents to personal jurisdiction, and agrees to bring all such actions, exclusively in state or federal courts located in Los Angeles County, California.

If any part, term or provision of this Contract is held void, illegal, unenforceable, or in conflict with any federal, state or local law or regulation, the validity of the remaining parts, terms or provisions of this Contract shall not be affected.

PSC-3. Time of Effectiveness

Unless otherwise provided, this Contract shall take effect when all of the following events have occurred:

A. This Contract has been signed on behalf of **CONTRACTOR** by the person or persons authorized to bind **CONTRACTOR**;

B. This Contract has been approved by the City Council or by the board, officer or employee authorized to give such approval;

C. The Office of the City Attorney has indicated in writing its approval of this Contract as to form; and

D. This Contract has been signed on behalf of **CITY** by the person designated by the City Council, or by the board, officer or employee authorized to enter into this Contract.

PSC-4. Integrated Contract

This Contract sets forth all of the rights and duties of the parties with respect to the subject matter of this Contract, and replaces any and all previous Contracts or understandings, whether written or oral, relating thereto. This Contract may be amended only as provided for in the provisions of PSC-5 hereof.

PSC-5. Amendment

All amendments to this Contract shall be in writing and signed and approved pursuant to the provisions of PSC-3.

PSC-6. Excusable Delays

Neither party shall be liable for its delay or failure to perform any obligation under and in accordance with this Contract, if the delay or failure arises out of fires, floods, earthquakes, epidemics, quarantine restrictions, other natural occurrences, strikes, lockouts (other than a lockout by the party or any of the party's Subcontractors), freight embargoes, terrorist acts, insurrections or other civil disturbances, or other similar events to those described above, but in each case the delay or failure to perform must be beyond the control and without any fault or negligence of the party delayed or failing to perform (these events are referred to in this provision as "Force Majeure Events").

Notwithstanding the foregoing, a delay or failure to perform by a Subcontractor of **CONTRACTOR** shall not constitute a Force Majeure Event, unless the delay or failure arises out of causes beyond the control of both **CONTRACTOR** and Subcontractor, and without any fault or negligence of either of them. In such case, **CONTRACTOR** shall not be liable for the delay or failure to perform, unless the goods or services to be furnished by the Subcontractor were obtainable from other sources in sufficient time to permit **CONTRACTOR** to perform timely. As used in this Contract, the term "Subcontractor" means a subcontractor at any tier.

In the event **CONTRACTOR'S** delay or failure to perform arises out of a Force Majeure Event, **CONTRACTOR** agrees to use commercially reasonable best efforts to obtain the goods or services from other sources, and to otherwise mitigate the damages and reduce the delay caused by the Force Majeure Event.

PSC-7. Waiver

A waiver of a default of any part, term or provision of this Contract shall not be construed as a waiver of any succeeding default or as a waiver of the part, term or provision itself. A party's performance after the other party's default shall not be construed as a waiver of that default.

PSC-8. Suspension

At **CITY'S** sole discretion, **CITY** may suspend any or all services provided under this Contract by providing **CONTRACTOR** with written notice of suspension. Upon receipt of the notice of suspension, **CONTRACTOR** shall immediately cease the services

suspended and shall not incur any additional obligations, costs or expenses to **CITY** until **CITY** gives written notice to recommence the services.

PSC-9. Termination

A. Termination for Convenience

CITY may terminate this Contract for **CITY'S** convenience at any time by providing **CONTRACTOR** thirty days written notice. Upon receipt of the notice of termination, **CONTRACTOR** shall immediately take action not to incur any additional obligations, costs or expenses, except as may be necessary to terminate its activities. **CITY** shall pay **CONTRACTOR** its reasonable and allowable costs through the effective date of termination and those reasonable and necessary costs incurred by **CONTRACTOR** to effect the termination. Thereafter, **CONTRACTOR** shall have no further claims against **CITY** under this Contract. All finished and unfinished documents and materials procured for or produced under this Contract, including all intellectual property rights **CITY** is entitled to, shall become **CITY** property upon the date of the termination. **CONTRACTOR** agrees to execute any documents necessary for **CITY** to perfect, memorialize, or record **CITY'S** ownership of rights provided herein.

B. Termination for Breach of Contract

1. Except as provided in PSC-6, if **CONTRACTOR** fails to perform any of the provisions of this Contract or so fails to make progress as to endanger timely performance of this Contract, **CITY** may give **CONTRACTOR** written notice of the default. **CITY'S** default notice will indicate whether the default may be cured and the time period to cure the default to the sole satisfaction of **CITY**. Additionally, **CITY'S** default notice may offer **CONTRACTOR** an opportunity to provide **CITY** with a plan to cure the default, which shall be submitted to **CITY** within the time period allowed by **CITY**. At **CITY'S** sole discretion, **CITY** may accept or reject **CONTRACTOR'S** plan. If the default cannot be cured or if **CONTRACTOR** fails to cure within the period allowed by **CITY**, then **CITY** may terminate this Contract due to **CONTRACTOR'S** breach of this Contract.

2. If the default under this Contract is due to **CONTRACTOR'S** failure to maintain the insurance required under this Contract, **CONTRACTOR** shall immediately: (1) suspend performance of any services under this Contract for which insurance was required; and (2) notify its employees and Subcontractors of the loss of insurance coverage and Contractor's obligation to suspend performance of services. **CONTRACTOR** shall not recommence performance until **CONTRACTOR** is fully insured and in compliance with **CITY'S** requirements.

3. If a federal or state proceeding for relief of debtors is undertaken by or against **CONTRACTOR**, or if **CONTRACTOR** makes an assignment for the benefit of creditors, then **CITY** may immediately terminate this Contract.

4. If **CONTRACTOR** engages in any dishonest conduct related to the performance or administration of this Contract or violates **CITY'S** laws, regulations or policies relating to lobbying, then **CITY** may immediately terminate this Contract.

5. Acts of Moral Turpitude

   a. **CONTRACTOR** shall immediately notify **CITY** if **CONTRACTOR** or any Key Person, as defined below, is charged with, indicted for, convicted of, pleads nolo contendere to, or forfeits bail or fails to appear in court for a hearing related to, any act which constitutes an offense involving moral turpitude under federal, state, or local laws ("Act of Moral Turpitude").

   b. If **CONTRACTOR** or a Key Person is convicted of, pleads nolo contendere to, or forfeits bail or fails to appear in court for a hearing related to, an Act of Moral Turpitude, **CITY** may immediately terminate this Contract.

   c. If **CONTRACTOR** or a Key Person is charged with or indicted for an Act of Moral Turpitude, **CITY** may terminate this Contract after providing **CONTRACTOR** an opportunity to present evidence of **CONTRACTOR'S** ability to perform under the terms of this Contract.

   d. Acts of Moral Turpitude include, but are not limited to: violent felonies as defined by Penal Code Section 667.5, crimes involving weapons, crimes resulting in serious bodily injury or death, serious felonies as defined by Penal Code Section 1192.7, and those crimes referenced in the Penal Code and articulated in California Public Resources Code Section 5164(a)(2); in addition to and including acts of murder, rape, sexual assault, robbery, kidnapping, human trafficking, pimping, voluntary manslaughter, aggravated assault, assault on a peace officer, mayhem, fraud, domestic abuse, elderly abuse, and child abuse, regardless of whether such acts are punishable by felony or misdemeanor conviction.

e. For the purposes of this provision, a Key Person is a principal, officer, or employee assigned to this Contract, or owner (directly or indirectly, through one or more intermediaries) of ten percent or more of the voting power or equity interests of **CONTRACTOR**.

6. In the event **CITY** terminates this Contract as provided in this section, **CITY** may procure, upon such terms and in the manner as **CITY** may deem appropriate, services similar in scope and level of effort to those so terminated, and **CONTRACTOR** shall be liable to **CITY** for all of its costs and damages, including, but not limited to, any excess costs for such services.

7. If, after notice of termination of this Contract under the provisions of this section, it is determined for any reason that **CONTRACTOR** was not in default under the provisions of this section, or that the default was excusable under the terms of this Contract, the rights and obligations of the parties shall be the same as if the notice of termination had been issued pursuant to PSC-9(A) Termination for Convenience.

8. The rights and remedies of **CITY** provided in this section shall not be exclusive and are in addition to any other rights and remedies provided by law or under this Contract.

C. In the event that this Contract is terminated, **CONTRACTOR** shall immediately notify all employees and Subcontractors, and shall notify in writing all other parties contracted with under the terms of this Contract within five working days of the termination.

PSC-10. Independent Contractor

CONTRACTOR is an independent contractor and not an agent or employee of **CITY**. **CONTRACTOR** shall not represent or otherwise hold out itself or any of its directors, officers, partners, employees, or agents to be an agent or employee of **CITY**.

PSC-11. Contractor's Personnel

Unless otherwise approved by **CITY**, **CONTRACTOR** shall use its own employees to perform the services described in this Contract. **CITY** has the right to review and approve any personnel who are assigned to work under this Contract. **CONTRACTOR** shall remove personnel from performing work under this Contract if requested to do so by **CITY**.

CONTRACTOR shall not use Subcontractors to assist in performance of this Contract without the prior written approval of **CITY**. If **CITY** permits the use of Subcontractors, **CONTRACTOR** shall remain responsible for performing all aspects of this Contract and paying all Subcontractors. **CITY** has the right to approve **CONTRACTOR'S** Subcontractors, and **CITY** reserves the right to request replacement of any

Subcontractor. **CITY** does not have any obligation to pay **CONTRACTOR'S** Subcontractors, and nothing herein creates any privity of contract between **CITY** and any Subcontractor.

PSC-12. Assignment and Delegation

CONTRACTOR may not, unless it has first obtained the written permission of **CITY**:

A. Assign or otherwise alienate any of its rights under this Contract, including the right to payment; or

B. Delegate, subcontract, or otherwise transfer any of its duties under this Contract.

PSC-13. Permits

CONTRACTOR and its directors, officers, partners, agents, employees, and Subcontractors, shall obtain and maintain all licenses, permits, certifications and other documents necessary for **CONTRACTOR'S** performance of this Contract. **CONTRACTOR** shall immediately notify **CITY** of any suspension, termination, lapses, non-renewals, or restrictions of licenses, permits, certificates, or other documents that relate to **CONTRACTOR'S** performance of this Contract.

PSC-14. Claims for Labor and Materials

CONTRACTOR shall promptly pay when due all amounts owed for labor and materials furnished in the performance of this Contract so as to prevent any lien or other claim under any provision of law from arising against any **CITY** property (including reports, documents, and other tangible or intangible matter produced by **CONTRACTOR** hereunder), and shall pay all amounts due under the Unemployment Insurance Act or any other applicable law with respect to labor used to perform under this Contract.

PSC-15. Current Los Angeles City Business Tax Registration Certificate Required

For the duration of this Contract, **CONTRACTOR** shall maintain valid Business Tax Registration Certificate(s) as required by **CITY'S** Business Tax Ordinance, Section 21.00 *et seq.* of the Los Angeles Municipal Code ("LAMC"), and shall not allow the Certificate to lapse or be revoked or suspended.

PSC-16. Retention of Records, Audit and Reports

CONTRACTOR shall maintain all records, including records of financial transactions, pertaining to the performance of this Contract, in their original form or as otherwise approved by **CITY**. These records shall be retained for a period of no less than three years from the later of the following: (1) final payment made by **CITY**, (2) the expiration of this Contract or (3) termination of this Contract. The records will be subject to examination and audit by authorized **CITY** personnel or **CITY'S** representatives at any time. **CONTRACTOR** shall provide any reports requested by **CITY** regarding

performance of this Contract. Any subcontract entered into by **CONTRACTOR** for work to be performed under this Contract must include an identical provision.

In lieu of retaining the records for the term as prescribed in this provision, **CONTRACTOR** may, upon **CITY'S** written approval, submit the required information to **CITY** in an electronic format, e.g. USB flash drive, at the expiration or termination of this Contract.

PSC-17. Bonds

All bonds required by **CITY** shall be filed with the Office of the City Administrative Officer, Risk Management for its review and acceptance in accordance with Los Angeles Administrative Code ("LAAC") Sections 11.47 *et seq.*, as amended from to time.

PSC-18. Indemnification

Except for the active negligence or willful misconduct of **CITY**, or any of its boards, officers, agents, employees, assigns and successors in interest, **CONTRACTOR** shall defend, indemnify and hold harmless **CITY** and any of its boards, officers, agents, employees, assigns, and successors in interest from and against all lawsuits and causes of action, claims, losses, demands and expenses, including, but not limited to, attorney's fees (both in house and outside counsel) and cost of litigation (including all actual litigation costs incurred by **CITY**, including but not limited to, costs of experts and consultants), damages or liability of any nature whatsoever, for death or injury to any person, including **CONTRACTOR'S** employees and agents, or damage or destruction of any property of either party hereto or of third parties, arising in any manner by reason of an act, error, or omission by **CONTRACTOR,** Subcontractors, or their boards, officers, agents, employees, assigns, and successors in interest. The rights and remedies of **CITY** provided in this section shall not be exclusive and are in addition to any other rights and remedies provided by law or under this Contract. This provision will survive expiration or termination of this Contract.

PSC-19. Intellectual Property Indemnification

CONTRACTOR, at its own expense, shall defend, indemnify, and hold harmless the **CITY**, and any of its boards, officers, agents, employees, assigns, and successors in interest from and against all lawsuits and causes of action, claims, losses, demands and expenses, including, but not limited to, attorney's fees (both in house and outside counsel) and cost of litigation (including all actual litigation costs incurred by **CITY**, including but not limited to, costs of experts and consultants), damages or liability of any nature arising out of the infringement, actual or alleged, direct or contributory, of any intellectual property rights, including, without limitation, patent, copyright, trademark, trade secret, right of publicity, and proprietary information: (1) on or in any design, medium, matter, article, process, method, application, equipment, device, instrumentation, software, hardware, or firmware used by **CONTRACTOR**, or its Subcontractors, in performing the work under this Contract; or (2) as a result of **CITY'S** actual or intended use of any Work Product (as defined in PSC-21) furnished by **CONTRACTOR**, or its Subcontractors, under this Contract. The rights and remedies of **CITY** provided in this section shall not be exclusive

and are in addition to any other rights and remedies provided by law or under this Contract. This provision will survive expiration or termination of this Contract.

PSC-20. Intellectual Property Warranty

CONTRACTOR represents and warrants that its performance of all obligations under this Contract does not infringe in any way, directly or contributorily, upon any third party's intellectual property rights, including, without limitation, patent, copyright, trademark, trade secret, right of publicity and proprietary information.

PSC-21. Ownership and License

Unless otherwise provided for herein, all finished and unfinished works, tangible or not, created under this Contract including, without limitation, documents, materials, data, reports, manuals, specifications, artwork, drawings, sketches, blueprints, studies, memoranda, computation sheets, computer programs and databases, schematics, photographs, video and audiovisual recordings, sound recordings, marks, logos, graphic designs, notes, websites, domain names, inventions, processes, formulas, matters and combinations thereof, and all forms of intellectual property originated and prepared by **CONTRACTOR** or its Subcontractors under this Contract (each a "Work Product"; collectively "Work Products") shall be and remain the exclusive property of **CITY** for its use in any manner **CITY** deems appropriate. **CONTRACTOR** hereby assigns to **CITY** all goodwill, copyright, trademark, patent, trade secret and all other intellectual property rights worldwide in any Work Products originated and prepared under this Contract. **CONTRACTOR** further agrees to execute any documents necessary for **CITY** to perfect, memorialize, or record **CITY'S** ownership of rights provided herein.

CONTRACTOR agrees that a monetary remedy for breach of this Contract may be inadequate, impracticable, or difficult to prove and that a breach may cause **CITY** irreparable harm. **CITY** may therefore enforce this requirement by seeking injunctive relief and specific performance, without any necessity of showing actual damage or irreparable harm. Seeking injunctive relief or specific performance does not preclude **CITY** from seeking or obtaining any other relief to which **CITY** may be entitled.

For all Work Products delivered to **CITY** that are not originated or prepared by **CONTRACTOR** or its Subcontractors under this Contract, **CONTRACTOR** shall secure a grant, at no cost to **CITY**, for a non-exclusive perpetual license to use such Work Products for any **CITY** purposes.

CONTRACTOR shall not provide or disclose any Work Product to any third party without prior written consent of **CITY**.

Any subcontract entered into by **CONTRACTOR** relating to this Contract shall include this provision to contractually bind its Subcontractors performing work under this Contract such that **CITY'S** ownership and license rights of all Work Products are preserved and protected as intended herein.

PSC-22. Data Protection

A. **CONTRACTOR** shall protect, using the most secure means and technology that is commercially available, **CITY**-provided data or consumer-provided data acquired in the course and scope of this Contract, including but not limited to customer lists and customer credit card or consumer data, (collectively, the "City Data"). **CONTRACTOR** shall notify **CITY** in writing as soon as reasonably feasible, and in any event within twenty-four hours, of **CONTRACTOR'S** discovery or reasonable belief of any unauthorized access of City Data (a "Data Breach"), or of any incident affecting, or potentially affecting City Data related to cyber security (a "Security Incident"), including, but not limited to, denial of service attack, and system outage, instability or degradation due to computer malware or virus. **CONTRACTOR** shall begin remediation immediately. **CONTRACTOR** shall provide daily updates, or more frequently if required by **CITY**, regarding findings and actions performed by **CONTRACTOR** until the Data Breach or Security Incident has been effectively resolved to **CITY'S** satisfaction. **CONTRACTOR** shall conduct an investigation of the Data Breach or Security Incident and shall share the report of the investigation with **CITY**. At **CITY'S** sole discretion, **CITY** and its authorized agents shall have the right to lead or participate in the investigation. **CONTRACTOR** shall cooperate fully with **CITY**, its agents and law enforcement.

B. If **CITY** is subject to liability for any Data Breach or Security Incident, then **CONTRACTOR** shall fully indemnify and hold harmless **CITY** and defend against any resulting actions.

PSC-23. Insurance

During the term of this Contract and without limiting **CONTRACTOR'S** obligation to indemnify, hold harmless and defend **CITY**, **CONTRACTOR** shall provide and maintain at its own expense a program of insurance having the coverages and limits not less than the required amounts and types as determined by the Office of the City Administrative Officer of Los Angeles, Risk Management (template Form General 146 in Exhibit 1 hereto). The insurance must: (1) conform to **CITY'S** requirements; (2) comply with the Insurance Contractual Requirements (Form General 133 in Exhibit 1 hereto); and (3) otherwise be in a form acceptable to the Office of the City Administrative Officer, Risk Management. **CONTRACTOR** shall comply with all Insurance Contractual Requirements shown on Exhibit 1 hereto. Exhibit 1 is hereby incorporated by reference and made a part of this Contract.

PSC-24. Best Terms

Throughout the term of this Contract, **CONTRACTOR**, shall offer **CITY** the best terms, prices, and discounts that are offered to any of **CONTRACTOR'S** customers for similar goods and services provided under this Contract.

PSC-25. Warranty and Responsibility of Contractor

CONTRACTOR warrants that the work performed hereunder shall be completed in a manner consistent with professional standards practiced among those firms within **CONTRACTOR'S** profession, doing the same or similar work under the same or similar circumstances.

PSC-26. Mandatory Provisions Pertaining to Non-Discrimination in Employment

Unless otherwise exempt, this Contract is subject to the applicable non-discrimination, equal benefits, equal employment practices, and affirmative action program provisions in LAAC Section 10.8 et seq., as amended from time to time.

A. **CONTRACTOR** shall comply with the applicable non-discrimination and affirmative action provisions of the laws of the United States of America, the State of California, and **CITY**. In performing this Contract, **CONTRACTOR** shall not discriminate in any of its hiring or employment practices against any employee or applicant for employment because of such person's race, color, religion, national origin, ancestry, sex, sexual orientation, gender, gender identity, age, disability, domestic partner status, marital status or medical condition.

B. The requirements of Section 10.8.2.1 of the LAAC, the Equal Benefits Ordinance, and the provisions of Section 10.8.2.1(f) are incorporated and made a part of this Contract by reference.

C. The provisions of Section 10.8.3 of the LAAC are incorporated and made a part of this Contract by reference and will be known as the "Equal Employment Practices" provisions of this Contract.

D. The provisions of Section 10.8.4 of the LAAC are incorporated and made a part of this Contract by reference and will be known as the "Affirmative Action Program" provisions of this Contract.

Any subcontract entered into by **CONTRACTOR** for work to be performed under this Contract must include an identical provision.

PSC-27. Child Support AssignmentOrders

CONTRACTOR shall comply with the Child Support Assignment Orders Ordinance, Section 10.10 of the LAAC, as amended from time to time. Pursuant to Section 10.10(b) of the LAAC, **CONTRACTOR** shall fully comply with all applicable State and Federal employment reporting requirements. Failure of **CONTRACTOR** to comply with all applicable reporting requirements or to implement lawfully served Wage and Earnings Assignment or Notices of Assignment, or the failure of any principal owner(s) of **CONTRACTOR** to comply with any Wage and Earnings Assignment or Notices of Assignment applicable to them personally, shall constitute a default by the **CONTRACTOR** under this Contract. Failure of **CONTRACTOR** or principal owner to cure

the default within 90 days of the notice of default will subject this Contract to termination for breach. Any subcontract entered into by **CONTRACTOR** for work to be performed under this Contract must include an identical provision.

PSC-28. Living Wage Ordinance

CONTRACTOR shall comply with the Living Wage Ordinance, LAAC Section 10.37 *et seq.*, as amended from time to time. **CONTRACTOR** further agrees that it shall comply with federal law proscribing retaliation for union organizing. Any subcontract entered into by **CONTRACTOR** for work to be performed under this Contract must include an identical provision.

PSC-29. Service Contractor Worker Retention Ordinance

CONTRACTOR shall comply with the Service Contractor Worker Retention Ordinance, LAAC Section 10.36 *et seq.*, as amended from time to time. Any subcontract entered into by **CONTRACTOR** for work to be performed under this Contract must include an identical provision.

PSC-30. Access and Accommodations

CONTRACTOR represents and certifies that:

A. **CONTRACTOR** shall comply with the Americans with Disabilities Act, as amended, 42 U.S.C. Section 12101 et seq., the Rehabilitation Act of 1973, as amended, 29 U.S.C. Section 701 et seq., the Fair Housing Act, and its implementing regulations and any subsequent amendments, and California Government Code Section 11135;

B. **CONTRACTOR** shall not discriminate on the basis of disability or on the basis of a person's relationship to, or association with, a person who has a disability;

C. **CONTRACTOR** shall provide reasonable accommodation upon request to ensure equal access to **CITY**-funded programs, services and activities;

D. Construction will be performed in accordance with the Uniform Federal Accessibility Standards (UFAS), 24 C.F.R. Part 40; and

E. The buildings and facilities used to provide services under this Contract are in compliance with the federal and state standards for accessibility as set forth in the 2010 ADA Standards, California Title 24, Chapter 11, or other applicable federal and state law.

CONTRACTOR understands that **CITY** is relying upon these certifications and representations as a condition to funding this Contract. Any subcontract entered into by **CONTRACTOR** for work to be performed under this Contract must include an identical provision.

PSC-31. Contractor Responsibility Ordinance

CONTRACTOR shall comply with the Contractor Responsibility Ordinance, LAAC Section 10.40 *et seq.*, as amended from time to time.

PSC-32. Business Inclusion Program

Unless otherwise exempted prior to bid submission, **CONTRACTOR** shall comply with all aspects of the Business Inclusion Program as described in the Request for Proposal/Qualification process, throughout the duration of this Contract. **CONTRACTOR** shall utilize the Regional Alliance Marketplace for Procurement ("RAMP") at https://www.rampla.org/s/, to perform and document outreach to Minority, Women, and Other Business Enterprises. **CONTRACTOR** shall perform subcontractor outreach activities through RAMP. **CONTRACTOR** shall not change any of its designated Subcontractors or pledged specific items of work to be performed by these Subcontractors, nor shall **CONTRACTOR** reduce their level of effort, without prior written approval of **CITY**.

PSC-33. Slavery Disclosure Ordinance

CONTRACTOR shall comply with the Slavery Disclosure Ordinance, LAAC Section 10.41 *et seq.*, as amended from time to time. Any subcontract entered into by **CONTRACTOR** for work to be performed under this Contract must include an identical provision.

PSC-34. First Source Hiring Ordinance

CONTRACTOR shall comply with the First Source Hiring Ordinance, LAAC Section 10.44 *et seq.*, as amended from time to time. Any subcontract entered into by **CONTRACTOR** for work to be performed under this Contract must include an identical provision.

PSC-35. Local Business Preference Ordinance

CONTRACTOR shall comply with the Local Business Preference Ordinance, LAAC Section 10.47 *et seq.*, as amended from time to time. Any subcontract entered into by **CONTRACTOR** for work to be performed under this Contract must include an identical provision.

PSC-36. Iran Contracting Act

In accordance with California Public Contract Code Sections 2200-2208, all contractors entering into, or renewing contracts with **CITY** for goods and services estimated at $1,000,000 or more are required to complete, sign, and submit the "Iran Contracting Act of 2010 Compliance Affidavit."

PSC-37. Restrictions on Campaign Contributions and Fundraising in City Elections

Unless otherwise exempt, if this Contract is valued at $100,000 or more and requires approval by an elected **CITY** office, **CONTRACTOR**, **CONTRACTOR'S** principals, and **CONTRACTOR'S** Subcontractors expected to receive at least $100,000 for performance

under the Contract, and the principals of those Subcontractors (the "Restricted Persons") shall comply with Charter Section 470(c)(12) and LAMC Section 49.7.35. Failure to comply entitles **CITY** to terminate this Contract and to pursue all available legal remedies. Charter Section 470(c)(12) and LAMC Section 49.7.35 limit the ability of the Restricted Persons to make campaign contributions to and engage in fundraising for certain elected **CITY** officials or candidates for elected **CITY** office for twelve months after this Contract is signed. Additionally, a **CONTRACTOR** subject to Charter Section 470(c)(12) is required to comply with disclosure requirements by submitting a completed and signed Ethics Commission Form 55 and to amend the information in that form as specified by law. Any **CONTRACTOR** subject to Charter Section 470(c)(12) shall include the following notice in any contract with any Subcontractor expected to receive at least $100,000 for performance under this Contract:

> "Notice Regarding Restrictions on Campaign Contributions and Fundraising in City Elections
>
> You are a subcontractor on City of Los Angeles Contract # _____. Pursuant to the City of Los Angeles Charter Section 470(c)(12) and related ordinances, you and your principals are prohibited from making campaign contributions to and fundraising for certain elected City of Los Angeles ("**CITY**") officials and candidates for elected **CITY** office for twelve months after the **CITY** contract is signed. You are required to provide the names and contact information of your principals to the **CONTRACTOR** and to amend that information within ten business days if it changes during the twelve month time period. Failure to comply may result in termination of this Contract and any other available legal remedies. Information about the restrictions may be found online at ethics.lacity.org or by calling the Los Angeles City Ethics Commission at (213) 978-1960."

PSC-38. Contractors' Use of Criminal History for Consideration of Employment Applications

CONTRACTOR shall comply with the City Contractors' Use of Criminal History for Consideration of Employment Applications Ordinance, LAAC Section 10.48 *et seq.*, as amended from time to time. Any subcontract entered into by **CONTRACTOR** for work to be performed under this Contract must include an identical provision.

PSC-39. Limitation of City's Obligation to Make Payment to Contractor

Notwithstanding any other provision of this Contract, including any exhibits or attachments incorporated therein, and in order for **CITY** to comply with its governing legal requirements, **CITY** shall have no obligation to make any payments to **CONTRACTOR** unless **CITY** shall have first made an appropriation of funds equal to or in excess of its obligation to make any payments as provided in this Contract. **CONTRACTOR** agrees that any services provided by **CONTRACTOR**, purchases made by **CONTRACTOR** or expenses incurred by **CONTRACTOR** in excess of the appropriation(s) shall be free and without charge to **CITY** and **CITY** shall have no obligation to pay for the services, purchases or expenses. **CONTRACTOR** shall have no obligation to provide any services,

provide any equipment or incur any expenses in excess of the appropriated amount(s) until **CITY** appropriates additional funds for this Contract.

PSC-40. Compliance with Identity Theft Laws and Payment Card Data Security Standards

CONTRACTOR shall comply with all identity theft laws including without limitation, laws related to: (1) payment devices; (2) credit and debit card fraud; and (3) the Fair and Accurate Credit Transactions Act ("FACTA"), including its requirement relating to the content of transaction receipts provided to Customers. **CONTRACTOR** also shall comply with all requirements related to maintaining compliance with Payment Card Industry Data Security Standards ("PCI DSS"). During the performance of any service to install, program or update payment devices equipped to conduct credit or debit card transactions, including PCI DSS services, **CONTRACTOR** shall verify proper truncation of receipts in compliance with FACTA.

PSC-41. Compliance with California Public Resources Code Section 5164

California Public Resources Code Section 5164 prohibits a public agency from hiring a person for employment or as a volunteer to perform services at any park, playground, or community center used for recreational purposes in a position that has supervisory or disciplinary authority over any minor, if the person has been convicted of certain crimes as referenced in the Penal Code, and articulated in California Public Resources Code Section 5164(a)(2).

If applicable, **CONTRACTOR** shall comply with California Public Resources Code Section 5164, and shall additionally adhere to all rules and regulations that have been adopted or that may be adopted by **CITY**. **CONTRACTOR** is required to have all employees, volunteers and Subcontractors (including all employees and volunteers of any Subcontractor) of **CONTRACTOR** working on premises to pass a fingerprint and background check through the California Department of Justice at **CONTRACTOR'S** sole expense, indicating that such individuals have never been convicted of certain crimes as referenced in the Penal Code and articulated in California Public Resources Code Section 5164(a)(2), if the individual will have supervisory or disciplinary authority over any minor.

PSC-42. Possessory Interests Tax

Rights granted to **CONTRACTOR** by **CITY** may create a possessory interest. **CONTRACTOR** agrees that any possessory interest created may be subject to California Revenue and Taxation Code Section 107.6 and a property tax may be levied on that possessory interest. If applicable, **CONTRACTOR** shall pay the property tax. **CONTRACTOR** acknowledges that the notice required under California Revenue and Taxation Code Section 107.6 has been provided.

PSC-43. Confidentiality

All documents, information, City Data (as that term is defined in PSC-22), and materials provided to **CONTRACTOR** by **CITY** or developed by **CONTRACTOR** pursuant to this Contract (collectively "Confidential Information") are confidential. **CONTRACTOR** shall not provide, and shall prohibit its employees and subcontractors from providing or disclosing, any Confidential Information or their contents or any information therein either orally or in writing, to any person or entity, except as authorized by **CITY** or as required by law. **CONTRACTOR** shall immediately notify **CITY** of any attempt by a third party to obtain access to any Confidential Information. This provision will survive expiration or termination of this Contract.

PSC-44. Contractor Data Reporting

If Contractor is a for-profit, privately owned business, Contractor shall, within 30 days of the effective date of the Contract and on an annual basis thereafter (i.e., within 30 days of the annual anniversary of the effective date of the Contract), report the following information to City via the Regional Alliance Marketplace for Procurement ("RAMP") or via another method specified by City: Contractor's and any Subcontractor's annual revenue, number of employees, location, industry, race/ethnicity and gender of majority owner ("Contractor/Subcontractor Information"). Contractor shall further request, on an annual basis, that any Subcontractor input or update its business profile, including the Contractor/Subcontractor Information, on RAMP or via another method prescribed by City.

EXHIBIT 1

INSURANCE CONTRACTUAL REQUIREMENTS

CONTACT For additional information about compliance with City Insurance and Bond requirements, contact the Office of the City Administrative Officer, Risk Management at (213) 978-RISK (7475) or go online at www.lacity.org/cao/risk. The City approved Bond Assistance Program is available for those contractors who are unable to obtain the City-required performance bonds. A City approved insurance program may be available as a low-cost alternative for contractors who are unable to obtain City-required insurance.

CONTRACTUAL REQUIREMENTS

CONTRACTOR AGREES THAT:

1. Additional Insured/Loss Payee. The CITY must be included as an Additional Insured in applicable liability policies to cover the CITY'S liability arising out of the acts or omissions of the named insured. The CITY is to be named as an Additional Named Insured and a Loss Payee As Its Interests May Appear in property insurance in which the CITY has an interest, e.g., as a lien holder.

2. Notice of Cancellation. All required insurance will be maintained in full force for the duration of its business with the CITY. By ordinance, all required insurance must provide at least thirty (30) days' prior written notice (ten (10) days for non-payment of premium) directly to the CITY if your insurance company elects to cancel or materially reduce coverage or limits prior to the policy expiration date, for any reason except impairment of an aggregate limit due to prior claims.

3. Primary Coverage. CONTRACTOR will provide coverage that is primary with respect to any insurance or self-insurance of the CITY. The CITY'S program shall be excess of this insurance and non-contributing.

4. Modification of Coverage. The CITY reserves the right at any time during the term of this Contract to change the amounts and types of insurance required hereunder by giving CONTRACTOR ninety (90) days' advance written notice of such change. If such change should result in substantial additional cost to CONTRACTOR, the CITY agrees to negotiate additional compensation proportional to the increased benefit to the CITY.

5. Failure to Procure Insurance. All required insurance must be submitted and approved by the Office of the City Administrative Officer, Risk Management prior to the inception of any operations by CONTRACTOR.

CONTRACTOR'S failure to procure or maintain required insurance or a self-insurance program during the entire term of this Contract shall constitute a material breach of this Contract under which the CITY may immediately suspend or terminate this Contract or, at its discretion, procure or renew such insurance to protect the CITY'S interests and pay any and all premiums in connection therewith and recover all monies so paid from CONTRACTOR.

6. Workers' Compensation. By signing this Contract, CONTRACTOR hereby certifies that it is aware of the provisions of Section 3700 *et seq*., of the California Labor Code which require every employer to be insured against liability for Workers' Compensation or to undertake

self-insurance in accordance with the provisions of that Code, and that it will comply with such provisions at all time during the performance of the work pursuant to this Contract.

7. California Licensee. All insurance must be provided by an insurer admitted to do business in California or written through a California-licensed surplus lines broker or through an insurer otherwise acceptable to the CITY. Non-admitted coverage must contain a **Service of Suit** clause in which the underwriters agree to submit as necessary to the jurisdiction of a California court in the event of a coverage dispute. Service of process for this purpose must be allowed upon an agent in California designated by the insurer or upon the California Insurance Commissioner.

8. Aggregate Limits/Impairment. If any of the required insurance coverages contain annual aggregate limits, CONTRACTOR must give the CITY written notice of any pending claim or lawsuit which will materially diminish the aggregate within thirty (30) days of knowledge of same. You must take appropriate steps to restore the impaired aggregates or provide replacement insurance protection within thirty (30) days of knowledge of same. The CITY has the option to specify the minimum acceptable aggregate limit for each line of coverage required. No substantial reductions in scope of coverage which may affect the CITY'S protection are allowed without the CITY'S prior written consent.

9. Commencement of Work. For purposes of insurance coverage only, this Contract will be deemed to have been executed immediately upon any party hereto taking any steps that can be considered to be in furtherance of or towards performance of this Contract. The requirements in this Section supersede all other sections and provisions of this Contract, including, but not limited to, PSC-3, to the extent that any other section or provision conflicts with or impairs the provisions of this Section.

Form Gen. 146 (Rev. 9/06)

Required Insurance and Minimum Limits

Name: Insight Public Sector, Inc Date: 03/04/2025

Agreement/Reference: Cobb County GA -Technology Solutions & Related Services (RFP No. 23-6692)

Evidence of coverages checked below, with the specified minimum limits, must be submitted and approved prior to occupancy/start of operations. Amounts shown are Combined Single Limits ("CSLs"). For Automobile Liability, split limits may be substituted for a CSL if the total per occurrence equals or exceeds the CSL amount.

Limits

✔ **Workers' Compensation - Workers' Compensation (WC) and Employer's Liability (EL)**

WC ***Statutory***

EL **$1,000,000**

☑ Waiver of Subrogation in favor of City ☐ Longshore & Harbor Workers ☐ Jones Act

✔ **General Liability** City of LA is required to be named as an additional insured **$1,000,000**

☑ Products/Completed Operations ☐ Sexual Misconduct

☐ Fire Legal Liability

☐

✔ **Automobile Liability** (for any and all vehicles used for this contract, other than commuting to/from work) **$1,000,000**

✔ **Professional Liability** (Errors and Omissions) **$1,000,000**

Discovery Period 12 months After Completion of Work or Date of Termination

___ **Property Insurance** (to cover replacement cost of building - as determined by insurance company)

☐ All Risk Coverage ☐ Boiler and Machinery

☐ Flood ☐ Builder's Risk

☐ Earthquake ☐

___ **Pollution Liability**

☐

___ **Surety Bonds -** Performance and Payment (Labor and Materials) Bonds 100% of the contract price

___ **Crime Insurance**

Other: Sent to Baltazar Dasalla @ ITA

Appendix B
Price Schedule

HOURLY RATE PRICE SCHEDULE

Grounding installation shall be individually quoted based on specifications from the requesting City engineer and the Labor Rates quoted in the table below.

Labor rates for grounding installation shall include a Standard Rate for work performed during the principal shift (8:00 AM to 5:00 PM, Monday through Friday, excluding City holidays), an Overtime Rate, and a Holiday Rate for work performed at any time other than during the principal shift. Proposers must fill out the fields for each category for which they have personnel. Include the rates for any subcontractors. **Fields with no information entered will be assumed to denote that the Proposer has no personnel in that category.**

Please add all other job categories that may be required for grounding work at radio tower sites.

JOB CATEGORY	LABOR RATES			COMMENTS
	STANDARD	OVERTIME	HOLIDAY	
Senior Applications Engineer	$275.00	$412.50	$550.00	
Lightning Protection Certified Designer	$212.71	$319.06	$425.42	
Lightning Protection Installer	$191.44	$287.16	$382.88	
Electrician	$180.00	$270.00	$360.00	
Senior CAD	$120.00	$180.00	$240.00	
Junior CAD	$100.00	$150.00	$200.00	
Certified Tower Climber				subcontracted

R56 certified Auditor Instructor	$275.00			

FLAT RATE PRICE SCHEDULE

Grounding installation shall be individually quoted based on specifications from the requesting City engineer and the Services quoted in the table below.

Rates for grounding installation shall include a Standard Rate for work performed during the principal shift (8:00 AM to 5:00 PM, Monday through Friday, excluding City holidays), an Overtime Rate, and a Holiday Rate for work performed at any time other than during the principal shift. Include the rates for any subcontractors.

Please add all proposed services that may be required for grounding work at radio tower sites.

SERVICES	FLAT RATE			COMMENTS
	STANDARD	OVERTIME	HOLIDAY	
On-site Grounding Resistivity &resistance testing	$2,800.00	$4,200.00	$5,600.00	one day on site, two days in house (report)
R56 training material per student	$60.00			
Additional Grounding Classes (Each Class)	$7,800.00			

Exhibit 1
Lyncole Product Catalog 2024V1

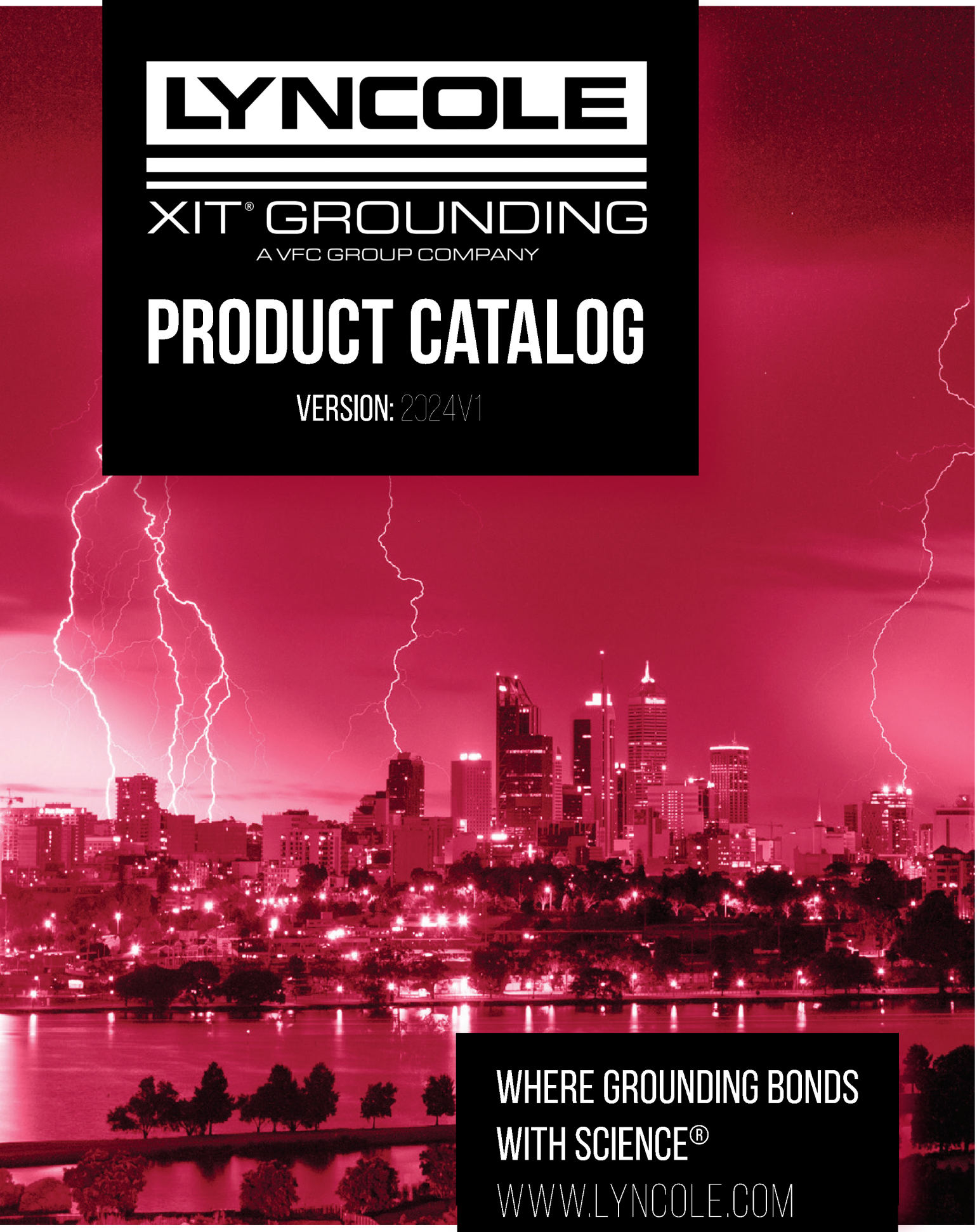
LYNCOLE

XIT® GROUNDING

A VFC GROUP COMPANY

PRODUCT CATALOG

VERSION: 2024V1



WHERE GROUNDING BONDS WITH SCIENCE®

WWW.LYNCOLE.COM

LYNCOLE

XIT® GROUNDING

A VFC GROUP COMPANY

PRODUCT CATALOG

AN INTRODUCTION TO
LYNCOLE XIT® GROUNDING

HISTORY

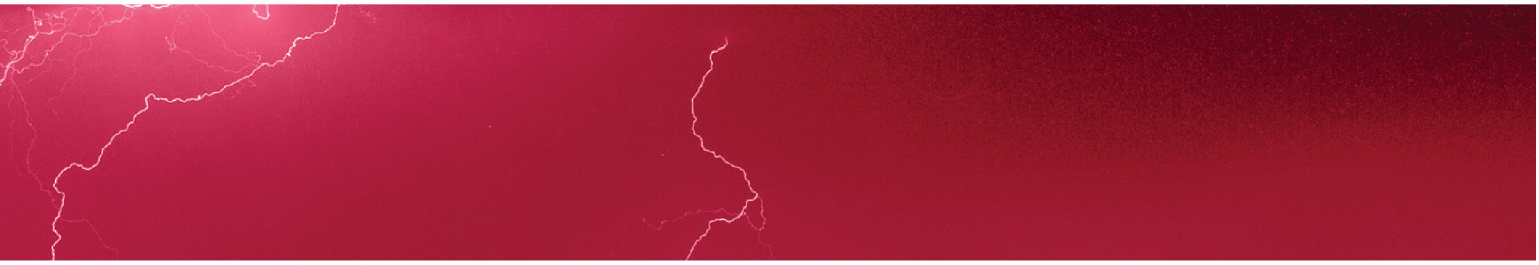
Lyncole XIT® Grounding was founded in 1985 with its mission being to provide the best products and services in electrical protection and grounding. We are the most experienced protection engineering firm in the industry and employ the only full-time staff of engineers. Lyncole has installed grounding systems in over 50,000 locations, 92 countries, in conditions ranging from the Arctic permafrost to the Saudi Arabian desert. We have provided customized site and facility grounding designs to virtually all industry leaders.

In 2008, Lyncole was acquired by VFC, which added an additional dimension to our capabilities. Lyncole continues as the premier engineering and grounding products company while VFC provides world class Lightning Protection design and installation services. Together, a proper grounding system, combined with the installation of a lightning protection system, will effectively protect your personnel, your facility and your equipment. *How much downtime can you afford?*

ENGINEERING SERVICES

Lyncole has the most experienced engineering staff in the industry. With over 100 years of combined engineering experience in the specialty area of grounding, we have completed thousands of grounding designs and hundreds of electrical protection surveys. Our electrical protection surveys are the industry standard and include detailed explanations with photos illustrating any problems identified. Lyncole's engineering services include:

- Site Specific Ground Designs
- Ground Potential Rise Studies
- Soil Resistivity Testing
- Site Audits/Surveys
- Installation Services
- Grounding System Testing
- Compliance Testing
- Installation Services
- Certifications



EDUCATION

Lyncole has taken its experience and created educational services that are unmatched in the industry, providing public and private classes. Our 16 hour, two-day public courses allow attendees to receive 1.8 continuing education units (CEU), 16 Building Industry Consulting Services International Credits (BICSI), 16 continuing education credits (CEC), 16 professional development hours (PDH) and 16 National Educational Telecommunications Association (NETA) continuing technical development credits (CTDC). We are an Institute of Electrical and Electronics Engineers (IEEE) education partner and approved by Electronics Technicians Association (ETA). Our courses can be tailored to fit any industry and our instructors have given private courses throughout the country and around the world.

PRODUCTS & PARTNERS

Lyncole's philosophy of total site and facility protection is supported by our ability to be an all-inclusive grounding, lightning protection, and surge suppression provider. We accomplish this by producing our XIT systems, backfill materials, bus bars and ground resistance monitors and then partnering with the best companies in the industry in their areas of expertise. We provide a full line of test instruments from AEMC and Megger, components for lightning protection from VFC, and general electrical work from ABB. We also provide RF surge suppression from Times Microwave Systems and PolyPhaser, AC surge suppression from Citel and DEHN, and installation and design services for lightning protection from VFC. These are all supported by the experience and engineering services in grounding, lightning protection, and surge suppression provided by Lyncole.

REPEAT **CLIENT LIST**

COMMUNICATIONS

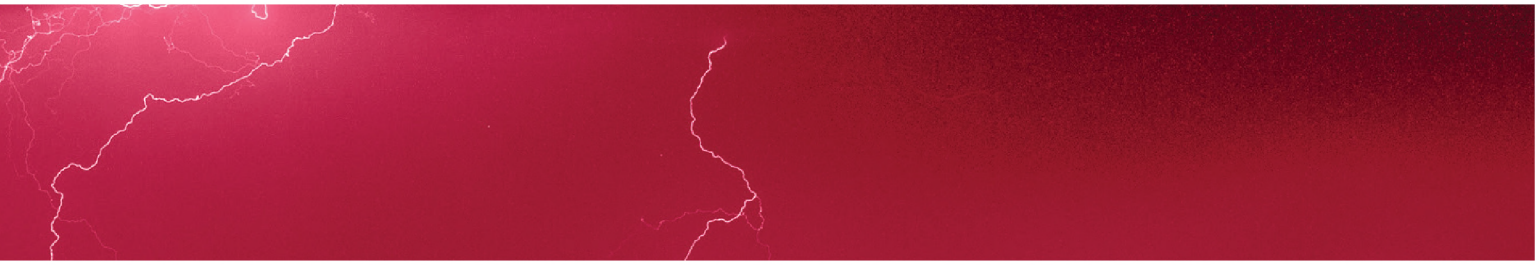
AT&T Wireless
Bluegrass Cellular
Cable & Wireless
Cellular One
Continental Telephone Systems
Electric Light Wave
Florida Telephone
GST Communications
Harris Corporation
Lucent
Motorola
National Grid
New York Power Authority
Nextel
Northern Telecom, Inc.
Nynex
Onecom
Pacific Bell Mobile
Pennsylvania Power & Light (PPL)
Pittsburgh Cellular Telephone
Quest
Raytheon
Southern New England Telephone
Sprint
T-Mobile
360 Communications
Triton PCS, Inc.
Verizon
Voicestream Wireless
Western Telecommunications
Western Union
Western Wireless

SPECIFYING ENGINEERS

CHA
Cimetta Mining Eng. & Constructors
Clough Harbour & Associates
CMTA Engineers
Daniel Mann Johnson & Mendenhall
Dewberry - Goodkind
Edwards and Kelsey
FTC&H
Gandhi and Associates, Inc.
Holmes & Narver, Inc.
KDC Architects
Lucini, Milford & Godell
Mountain States Engineers
Pincock, Allen & Holt, Inc.
Ralph M. Parsons
Tectonic Engineering
The Chazen Companies
Turpin & Rattan

FACILITIES/INDUSTRIAL

ALCOA
Atomics International
B.C. Hydro-Electric
Bechtel Power Corporation
Beckman Instruments
Burroughs Corporation
CBS Sports
Coca Cola Technical Facility
Computer Sciences Company
Comtech Labs
ConRail
Cornell University
Digital Equipment Company
Disney
Douglas Aircraft Company
DuPont DeNemous and Company
General Dynamics
General Electric
General Motors, Fisher Body Division
Graybar Electric Company
GTE Laboratories
HBO



Hewlett-Packard
Hilton Hotels
Hughes Aircraft Company
IBM
Intel
Kaiser Steel
Lawrence Livermore Labs
Lockheed/Martin
Magma Copper Company
Marriot Hotels
Martin-Marietta Corporation
McDonnell-Douglas
Micron Computers
Monsanto
National Semi-Conductor
NBC
Northrop
Rockwell International
Sandia Laboratories
Santa Barbara Research Center
SpaceX
Spectra-Physics
Sperry Rand Corporation
Standard Power
TRW
Tyco
UCLA
University of Chicago
U.S. Steel Company
Wegmans
Westinghouse
Wilmington, DE Medical Center
WLEX - TV, Lexington, KY
WSBK - TV, Boston, MA

OIL & GAS

Andeavor
ARCO
BP
Chevron Oil
Exxon
Florida Power & Light
Pennsylvania Power & Light (PPL)
PG&E
RCA-Alaska Pipeline
Southern National Gas
Standard Oil
Tennessee Gas & Pipeline

GOVERNMENT

Bureau of Land Management
Department of Homeland Security
Federal Aviation Administration
LA Internal Services Department
NASA
NY Dept. of Transportation
U.S. Air Force
U.S. Army
U.S. Border Patrol
U.S. Coast Guard
U.S. Department of Agriculture
U.S. Department of Defense
U.S. Department of Energy
U.S. Forest Service
U.S. Marine Corps
U.S. Navy
Ventura County
Veteran's Administration

INTERNATIONAL

Elcom, Inc. (Algerian Pipeline)
ETEC
GMA-7
Inchon International Airport, Korea
ONESCO (Saudi Arabia Housing Project)
Paiton Power Project Samsung
University of Riyadh, Saudi Arabia

OVERVIEW

Lyncole continues to set the industry standard, just as we did with the originally patented, active, Lyncole XIT® Grounding System. Invented more than 40 years ago, each system we produce is maintenance free and comes with a 30-year warranty with an expected life span of more than 50 years. The complete line of all options available is discussed in further detail on pages 1-5. The Engineering Services guide, pages 20-21, will provide examples of how we can design a grounding system to meet your specific requirements and ways to implement our XIT Grounding System.

Lyncole also offers an array of products to accompany the XIT Electrolytic Grounding System such as, Lynconite II®, our proprietary backfill material, Grounding Gravel®, GRM 2000 RS, our Ground Resistance Monitoring System, and a variety of bus bars and cover boxes to fit your unique needs. This product catalog gives and in-depth look at each specific product and highlights the associated benefits. You will also learn practical applications and all options available to assist you with your project.

Along with our incomparable XIT system, Lyncole is proud to partner with Megger® and AEMC®, two of the industry's leaders in meter manufacturing. Both of these iconic companies are over 100 years old and provide the most advanced and reliable instruments manufactured today. From ground test meters, to HiPot testers, TDRs and megohmmeters, Lyncole can provide the industry best for your use.

We also work with industry leaders in surge suppression: PolyPhaser, Times Microwave, Citel, DEHN and others to provide you with the best choices.

As you can see, Lyncole provides key engineering services and education supported by our products and the products of industry leaders to provide you with the premier "One Stop Shop" for complete site protection. And this catalog is designed to guide you through the selection process.

CATALOG DIRECTORY

LYNCOLE XIT® ELECTROLYTIC GROUNDING SYSTEMS

The continuously advancing telecommunications, computer and electronics industries require the most advanced grounding systems available. Ahead of its time, the UL-listed, self- moisturizing and maintenance free XIT® Grounding System provides low systems to earth resistance in diverse climates around the world, without harmful effects to the environment.

The Lyncole XIT Grounding System is available in "Straight Shaft" and also "L"-Shaped models for environments that don't allow a Straight Shaft installation. The "L"-Shaped model has the same features and benefits of the Straight Shaft model. As you will see on the following pages these models are fully customizable to meet any requirements.

The diagram below is an example of how to read our catalog numbers for the XIT Grounding System.

K	2	L	-	2	-20	CS	4/0	D
1.	2.	3.		4.	5.	6.	7.	8.

1. **MATERIAL**: Copper (K) or Stainless Steel (SS).
2. **DIAMETER**: Internal diameter of the XIT electrode in inches.
3. **ROD STYLE**: L for an L-Shaped XIT electrode. Omit for a Straight Shaft.
4. **SECTIONS**: Number of sections. Omit for a single section.*
5. **LENGTH**: Total length of the electrode in feet.
6. **SYSTEM**: Insert CS for a Complete System including a protective cover box and backfill material, omit for a XIT electrode only. The complete system is also customizable.
7. **TAIL SIZE**: Tail conductor size 4/0 AWG, 2/0 AWG, #2 AWG Stranded, #2 AWG Tinned Solid, etc. Call for additional sizes. If omitted, 4/0 with a 24" length is the default conductor.
8. **ORIENTATION**: U for an Upward Running Tail, D for Downward, and P is for a Passthrough. If omitted, Downward is the default.

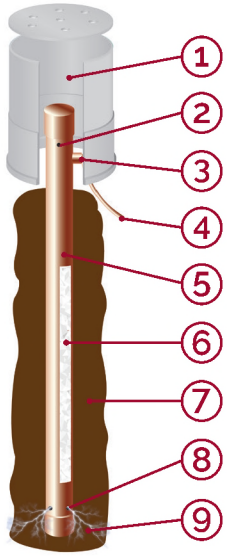
* Sections come in 10 and 20 foot lengths. Custom lengths available.

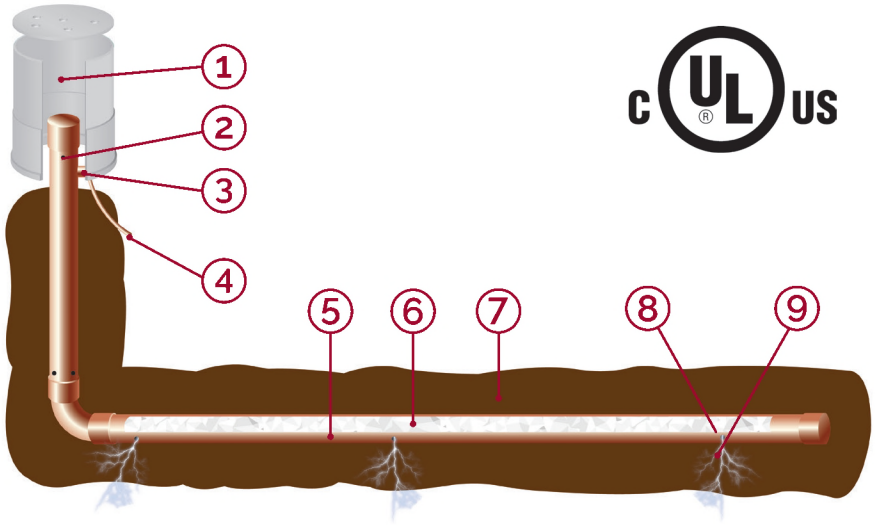
30-year / 25 Ohm maintenance-free full replacement warranty*

- Continuously UL listed since 1982
- The first and original patented electrolytic ground rod system
- Outside XIT rod diameter is 2-1/8 inches for copper and 2-3/8 inches for Stainless Steel
- The XIT rod walls are 0.083 inches thick for copper and 0.154 inches thick for stainless steel
- Active grounding system replenishes soil moisture, no watering is necessary after installation
- System performance improves over time as electrolytic roots form
- The XIT System offers stability, reducing seasonal fluctuation
- No hazardous materials or chemicals are used in producing the XIT rods
- Lynconite II® backfill material provides a pH balanced environment, inhibiting corrosion

*25 Ohm systems to ground resistance or better will be achieved in soils 100 Ohm resistance or lower

1. Protective Cover Box
2. Breather Holes
3. Exothermic Connection
4. Specified Tail Conductor
5. Copper or Stainless Steel Tube
6. Non-toxic Calsolyte® Salts
7. Lynconite II® Backfill Material
8. Weep Holes
9. Electrolytic Roots





LYNCOLE XIT® ELECTROLYTIC
GROUNDING SYSTEMS

- X = Tail Conductor Size: **4/0** AWG, **2/0** AWG, **2** (#2 AWG stranded), **2T** (#2 AWG Tinned solid)
- D / U / P = Tail Orientation (Down, Up, or Pass-through), can also accommodate multiple tails
- Standard Complete Systems include a Fibrelyte Cover Box, Lynconite II® backfill, and an exothermically welded tail
- Custom configurations are available, please call for details
- Maintenance Free

XIT **STRAIGHT SHAFT** MODELS

CATALOG NO.	BACKFILL	TEST WELL	DESCRIPTION
K2-10CSXD	1 bag LNC II	XB-12F	10' Straight Shaft Complete System
K2-20CSXD	3 bags LNC II	XB-12F	20' Straight Shaft Complete System

XIT **STAINLESS STEEL** STRAIGHT SHAFT MODELS

SS2-10CSXD	1 bag LNC II	XB-12F	10' Straight Shaft Complete System
SS2-20CSXD	3 bags LNC II	XB-12F	20' Straight Shaft Complete System

XIT STRAIGHT SHAFT **SECTIONAL** MODELS

K2-2-20CSXD	3 bags LNC II	XB-12F	20' Straight Shaft Complete System two 10' Sections
K2-4-40CSXD	6 bags LNC II	XB-12F	40' Straight Shaft Complete System four 10' Sections
K2-2-40CSXD	6 bags LNC II	XB-12F	40' Straight Shaft Complete System two 20' Sections
K2-4-80CSXD	12 bags LNC II	XB-12F	80' Straight Shaft Complete System four 20' Sections

XIT **L**-SHAPED MODELS

K2L-10CSXD	2 bags LNC II	XB-12F	10' Horizontal length and 36" vertical riser
K2L-2-20CSXD	3 bags LNC II	XB-12F	20' Horizontal length and 36" vertical riser

STAINLESS STEEL XIT **L**-SHAPED MODELS

SS2L-10CSXD	2 bags LNC II	XB-12F	10' Horizontal length and 36" vertical riser
SS2L-2-20CSXD	3 bags LNC II	XB-12F	20' Horizontal length and 36" vertical riser

- X = Tail Conductor Size: **4/0** AWG, **2/0** AWG, **2** (#2 AWG stranded), **2T** (#2 AWG Tinned solid)
- D / U / P = Tail Orientation (Down, Up, or Pass-through), can also accommodate multiple tails
- Standard Complete Systems include a Fibrelyte Cover Box, Lynconite II® backfill, and an exothermically welded tail
- Custom configurations are available, please call for details
- Maintenance Free

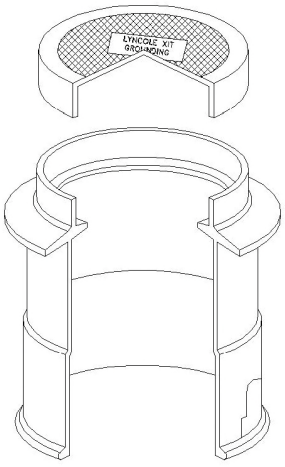
XIT STRAIGHT K2.5 **HEAVY DUTY** (35-YEAR MAINTENANCE FREE WARRANTY)

XIT STRAIGHT K3 **SUPER DUTY** (40-YEAR MAINTENANCE FREE WARRANTY)

CATALOG NO.	TEST WELL	BACKFILL	DESCRIPTION
K2.5-10CSXD	XB-12F	1 bag LNC II	10' Straight shaft model 2.5" Dia.
K2.5-20CSXD	XB-12F	1 bag LNC II	20' Straight shaft model 2.5" Dia.
K3-10CSXD	XB-12F	1 bag LNC II	10' Straight shaft model 3" Dia.
K3-2-20CSXD	XB-12F	3 bags LNC II	20' Straight shaft model, 2 sections, 3" Dia.
K3-2-40CSXD	XB-12F	6 bags LNC II	40' Straight shaft model, 2 sections, 3" Dia.

XIT **L-SHAPED** K2.5L **HEAVY DUTY** & K3L **SUPER DUTY** MODELS

K2.5L-10CSXD	XB-12F	2 bags LNC II	10' Horizontal length and 36" vertical riser, 2.5" Dia.
K2.5L-2-20CSXD	XB-12F	2 bags LNC II	20' Horizontal length and 36" vertical riser, 2.5" Dia.
K3L-10CSXD	XB-12F	2 bags LNC II	10' Horizontal length and 36" vertical riser, 3" Dia.
K3L-2-20CSXD	XB-12F	3 bags LNC II	20' Horizontal length and 36" vertical riser, 3" Dia.



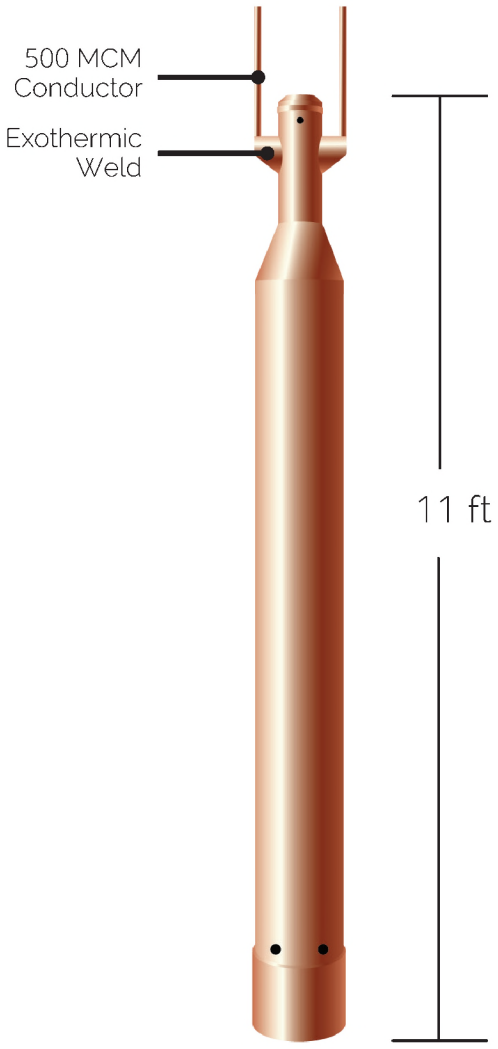
LYNCOLE XIT® ELECTROLYTIC **GROUNDING SYSTEMS**

XIT **DEEP WELL** MODELS

CATALOG NO.	BACKFILL	TEST WELL	DESCRIPTION
K4-11DWX	None	None	Deep well, submerged applications only

Features:

- Custom configurations are available, including conductor type and length. Please contact Lyncole for details.
- The K4 rod does not utilize Calsolyte®
- No hazardous materials or chemicals are used in producing the Deep Well electrodes



The K4-11DW deep well electrode length is 11 feet. The top end of the electrode is an 8.5 inch long section made of a 2 inch diameter type K copper tube that is soldered to a reducer to join the lower 10 foot section made of a 4 inch diameter type K hard tube.

The K4-11DW is permanently capped on the top and bottom. This deep well electrode is not filled with Calsolyte salts, instead it has holes, allowing the tube to fill with water.

For installation, a 6 inch diameter hole is drilled to a depth that is at least 12 feet below the water table to ensure the deep well electrode is fully submerged in water. Lower the KD-11DW deep well in the hole. Fill in the hole with soil.

LYNCOLE XIT® ELECTROLYTIC
EARTH ENHANCEMENT PRODUCTS

Lyncole XIT® Grounding Systems include the XIT rod, electrolytic earth salts, a protective cover box with lid, and enough backfill material for a standard installation.
Each system is delivered with the appropriate amount of Lynconite II® which is the default backfill material for the following reasons:

- Lynconite II is extremely conductive, improving the performance of the grounding system.
- When Lynconite II is installed in its slurry form, it forms completely to the XIT electrode with no pockets or gaps, making an ideal connection between the grounding electrode and earth.
- Lynconite II has a nearly neutral pH. This protects the copper allowing Lyncole XIT Grounding to provide a 30 year warranty on the system.

Grounding Gravel®, a pelletized form of backfill material is also available. It can be used as an alternative to mixing Lynconite II on site. Rather than mixing with water prior to installation, the pellets are poured in the hole or trench and then covered with water. Grounding Gravel can easily be installed in standing water. One 50 lb. bag of Grounding Gravel fills a smaller cubic area than one 50 lb. bag of Lynconite II, for this reason additional bags may be required.

LYNCONITE II ®

THE IDEAL BACKFILL MATERIAL

CATALOG NO.	WEIGHT	CUBIC FEET PER BAG
LNC II	50 lb.	2.27

Lynconite II® is based on a natural earth clay. Special processing increases its electrical conductivity properties. With a resistivity of 0.6 ohms-meter it is extremely beneficial for earth grounding applications.

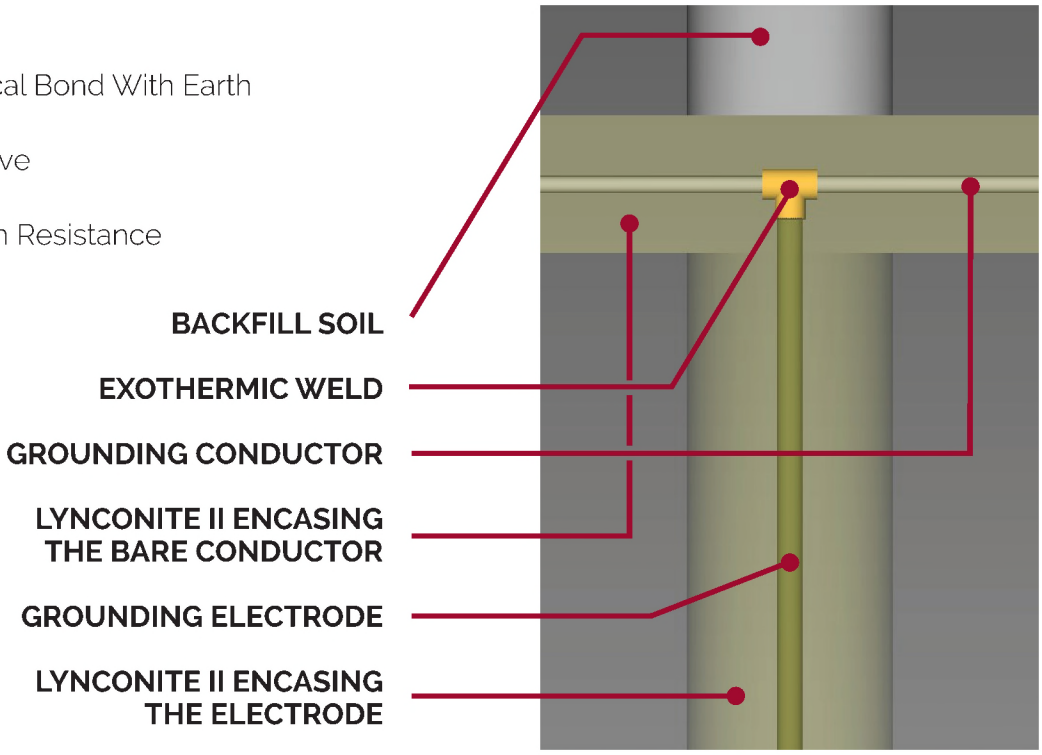
When mixed with water (approximately 13 gallons per 50 lb. bag) it has a relatively low viscosity for approximately 45 minutes before it takes on gel like properties. It is poured into the hole before it gels, then it adheres to the electrode and conforms to the holes dimensions, filling all voids, cracks and crevices, providing the best possible bond with the surrounding earth.

Lynconite II is environmentally safe, meeting NSF Standard 60 requirements.

Unlike carbon-based enhancement materials, Lynconite II does not place the grounding system in a corrosive environment. Lynconite II has a near neutral pH promoting a longer life span for any grounding system. You can use Lynconite II to extend the life of all electrodes and conductors, and it comes standard as part of the Lyncole XIT Grounding System. Because of the Lynconite II we are able to warranty the XIT electrode for 30 years and we expect it to have a life expectancy of greater than 50 years!

Benefits:

- Provides The Best Electrical Bond With Earth
- Environmentally Safe
- Very Electrically Conductive
- Protective Of Copper
- Lowers Grounding System Resistance



LYNCOLE GROUNDING GRAVEL®

THE "QUICK" ALTERNATIVE

CATALOG NO.	WEIGHT	CUBIC FEET PER BAG
G-Gravel	50 lb.	1

Lyncole Grounding Gravel is a pelletized form of clay based backfill and is particularly beneficial for installations involving standing water. Grounding Gravel is based on a natural earth clay formed by volcanic action.

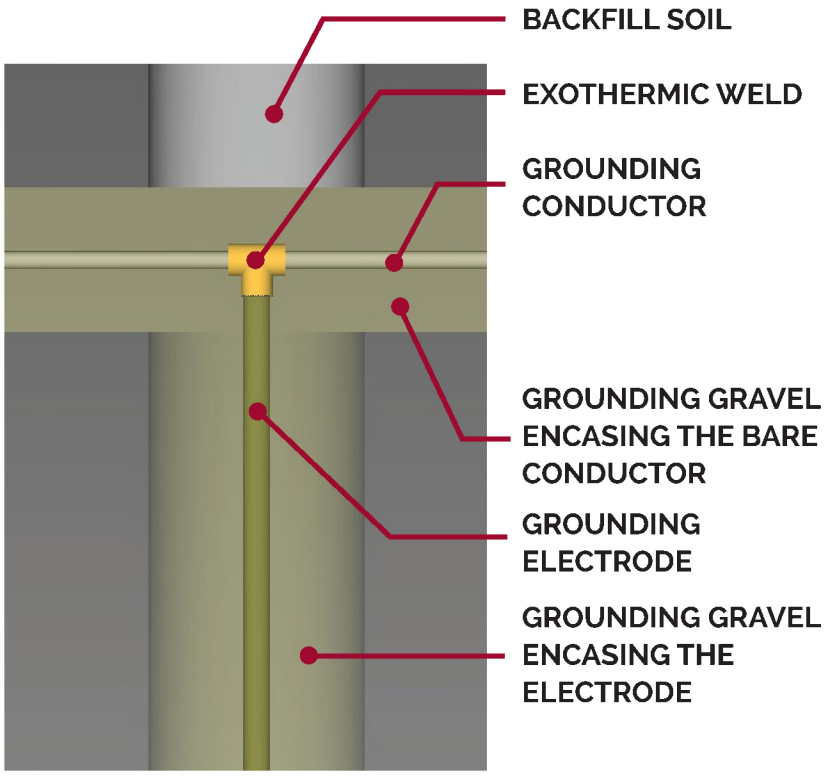
Although used in many different applications, it is extremely beneficial for earth grounding applications. Grounding Gravel is also environmentally safe, having met the NSF Standard 60 requirement for long term contact with drinking water. Grounding Gravel has all the qualities of an excellent backfill material for grounding electrodes and conductors.

Grounding Gravel is highly conductive which improves the grounding system performance. Its nearly neutral pH also promotes a long life of grounding electrodes and/or grids by protecting them from surrounding soil which may be very corrosive. This is one of the factors that allow Lyncole's XIT grounding systems to be warranted for 30 years with a life expectancy of 50 years.

Installation: Grounding Gravel does not need to be mixed into a slurry, instead half the bag is poured into the hole followed by 2-3 gallons of water. After 5 minutes the water is absorbed and the process is repeated. To install in standing water, use an inverted traffic cone or a funnel with a 2' outlet.

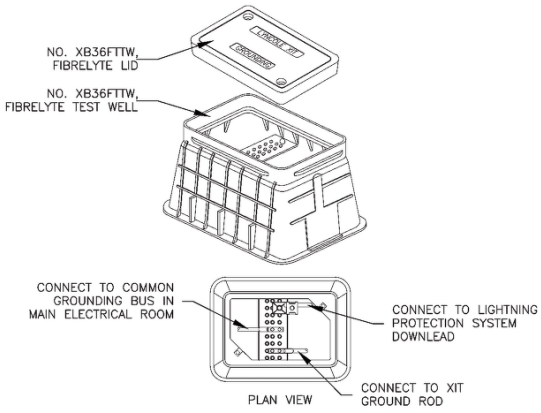
Benefits of Lyncole Grounding Gravel:

- Easily Installed
- Provides Good Electrical Bond With Earth
- Very Electrically Conductive
- Very Protective Of Copper
- Lowers Grounding System Resistance
- Environmentally Safe

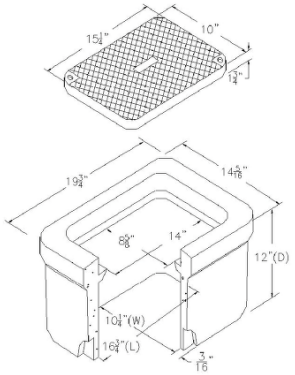


LYNCOLE XIT® ELECTROLYTIC
GROUNDING SYSTEMS
RECTANGULAR COVER BOXES

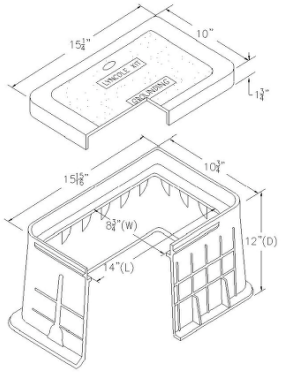
CATALOG NO.	WEIGHT WITH LID	MATERIAL	LIVE LOAD RATING	DESCRIPTION
XB-36C	98 lb.	Concrete	16,000 PSF	16 3/4" (L), 10 1/4" (W) and 12" (D). H-10 Traffic Rated
XB-36F	21 lb.	Fibrelyte	16,000 PSF	14" (L), 8 3/4" (W) and 12" (D), it comes with a vented cover labeled "Lyncole XIT Grounding", that bolts down for added security. H-10 Traffic Rated
XB-36FTTW	31 lb.	Fibrelyte	16,000 PSF	14" (L), 8 3/4" (W) and 12" (D) *True Test Well* is a one of a kind, US manufactured, test well with integrated UL Listed bus bar. It allows for a complete disconnection between the electrical service and your grounding system to allow for actual systems to ground resistance testing.



XB-36FTTW
True Test Well



XB-36C



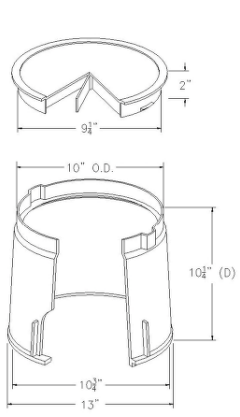
XB-36F

Notes:

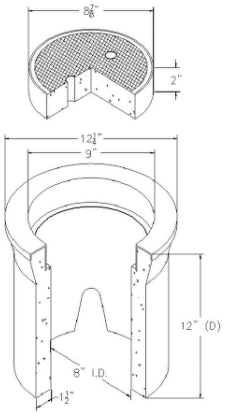
- Fibrelyte is a proven polyester pre-mix with calcium carbonate and polyester resins interlaced with fiberglass and ultraviolet inhibitors
- Fibrelyte is durable and made from noncombustible materials
- Fibrelyte is stronger than pre-cast concrete and it exceeds WUC 3.6 recommendations for 10,000 LBS wheel loading
- Flexible Strength: 6,000 PSI, Tensile Strength: 6,000 PSI, Compressive Strength: 20,000 PSI

COVER BOXES

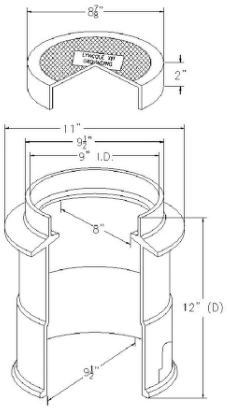
CATALOG NO.	WEIGHT WITH LID	MATERIAL	LIVE LOAD RATING	DESCRIPTION
XB-11	5 lb.	Polyplastic	350 PSF	10" (O.D.) x 10 1/4" (D), used for indoor or light traffic locations. Pedestrians
XB-12C	50 lb.	Concrete	8,000 PSF	8" (I.D.) x 12 1/4" (O.D.) x 12" (D) with cast iron lid labeled "Ground". H-10 Traffic Rated
XB-12F	9 lb.	Fibrelyte	8,000 PSF	9" (I.D.) x 11" (O.D.) x 12" (D), available in gray. H-10 Traffic Rated
XB-22C	67 lb.	Concrete	16,000 PSF	10" (I.D.) x 13 3/4" (O.D.) x 12" (D). Triangular concrete body, cast iron lid. H-20 Traffic Rated
XB-25C	61 lb.	Concrete	16,000 PSF	11 3/16" (I.D.) x 13 13/16" (O.D.) x 12" (D). Round concrete body, cast iron lid. H-20 Traffic Rated



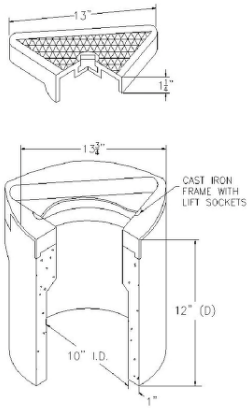
XB-11



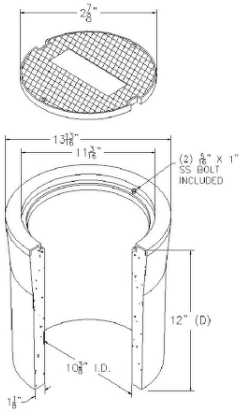
XB-12C



XB-12F



XB-22C



XB-25C

LYNCOLE XIT® **GROUNDING BARS**

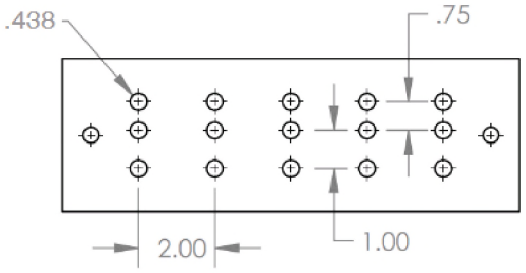
C PATTERN

PART NUMBER	PART DIMENSIONS	NUMBER OF HOLES	APPROX. WEIGHT (LBS)
LGB-12C	1/4" x 4" x 12"	15	5
LGB-24C	1/4" x 4" x 24"	33	8
LGB-36C	1/4" x 4" x 36"	51	11
LGB-48C	1/4" x 4" x 48"	66	14

- **UL Listed**
- Mounting brackets and insulators included
- Manufactured from electrolytic tough pitch copper
- Holes are sized for **3/8"** bolts and arranged in line ar, three-row columns
- NEMA hole spacing accommodates **2-hole** lugs with ¾ **"**, **1"**, or **1-3/4"** hole spacing

*Contact us for bus bars with specifications such as: Tinned Copper, 1"& 2" widths for limited space applications, custom hole patterns and hole sizes, length snotlisted above, or exothermically welded tails

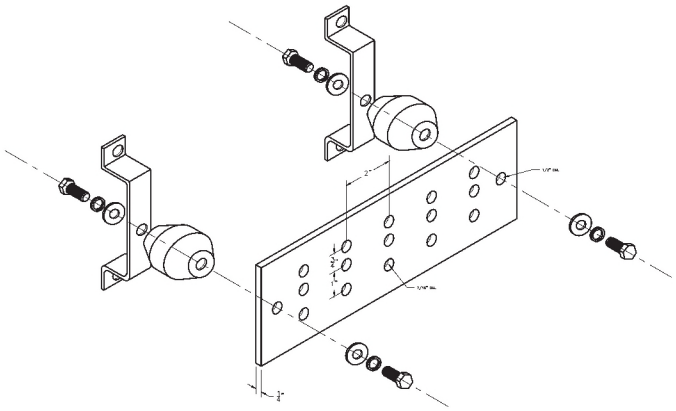
Standard Lyncole XIT copper bus bar specifications are 4" x ¼" and include mounting brackets and insulators.



Standard hole configuration consists of:
7/16" diameter holes in linear, three row columns.

Please Call as Specialty Bus Bars are Available in:

- Tinned Copper
- 1" and 2" widths for limited space applications
- Customized hole patterns and sizes
- Lengths in excess of 10 ft.
- Exothermically welded tails

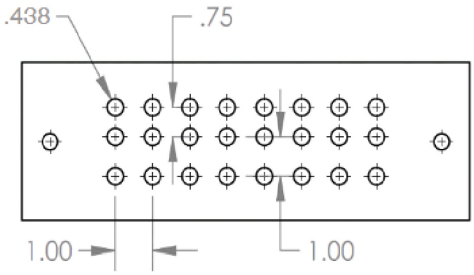


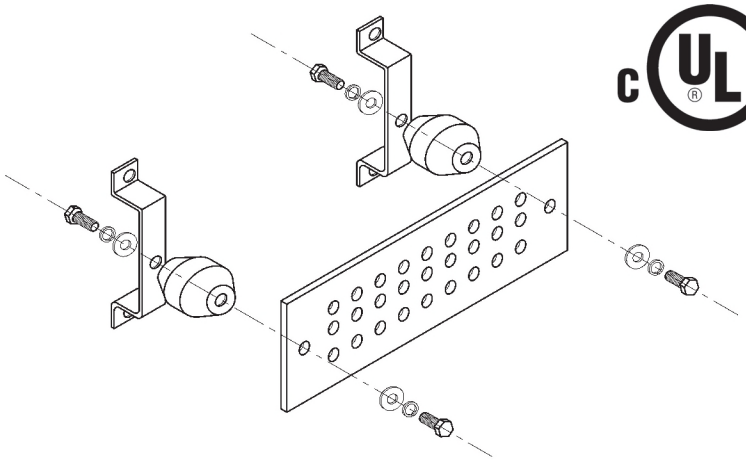
J PATTERN

PART NUMBER	PART DIMENSIONS	NUMBER OF HOLES	APPROX. WEIGHT (LBS)
LGB-12J	1/4" x 4" x 12"	27	5
LGB-24J	1/4" x 4" x 24"	63	8
LGB-36J	1/4" x 4" x 36"	99	11
LGB-48J	1/4"x4"x48"	132	14

- **UL Listed**
- Mounting brackets and insulators included
- Manufactured from electrolytic tough pitch copper
- Holes are sized for **3/8"** bolts and arranged in line ar, three-row columns
- NEMA hole spacing accommodates **2-hole** lugs with ¾ ", 1", or **1-3/4"** hole spacing

*Contact us for bus bars with specifications such as: Tinned Copper, 1" & 2" widths for limited space applications, custom hole patterns and hole sizes, length snotlisted above, or exothermically welded tails

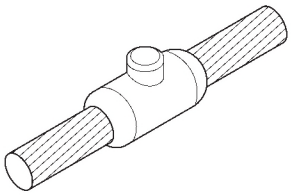




VFCWELD® EXOTHERMIC WELDING
CABLE TO CABLE CONNECTIONS

BS MOLD

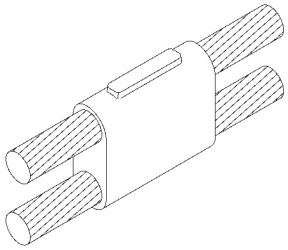
BUTT SPLICE CONNECTION



End to end splice of same cables.
Concentric stranded copper cable unless otherwise noted.

P MOLD

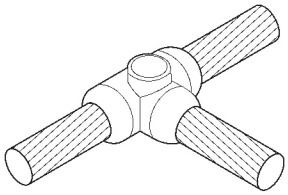
PARALLEL CONNECTION



Parallel cable to cable.
Concentric stranded copper cable unless otherwise noted.

T MOLD

HORIZONTAL TEE CONNECTION

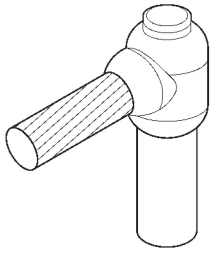


Tee of horizontal run and tap cables.
Concentric stranded copper cable unless otherwise noted.
Solid conductor can be either copper or copper-clad steel.

CABLE TO GROUND ROD CONNECTIONS

GR MOLD

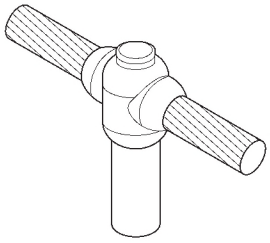
CABLE TO GROUND ROD



Single cable to top of ground rod.
Concentric stranded cable unless otherwise noted. For copper clad, galvanized, stainless clad or stainless steel ground rods.

GT MOLD

THROUGH CABLE TO GROUND ROD

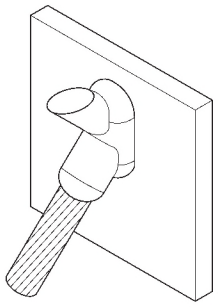


Through cable to top of ground rod.
Concentric stranded cable unless otherwise noted. For copper clad, galvanized, stainless clad or stainless steel ground rods.

CABLE TO VERTICAL STEEL CONNETIONS

VSA MOLD

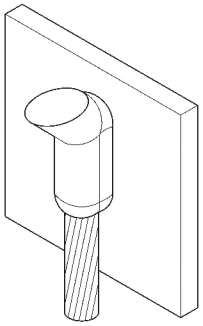
VERTICAL STEEL SURFACE, ANGLED



Connection of vertical cable to vertical flat steel surface or to side of vertical or horizontal steel pipe.
A test weld should be made to check the possibility of burn through on thin sections or thin wall pipe.
Concentric stranded copper cable unless otherwise noted.

VSD MOLD

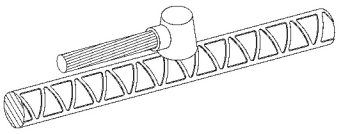
VERTICAL STEEL SURFACE, DOWN



Connection of vertical cable to vertical flat steel surface or to side of vertical or horizontal steel pipe.
A test weld should be made to check the possibility of burn through on thin sections or thin wall pipe.
Concentric stranded copper cable unless otherwise noted.

RB MOLD

CABLE TO REINFORCING BAR



Connection of cable to reinforcement bar.
Concentric stranded copper cable unless otherwise noted.

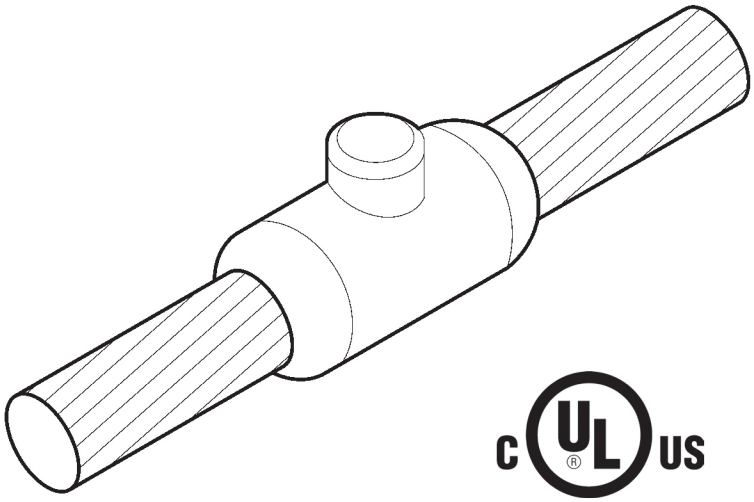
VFCWELD POWDERS

VFCWeld weld metal is contained in plastic cartridges, and are packed in plastic boxes of 10 or 12, depending on their size. Different joints require different powder sizes, and the size relates to the powder's nominal weight in grams. The weld powder packaging also contains retaining discs and starting powder. The retaining discs are contained in a separate bag within the box. Each weld uses one disc. The starting powder is compacted into the bottom of the cartridge, underneath the weld powder, and is realeased by tapping the cartridge base firmly. These weld powders are suitable for making connections from copper and from copper to steel.

VFCWELD® **EXOTHERMIC WELDING**
CABLE TO CABLE BS

Wire Size	Powder Cartridge	Part No.	Handle Clamp
LIGHTNING PROTECTION CABLE			
28 Ropelay	WM90	BS28	HC1
29 Smooth	WM45	BS29	HC1
32 Smooth	WM65	BS32	HC1
GROUNDING CABLE			
1/0	WM45	BS1/0	HC1
2/0	WM65	BS2/0	HC1
4/0	WM90	BS4/0	HC1
250	WM115	BS250	HC1

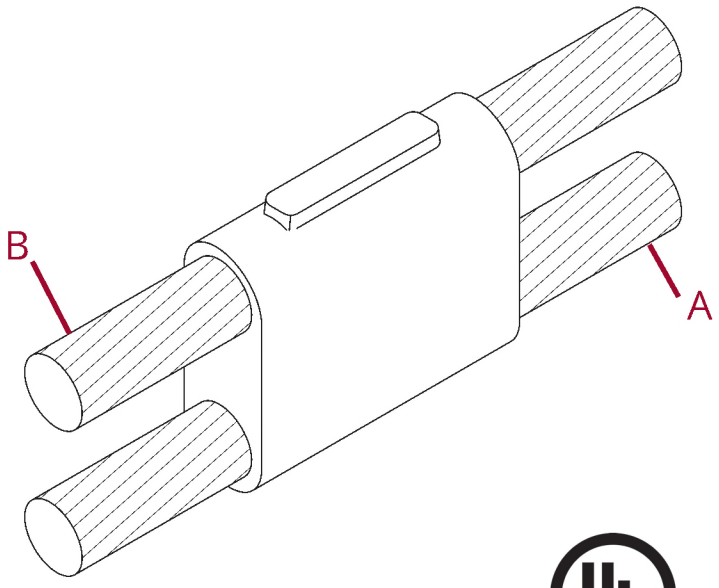
Molds for other cable sizes and combinations can be manufactured on request.



CABLE TO CABLE P

Wire Size A	Wire Size B	Powder Cartridge	Part No.	Handle Clamp
28 Ropelay	28 Ropelay	WM150	P2828	HC1
4/0	28 Ropelay	WM150	P4/028	HC1
4/0	4/0	WM150	P4/04/0	HC1

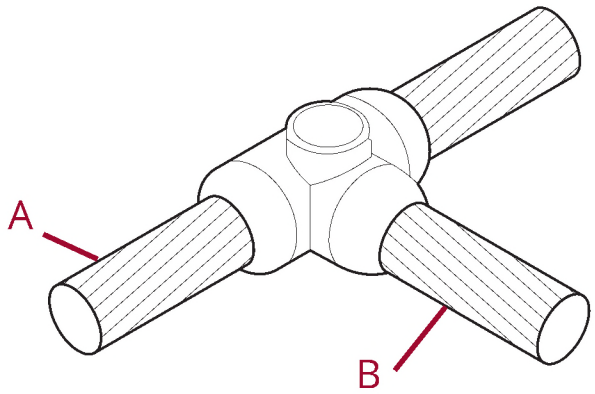
Molds for other cable sizes and combinations can be manufactured on request.



VFCWELD® **EXOTHERMIC WELDING**
CABLE TO CABLE T

Wire Size A	Wire Size B	Powder Cartridge	Part No.	Handle Clamp
LIGHTNING PROTECTION CABLE				
28 Ropelay	28 Ropelay	WM115	T2828	HC1
29 Smooth	29 Smooth	WM90	T2929	HC1
28 Ropelay	29 Smooth	WM90	T2829	HC1
32 Smooth	32 Smooth	WM90	T3232	HC1
29 Smooth	32 Smooth	WM90	T2932	HC1
32 Smooth	29 Smooth	WM90	T3229	HC1
GROUNDING CABLE				
#2Str	#2Str	WM45	T#2#2	HC1
1/0	1/0	WM90	T1/01/0	HC1
2/0	2/0	WM90	T2/02/0	HC1
3/0	3/0	WM90	T3/03/0	HC1
4/0	4/0	WM115	T4/04/0	HC1
250	250	WM150	T250250	HC1
250	4/0	WM150	T2504/0	HC1
4/0	250	WM150	T4/0250	HC1
LIGHTNING PROTECTION TO GROUNDING CONDJCTOR				
2/0	28	WM90	T2/028	HC1
2/0	29	WM90	T2/029	HC1
4/0	28	WM115	T4/028	HC1
4/0	29	WM90	T4/029	HC1

Molds for other cable sizes and combinations can be manufactured on request.



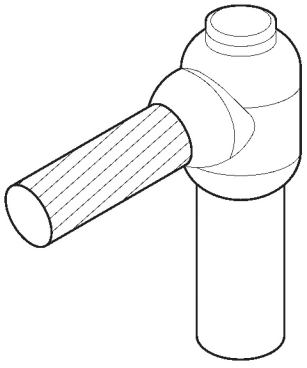
CABLE TO GROUND ROD GR

Ground Rod Ø (in.)	Wire Size	Powder Cartridge	Part No.	Handle Clamp
LIGHTNING PROTECTION CABLE				
5/8	28 Ropelay	WM115	GR5828	HC1
5/8	29 Smooth	WM115	GR5829	HC1
5/8	32 Smooth	WM115	GR5832	HC1
3/4	28 Ropelay	WM150	GR3428	HC1
3/4	29 Smooth	WM150	GR3429	HC1
3/4	32 Smooth	WM150	GR3432	HC1
GROUNDING CABLE				
5/8	4/0	WM115	GR584/0	HC1
5/8	250	WM150	GR58250	HC1
3/4	1/0	WM150	GR341/0	HC1
3/4	2/0	WM150	GR342/0	HC1
3/4	4/0	WM150	GR344/0	HC1
3/4	250	WM150	GR34250	HC1

GR and GT are suitable for connections to copperbond rods – for connections to copper or stainless steel rods, please contact our sales office. Threaded portion of rod should be removed before welding.

Molds for other cable sizes and configurations can be manufactured on request. Special designs for all exothermic welding molds available on request.

For many more applications contact us for part numbers and pricing.



VFCWELD® EXOTHERMIC WELDING CABLE TO GROUND ROD GT

Ground Rod Ø (in.)	Wire Size	Powder Cartridge	Part No.	Handle Clamp
LIGHTNING PROTECTION CABLE				
5/8	28 Ropelay	WM115	GT5828	HC1
5/8	29 Smooth	WM115	GT5829	HC1
5/8	32 Smooth	WM115	GT5832	HC1
3/4	28 Ropelay	WM150	GT3428	HC1
3/4	29 Smooth	WM115	GT3429	HC1
3/4	32 Smooth	WM115	GT3432	HC1
GROUNDING CABLE				
5/8	4/0	WM115	GT584/0	HC1
5/8	250	WM150	GT58250	HC1
3/4	1/0	WM115	GT341/0	HC1
3/4	2/0	WM115	GT342/0	HC1
3/4	4/0	WM150	GT344/0	HC1
3/4	250	WM115	GT34250	HC1

GR and GT are suitable for connections to copperbond rods – for connections to copper or stainless steel rods, please contact our sales office. Threaded portion of rod should be removed before welding.

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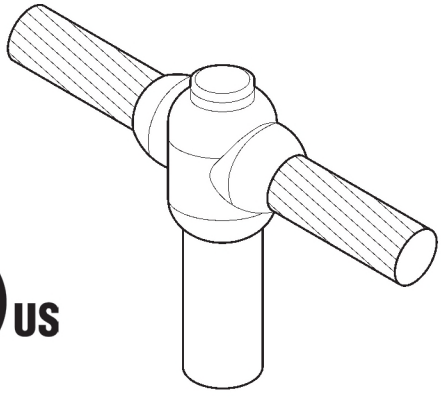
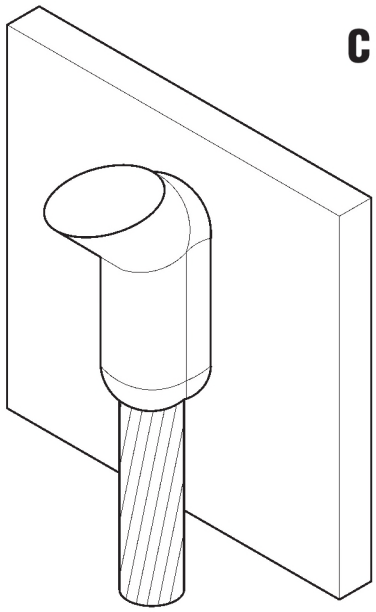
For many more applications contact us for part numbers and pricing.



CABLE TO STEEL SURFACE VSD

Wire Size A	Powder Cartridge	Part No.	Handle Clamp
LIGHTNING PROTECTION CABLE			
28 Ropelay	WM150	VSD28	HC1
29 Smooth	WM115	VSD29	HC1
32 Smooth	WM115	VSD32	HC1
GROUNDING CABLE			
2/0	WM115	VSD2/0	HC1
4/0	WM150	VSD4/0	HC1

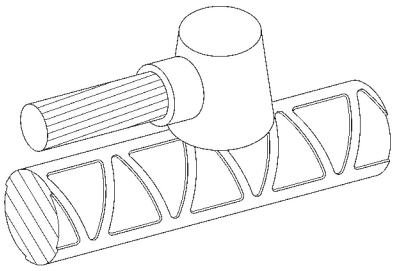
Molds for other cable sizes and combinations can be manufactured on request.



VFCWELD® **EXOTHERMIC WELDING**
CABLE TO REINFORCING BAR RB

Reinforcing Bar Size A	Wire Size B	Powder Cartridge	Part No.	Handle Clamp	Packing
LIGHTNING PROTECTION CABLE					
4 to 7	28 Ropelay	WM115	RB428	HCPK3B	MPACK 1
4 to 7	29 Ropelay	WM90	RB429	HCPK3B	MPACK 1
8 to 11	28 Ropelay	WM115	RB828	HCPK3B	MPACK 1
8 to 11	29 Ropelay	WM90	RB829	HCPK3B	MPACK 1
GROUNDING CABLE					
4 to 7	4/0	WM115	RB44/0	HCPK3B	MPACK 1
8 to 11	4/0	WM115	RB84/0	HCPK3B	MPACK 1

Molds for other cable sizes and configurations can be manufactured on request. Special designs for all exothermic welding molds available on request.

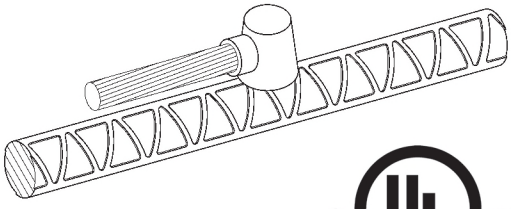


EXOTHERMIC REBAR GROUNDING ASSEMBLIES
REBAR GROUNDING ASSEMBLIES

Catalog No.	Rebar Size	Conductor Type	Conductor Length (ft.)	Approx. Wt. (lbs.)
RGKIT4/0C	4	4/0	5	2-1/2

Notes:

- This prefabricated assembly is comprised of conductor exothermically welded to a 24 inch length of rebar.
- Facilitates a fast and easy field connection.
- Can be wire tied or welded to rebar cage prior to concrete pour.
- Conductor can be stubbed out for connection to a downlead or ground grid.
- Other sizes are available.

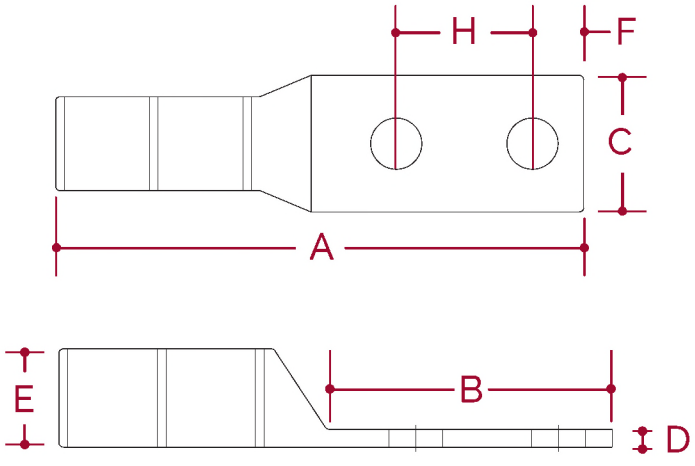


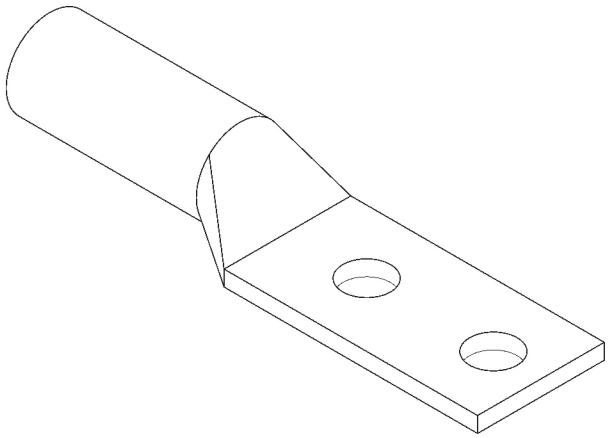
COMPRESSION LUGS

Catalog No.	Wire Size	Dimensions (in.) A	B	C	D	E	F	H	Die Code	Die Color
CLUG6P	6	2.93	1.93	.59	.06	.30	3/8	1	24	BLUE
CLUG4P	4	3.13	1.98	.59	.09	.37	3/8	1	29	GRAY
CLUG2P	2-3	3.08	1.94	.59	.11	.41	3/8	1	33	BROWN
CLUG1P	1	3.30	1.98	.67	.11	.47	3/8	1	37	GREEN
CLUG1/0P	1/0	3.25	1.98	.75	.13	.52	3/8	1	42	PINK
CLUG2/0P	2/0	3.19	1.81	.83	.13	.57	3/8	1	45	BLACK
CLUG3/0P	3/0	3.25	1.63	.92	.13	.63	3/8	1	50	ORANGE
CLUG4/0P	4/0	3.50	1.88	1.03	.14	.70	3/8	1	54	PURPLE
CLUG250P	250MCM	3.83	1.93	1.13	.14	.77	3/8	1	62	YELLOW
CLUG350P	350MCM	4.33	1.93	1.36	.18	.93	3/8	1	71	RED
CLUG500P	500MCM	5.00	1.93	1.61	.22	1.10	3/8	1	87	BROWN
CLUG750P	750MCM	5.25	2.06	1.94	.27	1.33	1/2	1	106	BLACK

Notes:

- Electro tin plated copper
- 600V to 35KV
- Long barrel with inspection port
- 2 holes for 3/8" hardware, 1" apart
- UL listed
- Available without inspection port, remove suffix "P" from part number (e.g. CLUG4/0)



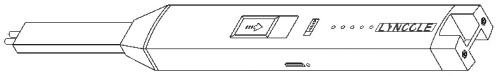


VFCWELD® **EXOTHERMIC WELDING**
EXOTHERMIC WELDING LIGHTER
EXO IGNITE

Part no.	Dimensions (in.)	Approx. Wt. Each (lbs.)
EXOI	10.5 x 1.1 x 0.75	0.15

Notes:

- Rechargable lithium battery (micro USB)
- Revolutionary way to ignite exothermic welding powder
- Slide down switch to start spark



LYNCOLE XIT® **GROUNDING**
TESTING AND METER EQUIPMENT

AEMC™ Instruments manufactures professional electrical test and measurement instruments for the industrial, commercial and utility marketplace. Founded in 1893, their products are backed by over 100 years of experience in test and measurement equipment, and encompass the latest international standards for quality and safety.

Lyncole offers the full line of AEMC current measurement probes, ground resistance testers and insulation resistance testers. Please contact our sales department for pricing at **sales@lyncole.com** or **(800) 962-2610**.

AEMC® INSTRUMENTS

6470B Ground Resistance Tester

LYNCOLE METERS

GRM 3100C+ CLAMP GROUND RESISTANCE TESTER

Technical Specification

	GRM3000C+	GRM3100C+
Clamp Size	2 9/16" × 1 1/4"	1 1/4"
Tester Size	11 1/4" x 3 3/8" x 2 3/16"	10 1/4" x 3 9/16" x 2 5/8"

	Range	Resolution	Accuracy
Resistance Range	0.010Ω-0.099Ω	0.001Ω	±(1%+0.01Ω)
	0.10Ω-0.99Ω	0.01Ω	±(1%+0.01Ω)
	1.0Ω-49.9Ω	0.1Ω	±(1%+0.1Ω)
	50.0Ω-99.5Ω	0.5Ω	±(1.5%+0.5Ω)
	100Ω-199Ω	1Ω	±(2%+1Ω)
	200Ω-395Ω	5Ω	±(5%+5Ω)
	400-590Ω	10Ω	±(10%+10Ω)
	600Ω-880Ω	20Ω	±(20%+20Ω)
	900Ω-1200Ω	30Ω	±(25%+30Ω)
Current Range	0.00mA -9.95mA	0.05mA	±(2.5%+1mA)
	10.0mA -99.0mA	0.1mA	±(2.5%+5mA)
	100mA -300mA	1mA	±(2.5%+10mA)
	0.30A-2.99A	0.01A	±(2.5%+0.1A)
	3.0A-9.9A	0.1 A	±(2.5%+0.3A)
	10.0A-20.0A	0.1 A	±(2.5%+0.5A)

Product Function

Earth resistance, loop resistance, and alternating current measurement

Product Features

1. A major breakthrough in grounding resistance testing technology, non-contact measurement is safe and fast.
2. When measuring the loop grounding system, it is not necessary to disconnect the grounding down leads, no need auxiliary electrode, saving time and more effect.
3. Clamp earth resistance tester can measure the ground fault which can't be measured by traditional method, can apply in the occasion where traditional methods are unworkable.
4. Have functions of audible and visible alarm, data memory, data hold.

GROUND RESISTANCE **MONITOR**

GRM 2000 RS

The Lyncole GRM 2000 RS monitors ground resistance and features adjustable alarm limits. With the RS232 interface, the ground resistance can be remotely monitored and the system controlled using a PC via serial, ethernet or web. You can monitor your critical mountain top facility from the comfort of your home or office.

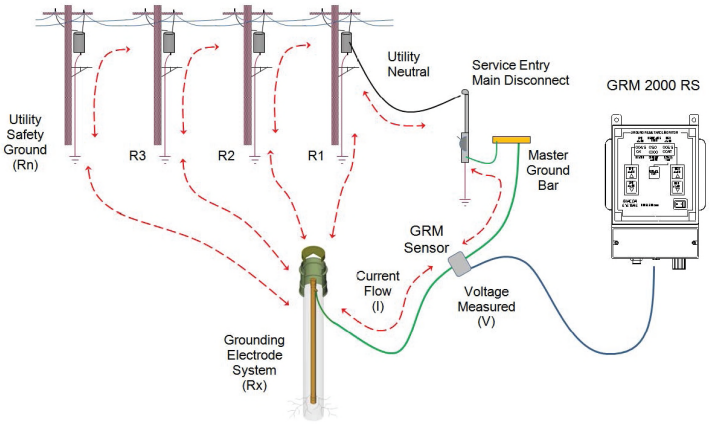
The GRM 2000 RS consists of the meter and sensing head. The meter is mounted in a convenient location and the sensor is installed on the grounding conductor.

Benefits:

- Permanently monitors grounding system performance
- Selectable test rate
- High and low alarm points
- RS232 output
- For use with up to 1000KCMIL conductor
- Monitors grounding system current
- "Live" installation
- Remote monitoring with RS232

Features

- Remote resistance reading/control
- Early warning of grounding problems
- Full-time monitoring
- No probes or additional conductors
- UL listed
- Continuity verification
- No trips to remote sites for testing
- No invalid testing



To measure the grounding system resistance, the GRM method does not need the grounding electrode to be disconnected from the electrical system. This system utilizes multiple electric utility safety grounds as the return path. It assumes that because there are multiple parallel return paths, this return has very low resistance. The unit induces voltage into the grounding electrode via the grounding electrode conductor, measures the resulting current then calculates the resistance.

*Single point ground required. Contact Lyncole with any questions.

LYNCOLE XIT®
GROUNDING

LUGS AND CONNECTORS

Lyncole offers a complete line of grounding products. From splices and taps, to terminals and Hypresses, we ensure you will have exactly what you need to help save time and money while installing a complete XIT Grounding System.

All compression connectors conform to applicable sections of the NEC as well as UL-467 for use in direct burial or concrete embedded grounding applications, and have been tested successfully according to requirements of IEEE Standard 837 and meet or exceed all industry performance requirements.

FEATURES

- Pre-crimp dies for ground rod connectors add mechanical strength to help the connectors withstand power installation and maintain IEEE and UL performance
- All compression elements are made of pure wrought copper (same as the conductor), which completely eliminates the possibility of corrosion due to dissimilar metals
- Heavy Duty connector design carries the equivalent or greater current carrying capacity of the conductor while maintaining high mechanical strength and electrical integrity

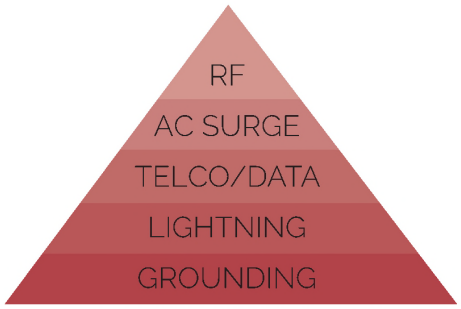
COST & TIME BENEFITS

- Requires no special training or complicated tooling
- Each connection can be made in less than 3 minutes
- Compression connections can be installed in all kinds of weather
- Installation process does not produce heat, smoke, toxic fumes, or other hazardous particles




WHY LYNCOLE?

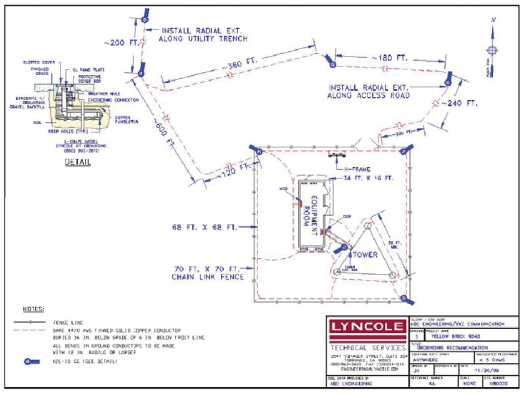
Lyncole has the most experienced staff in the industry on providing grounding, electrical and lightning protection. Our total site protection approach is your best insurance in protection of your personnel, structures and equipment. No matter what your challenge, Lyncole can provide a scientific solution. Our services, described below, are site specific and priced according to the project. Our account managers can work with you to determine specific needs and costs tailored to your project. With over 30 years of experience, we provide you with proven results.



ELECTRICAL PROTECTION PYRAMID

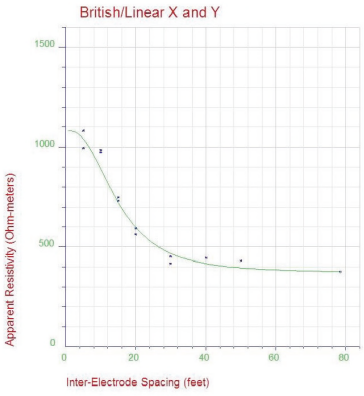
GROUNDING SYSTEM DESIGN

Grounding system designs are the foundation of a well-protected facility and they need to be completed scientifically. We utilize a modulated computer based calculation program that takes the results of Four Point Soil Resistivity Tests and creates a multilayered soil model. Our engineers then create a three-dimensional representation of the grounding system which the computer combines with the layered soil model to predetermine the achieved resistance to earth. The results of these calculations help us in defining the proper design for the target resistance with the site specific considerations. As shown in the diagram to the right, the result is a design based upon science, not estimation.



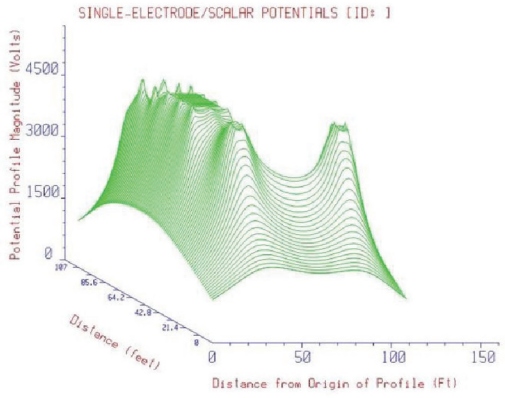
GROUNDING SYSTEM TESTING

Lyncole's engineering team utilizes state of the art testing equipment to test grounding systems around the world. Understanding the benefits and drawbacks of both the Fall of Potential and Clamp on Tests, our engineers evaluate the grounding system to determine the most accurate method of testing. If the tests result in a resistance to earth higher than the client's goal, a series of Four-Point Soil Resistivity Tests are performed, and grounding system modifications are designed and presented to the client. Regardless of the state of the existing grounding system, our engineers have the tools and experience to evaluate and recommend appropriate solutions to achieve an optimal grounding system.



FACILITY SURVEYS AND AUDITS

Lyncole's engineers use the National Electrical Code, NFPA-780, Motorola R-56, Telcordia, and client specific standards to perform a wide range of site and facility surveys. These surveys include reviews of lightning protection by our LPI certified engineers, AC and DC surge protection, electrical systems, inside/outside plant grounding and bonding as well as power quality audits and more. The client is provided with a detailed report consisting of observations and recommendations, explanatory photographs, field test data, AutoCAD drawings, and a grounding system design if necessary. Many of our customers hire Lyncole to either supervise their maintenance crews or bring in experienced contractors to make the recommended changes.



GROUND POTENTIAL RISE STUDIES (GPR)

Lyncole also performs GPR studies for clients when they are installing a facility grounding system in or near a high voltage environment. These studies use the fault clearing time, available fault current, and other factors to calculate the GPR and step/touch potentials. Lyncole engineers perform these calculations in order to determine what measures are required to make the site safe for workers and the public alike. A detailed report with charts (diagram to the left) depicting the site characteristics are included.

TRAINING COURSES

Lyncole's vast experience in the areas of grounding, lightning, and electrical protection make us a great education resource. Our public course is 16 hours of instruction and covers soil resistivity and grounding system resistance testing, grounding system design, communications grounding, bonding, lightning protection, surge protection, and National Electrical Code(NEC). Following completion of these courses, the attendee receives a completion certificate and qualifies for 1.8 continuing education units, 14 BICSI credits and 16 Professional Development Hours. We are a IEEE education partner and approved by ETA. Our courses can be tailored to fit any industry and our instructors have given private courses throughout the country and around the world.

MADE IN THE **U.S.A.**

ARRA – STATEMENT OF COMPLIANCE

Section 1605 of the American Recovery & Reinvestment Act (ARRA) requires that all the iron, steel, and manufactured goods used in an ARRA project for the construction, alteration, maintenance, or repair of public building or public work must be produced in the United States. Pursuant to 74 Fed. Reg. 14,623 (March 31, 2009) (FAR Interim Rule) and 74 Fed. Reg. 18,449 (April 23, 2009) (OMB Interim Final Guidance), a manufactured good is considered a domestic construction material without regard to the source or origin of components as long as the construction material used in the project is manufactured in the United States. 74 Fed. Reg.at 14,624 & 14,626; 74 Fed. Reg. at 18,452.

Lyncole XIT® Grounding products are manufactured in the United States at our facility in Torrance, California, meeting the requirements of the ARRA as set forth in the regulations

For more information on the American Recovery & Reinvestment Act (ARRA) go to: http://www.epa.gov/water/eparecovery/docs/2009_09_25_BA_Q&As_Part1_Revised.pdf

WARRANTY INFORMATION

Lyncole unconditionally warrants the Lyncole XIT® Grounding Systems to be free of defects in material or workmanship, for the following period, according to specified model, from the date of purchase when the defect occurs under normal installation and use.

Standard "K2" models: 30 years
Heavy Duty "K2.5" models: 35 years
Super Duty "K3" models: 40 years

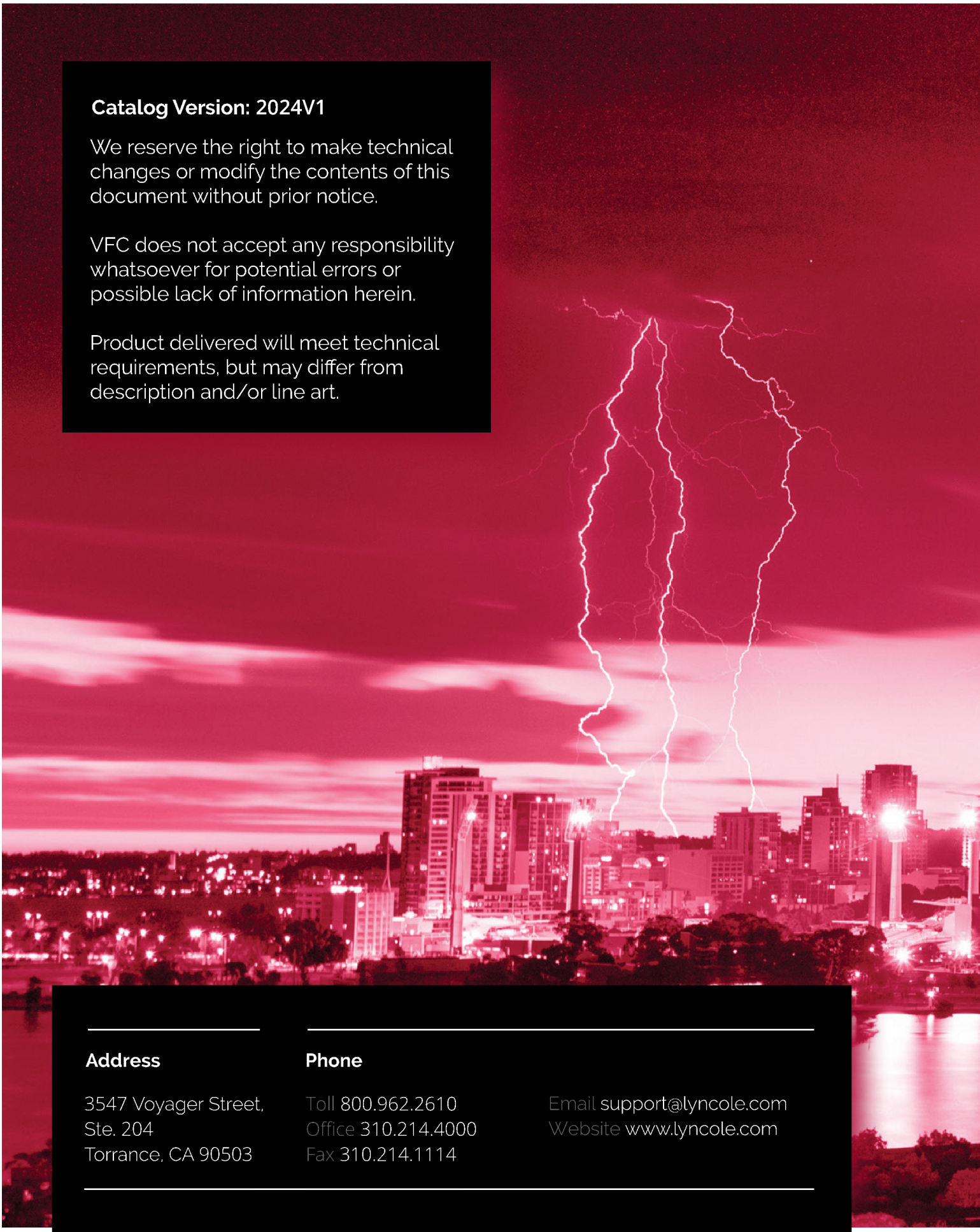
If during this period, the product fails to perform per manufacturer's specifications (i.e., a rise in resistance to earth due to depletion of the Calsolyte® material inside the rod) as a result of defects in material or workmanship, Lyncole XIT Grounding will provide a replacement product and it's installation without charge within 90 days of receipt of a claim on this warranty. If Lyncole XIT Grounding cannot provide a replacement within 90 days, Lyncole XIT Grounding will refund the purchase price. In order to make a claim under this warranty, the claimant must notify, in writing, Lyncole XIT Grounding of the failure of the product to confirm to the warranty within 30 days of first discovering the failure of the product. Lyncole XIT Grounding is not liable for incidental damages, the cost of installing replacement product(s), or any other costs.

GLOSSARY OF TERMS

Air Terminal - A metallic rod used on top of structures for lightning protection. May be made of either stainless steel, copper or aluminum. See also Lightning Rod.
Alternating Current (AC) - Electrical current, which reverses direction repeatedly and rapidly. The change in current is due to a change in voltage that occurs at the same frequency.
American Wire Gauge (AWG) - A Standardized wire gauge system. A unit of measurement for wire size.
Ampere (amp) - Unit of current measurement. The amount of current that will flow through a one ohm resistor when one volt is applied. See also Current.
Bonding (bonded) - The permanent joining of two metallic parts to form an electrically conductive path that will ensure electrical continuity and the capacity to conduct safely any current likely to be imposed.
Bonding Jumper (conductor) - A reliable conductor to ensure electrical conductivity between metal parts required to be electrically connected.
Bus Bar - The metal bar used to carry electrical currents to supply electrical circuits or to divert such currents to ground. See also Master Ground Bar (MGB).
Compression Lug - A grounding connector made by using a specially made high compression tool for a grounding conductor to a bus bar. See also Burndy.
Concrete Encased Electrode - A grounding system comprised of reinforcing rods that are contained in the concrete walls and footings. Electrical connections are made directly to the metal reinforcing bars. See also Ufer ground. (This is no longer a recommended grounding method.)
Conductor - A substance that offers little resistance to the flow of electrical currents. Copper wire is the most common form of conductor.
Counterpoise - A buried length of conductor, usually around a structure or tower. See also Ground Ring.
Current - The flow of electricity in a circuit, measured in amperes. See also Ampere.
Driven Rod - A metallic stake used for electrical grounding applications. Usually made of copper clad steel, but can be made of solid copper or galvanized steel. See also Ground Rod.
Direct Current (DC) - Electrical current that flows in one direction only.
Electrolytic Ground Rod - A grounding electrode made of a hollow pipe with natural earth salts that is environmentally friendly to the Earth. See also XIT® Rod.
Exothermic Weld - A permanent electrical connection using powdered metallurgy technology that creates molecular bonds within conductors.
Ground - An electrical connection, whether intentional or accidental, between an electrical circuit or equipment and the earth, or to some conducting body that serves in place of the earth.
Ground Rod - A metallic pipe or stake used for electrical grounding applications. Can be made of copper clad steel, solid copper, galvanized steel or copper pipe filled with natural earth salts. Also known as a grounding electrode. See also Driven Rod and Electrolytic Ground Rod.
Ground Ring - A buried length of conductor, usually around a structure or tower. See also Counterpoise.
Halo - A ring of conductor installed in a structure, usually just below the ceiling to facilitate interconnection of non-powdered metallic objects.
Institute of Electrical and Electronic Engineers (IEEE) - A professional society for electrical and electronic engineers.
International Association of Electrical Inspectors (IAEI) - A professional society of electrical inspectors.
Joule - A unit of electrical, mechanical and thermal energy. One joule is equal to the amount of energy to the work done when a current of one ampere is passed through a resistance of one ohm for one second.
Lightning Rod - A metallic rod used on top of structures for lightning protection. May be made of either

stainless steel, copper, or aluminum. The new correct technical term is Air Terminal. See also Air Terminal.
Master Ground Bar (MGB) - A metal bar, usually mounted in a dominant area of a structure, to which all other bus bars, grounding electrodes and grounding conductors are interconnected or bonded. See also Bus Bar.
Mechanical Clamp - A device used to secure a conductor to a grounding element. Usually consists of an oval of metal with a bolt that is mechanically tightened onto the conductor. Not considered very reliable as the clamp can corrode or become loose over time.
National Electrical Code (NEC) - The governing code in the United States that contains safety guidelines for all types of electrical installations. Updated every three years.
National Fire Protection Association (NFPA) - An organization that publishes standards such as the National Electrical Code (NEC) (NFPA70) and the Lightning Protection Standards (NFPA 780).
Ohm - The unit of measurement of electrical resistance. One ohm of resistance will allow one ampere of current to flow through a pressure of one volt. See also Resistance.
Ohm's Law - The formula establishing the relationship between voltage, current and resistance. Usually expressed as V = I * R where V is the voltage, I is the current and R is the resistance.
Potential - The work required to bring a unit electrical charge, magnetic pole or mass from an infinitely distant position to a designated point in a static electric, magnetic or gravitational field, respectively.
Power - The measurement of electrical work, usually measured in watts. See also Watt.
Resistance - The opposition to the flow of current in an electrical circuit. See also Ohm.
Soil Resistivity - Resistance per unit of area or volume, measured in ohms meter; the reciprocal of conductivity.
Surge Protection Device (SPD) - A device that will protect equipment from damage caused by surges, spikes and other over voltages. See also Transient Voltage Surge Suppression.
Transient Voltage Surge Suppression (TVSS) - A device that will protect equipment from damage caused by surges, spikes and other over voltages. The correct technical term is Surge Protection Device. See also Surge Protection Device.
Ufer Ground - A grounding system comprised of reinforcing rods that are contained in concrete walls and footings. Electrical connections are made directly to metal reinforcing bars. No longer the correct technical term. The correct technical term is Concrete Encased Electrode. See also Concrete Encased Electrode.
Underwriter's Laboratory (UL) - A non-profit organization that was established by the insurance industry to test devices, materials and systems for safety. If an item passes UL set standards, the device is marked as UL listed.
Uninterruptible Power Supply (UPS) - A device that provides continuous power in case the main power source fails.
Volt - The unit of measurement of electrical force. One volt will force one ampere of current to flow through a resistance of one ohm.
Watt - The unit of measurement of electrical power or rate of work equal to one joule per second. See also Power and Joule.
XIT® Rod - The original, active electrolytic grounding rod. Key component of the complete Lyncole Grounding System.

PART INDEX



Catalog Version: 2024V1

We reserve the right to make technical changes or modify the contents of this document without prior notice.

VFC does not accept any responsibility whatsoever for potential errors or possible lack of information herein.

Product delivered will meet technical requirements, but may differ from description and/or line art.

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Exhibit 2

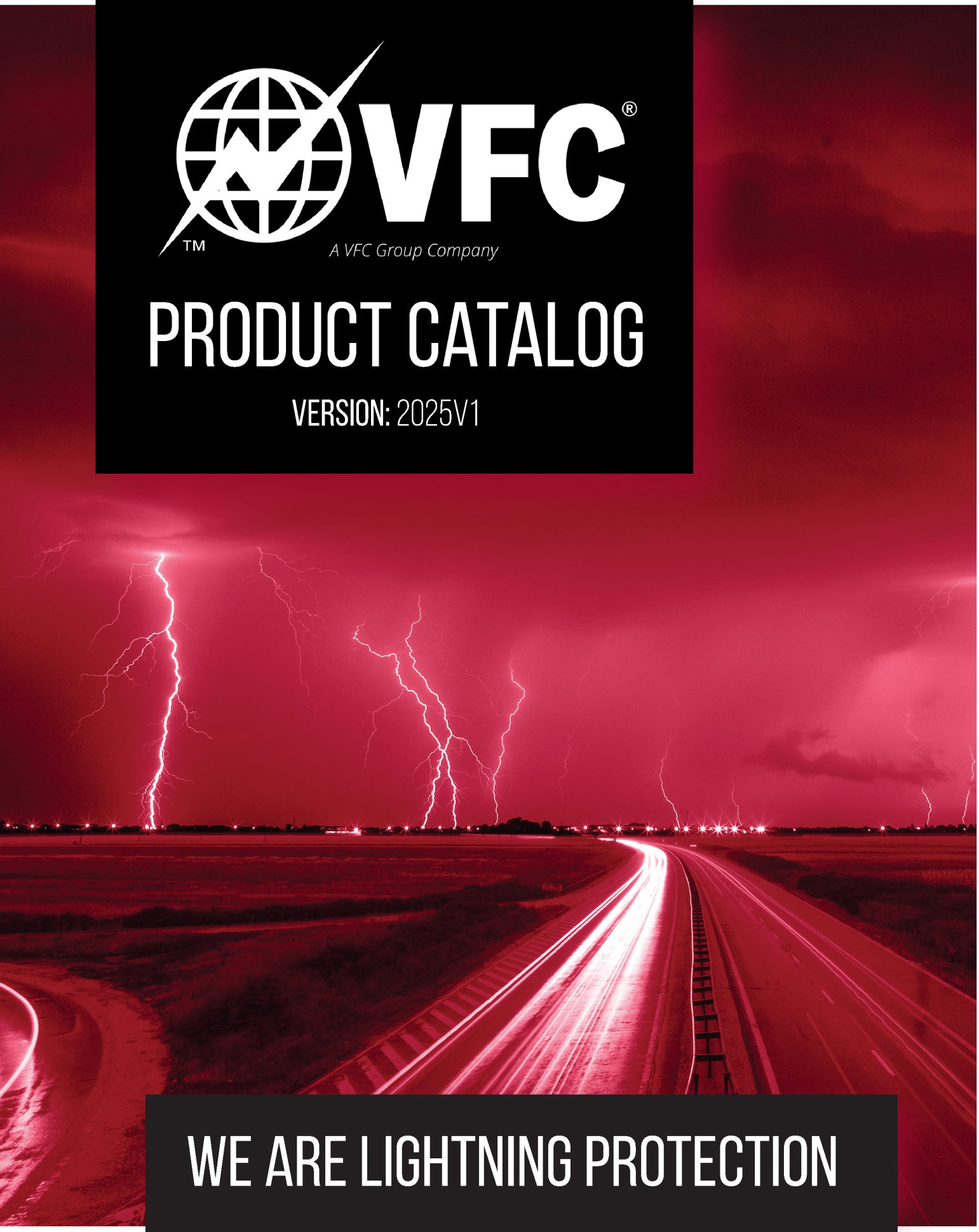
VFC Product Catalog 2025V1

VFC®

A VFC Group Company

PRODUCT CATALOG

VERSION: 2025V1



WE ARE LIGHTNING PROTECTION

CATALOG DIRECTORY

In this, our 7th generation catalog, VFC has once again put together the highest quality and most comprehensive line of Lightning Protection components possible. All products supplied by VFC meet the requirements of NFPA 780, UL 96A, LPI 175, and where applicable are UL listed.

All of the products described in this edition of VFC's catalog conform to the concept of "Lowest System Cost." Our commitment to this concept has been key to VFC's rapid growth in the marketplace. Ask your local representative for details on how this concept can benefit your project.
In addition to the products described within, VFC has the capability of custom designing products to meet any specific needs. Customers should not hesitate to contact VFC with special requests. Solutions are our business.

CONTENTS

COPPER LIGHTNING CONDUCTORS

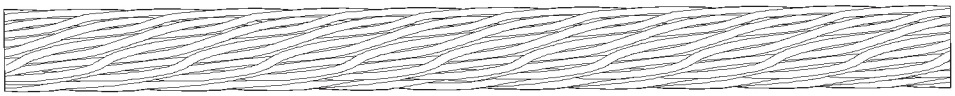
CLASS I MAIN COPPER CONDUCTORS

SECTION 100

Catalog No.	Strand Size (AWG)	No. of Strands	X-Sectional Area (cm.)	Tinned	Approx. Diameter (in.)	Approx.Weight per 1,000 ft. (lbs.)	Standard Reel Size (ft.)	Approx. Reel Wt. (lbs.)
LC2917C	17	29	61,350	No	.338	189	500	100
LC2917T	17	29	61,350	Yes	.338	189	500	100
LC3217C	17	32	67,700	No	7/16	200	300	74

Notes:

- Class I lightning conductors are manufactured using a special smooth weave process. This process maximizes the surface area of the conductor while allowing greater installation flexibility.
- Class I Minimum Requirements:
  - 187 pounds per 1,000 feet.
  - Cross-sectional area of 57,400 circular mils.
  - Minimum strand size 17 AWG.
- Listed to UL® 96.



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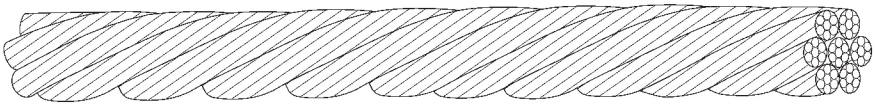
CLASS II MAIN COPPER CONDUCTORS

Catalog No.	Strand Size (AWG)	No. of Strands	X-Sectional Area (cm.)	Tinned	Approx. Diameter (in.)	Approx.Weight per 1,000 ft. (lbs.)	Standard Reel Size (ft.)	Approx. Reel Wt. (lbs.)
LC2814C	14	28	125,600	No	1/2	380	250	105
LC2814T	14	28	125,600	Yes	1/2	380	250	105

Notes:

- Class II lightning conductors are manufactured using a special rope lay process. This process maximizes the surface area of the conductor while allowing greater installation flexibility.
- Class II Minimum Requirements:
  - 375 pounds per 1,000 feet.
  - Cross-sectional area of 115,000 circular mils.
  - Minimum strand size 15 AWG.
- Listed to UL® 96.



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ALUMINUM LIGHTNING CONDUCTORS

CLASS I MAIN ALUMINUM CONDUCTORS

Catalog No.	Strand Size (AWG)	No. of Strands	X-Sectional Area (cm.)	Approx. Diameter (in.)	Approx. Weight per 1,000 ft. (lbs.)	Standard Reel Size (ft.)	Approx. Reel Wt. (lbs.)
LC2414A	14	24	98,600	7/16	98	500	56

Notes:

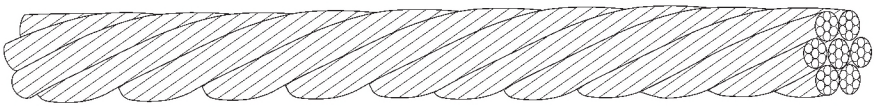
- Class I lightning conductors are manufactured using a smooth weave process. This process maximizes the surface area of the conductor while allowing greater installation flexibility.
- Class I Minimum Requirements:
  - 95 pounds per 1,000 feet.
  - Cross-sectional area of 98,600 circular mils.
  - Minimum strand size 14 AWG.
- Listed to UL® 96.

CLASS II MAIN ALUMINUM CONDUCTORS

Catalog No.	Strand Size (AWG)	No. of Strands	X-Sectional Area (cm.)	Approx. Diameter (in.)	Approx. Weight per 1,000 ft. (lbs.)	Standard Reel Size (ft.)	Approx. Reel Wt. (lbs.)
LC2411A	11	24	203,391	5/8	197	500	105

Notes:

- Class II lightning conductors are manufactured using a rope lay process. This process maximizes the surface area of the conductor while allowing greater installation flexibility.
- Class II Minimum Requirements:
  - 190 pounds per 1,000 feet.
  - Cross-sectional area of 192,000 circular mils.
  - Minimum strand size 13 AWG.
- Listed to UL® 96.



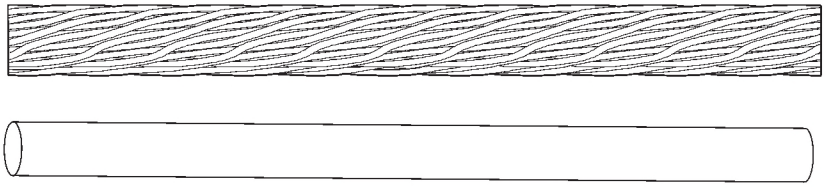
LIGHTNING CONDUCTORS

COPPER AND ALUMINUM BONDING CONDUCTORS

Catalog No.	Strand Size (AWG)	No. of	Strands X-Sectional Area (cm.)	Approx. Diameter (in.)	Approx. Weight per 1,000 ft. (lbs.)	Standard Reel Size (ft.)	Approx. Reel Wt. (lbs.)
SC14C	17	14	29,600	1/4	92	500	55
SC62A	4	16	44,800	1/4	62	500	70
SC4A	4	1	41,470	1/4	127	500	67

Notes:

- Copper bonding conductors must have 14 strands of .045 inch diameter wire.
- Aluminum bonding conductors must have 10 strands of .064 inch diameter wire or a single strand of .204 inch diameter wire.
- Listed to UL® 96.



SOLID COPPER CONDUCTORS

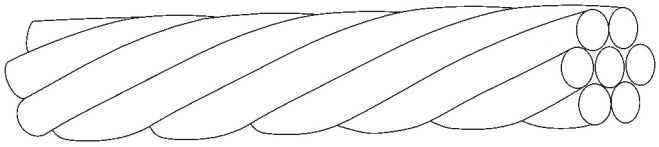
Catalog No.	Size (AWG)	X-Sectional Area (cm.)	Approx. Weight per 1,000 ft (lbs.)	Finish
6C	6	26,240	80	Bare
6T	6	26,240	80	Tinned
4C	4	41,740	127	Bare
4T	4	41,740	127	Tinned
2C	2	66,360	204	Bare
2T	2	66,360	204	Tinned

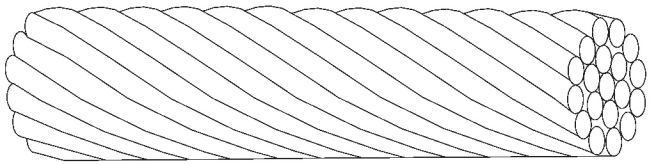
Notes:

- Insulated conductor available upon request.

STRANDED COPPER CONDUCTORS

Catalog No.	Total Size (AWG)	No. of Strands	X-Sectional Area (cm.)	Approx. Weight per 1,000 ft. (lbs.)	Standard Reel Size (ft.)	Approx. Reel Wt (lbs.)
67C	6	7	26,240	81	1,000	85
47C	4	7	41,740	127	1,000	132
27C	2	7	66,360	204	1,000	209
1/0C	1/0	19	105,600	325	500	168
2/0C	2/0	19	133,100	410	500	210
3/0C	3/0	19	167,800	518	500	264
4/0C	4/0	19	211,600	653	500	332
250C	250	19	250,000	772	250	198
500C	500	37	500,000	1544	250	391



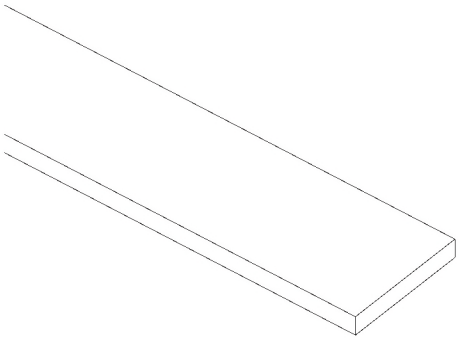


Notes:

- Sizes up to 1000 MCM are available.
- VFC offers standard reel sizes; however, we will cut to specified lengths.
- Bare stranded conductor shall meet the requirements of ASTM B-8.
- Stranded conductors available in tinned copper. Please use “T” instead of “C” when ordering (e.g. 4/0T).
- Insulated conductor available upon request.

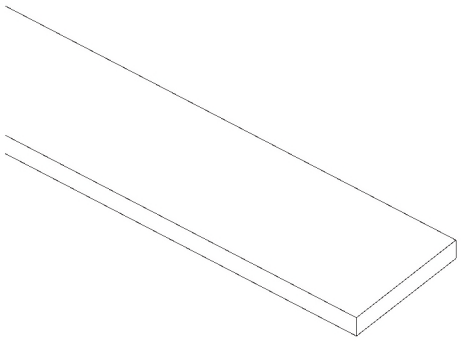
SOLID STRIP TINNED CONDUCTOR

Catalog No.	Conductor size (X x Y) (inches/mm)	Standard coil size (m)	Weight per metre (kg)
TC253T	1 x 1/8 | 25x3	50	0.67
TC256T	1 x 1/4 | 25x6	40	1.33
TC386T	1.5 x 1/4 | 38x6	20	2.00
TC506T	2 x 1/4 | 50x6	20	2.68



SOLID STRIP COPPER CONDUCTOR

Catalog Number	Conductor size (X x Y) (inches/mm)	Standard coil size (m)	Weight per metre (kg)
TC253	1 x 1/8 | 25x3	50	0.67
TC256	1 x 1/4 | 25x6	40	1.33
TC386	1.5 x 1/4 | 38x6	20	2.00
TC506	2 x 1/4 | 50x6	20	2.68



UNIVERSAL AIR TERMINAL
CLASS I COPPER AIR TERMINAL 3/8 INCH DIAMETER

SECTION 200

Catalog No. Copper	Length (in.)	Box Qty.	Unit Weight (lbs.)
AT3812C	12	10	0.42
AT3818C	18	10	0.64
AT3824C	24	10	0.85
AT3836C	36	10	1.27
AT3848C	48	10	1.69
AT3860C	60	10	2.15

Notes:

- Class I air terminals are used on structures up to 75 feet tall.
- Class I Minimum Requirements:
- Minimum diameter is 3/8 inch solid.
  - The tip of an air terminal shall be not less than 10 inches (254 mm) above the object or area it is to protect.*
  - Manufactured from highly conductive electrolytic tough pitch, 110 copper alloy.
- Conductivity greater than 99% when annealed.
- Utilizes standard UNC threads.
- Adapters sold separately.
- Available in tinned copper. Please use “T” instead of “C” when ordering (e.g. AT3812T).
- Listed to UL® 96.

*NFPA 780 Section 4.6.2 Air Terminal Height

CLASS II COPPER AIR TERMINAL 1/2 INCH DIAMETER

Catalog	No. Length (in.)	Box Qty.	Unit Weight (lbs.)
AT1212C	12	10	0.76
AT1218C	18	10	1.15
AT1224C	24	10	1.53
AT1236C	36	10	2.29
AT1248C	48	10	3.06
AT1260C	60	10	3.82
AT1272C	72	10	4.59

Notes:

- Class II air terminals are used on structures greater than 75 feet tall.
- Class II Minimum Requirements:
  - Minimum diameter is 1/2 inch solid.
  - The tip of an air terminal shall be not less than 10 inches (254 mm) above the object or area it is to protect.*
- Manufactured from highly conductive electrolytic tough pitch, 110 copper alloy.
- Conductivity greater than 99% when annealed.
- Utilizes standard UNC threads.
- Adapters sold separately.
- Available in tinned copper. Please use “T” instead of “C” when ordering (e.g. AT1212T).
- Listed to UL® 96.

*NFPA 780 Section 4.6.2 Air Terminal Height

UNIVERSAL AIR TERMINAL

CLASS I ALUMINUM AIR TERMINAL 1/2 INCH DIAMETER

Catalog No.	Length (in.)	Box Qty.	Unit Weight (lbs.)
AT1212A	12	10	0.23
AT1218A	18	10	0.35
AT1224A	24	10	0.46
AT1236A	36	10	0.69
AT1248A	48	10	0.92
AT1260A	60	10	0.16
AT1272A	72	10	1.39

Notes:

- Class I air terminals are used on structures up to 75 feet tall.
- Class I Minimum Requirements:
  - Minimum diameter is 1/2 inch solid.
  - The tip of an air terminal shall be not less than 10 inches (254 mm) above the object or area it is to protect.*
- Manufactured from highly conductive aluminum
- Conductivity greater than 99% when annealed.
- Utilizes standard UNC threads.
- Adapters sold separately.
- Listed to UL® 96.

*NFPA 780 Section 4.6.2 Air Terminal Height

CLASS II ALUMINUM AIR TERMINAL 5/8 INCH DIAMETER

Catalog No.	Length (in.)	Box Qty.	Unit Weight
AT5812A	12	10	0.36
AT5818A	18	10	0.54
AT5824A	24	10	0.72
AT5836A	36	10	1.08
AT5848A	48	10	1.45
AT5860A	60	10	1.81
AT5872A	72	10	2.17

Notes:

- Class II air terminals are used on structures greater than 75 feet tall.
- Class II Minimum Requirements:
  - Minimum diameter is 5/8 inch solid.
  - The tip of an air terminal shall be not less than 10 inches (254 mm) above the object or area it is to protect.*
- Manufactured from highly conductive aluminum.
- Conductivity greater than 99% when annealed.
- Utilizes standard UNC threads.
- Adapters sold separately.
- Listed to UL® 96.

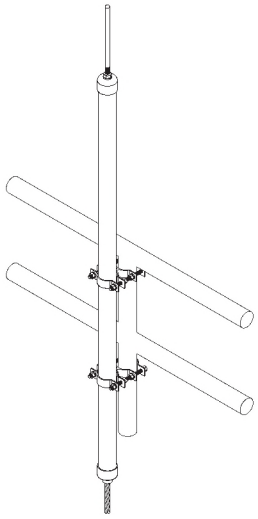
*NFPA 780 Section 4.6.2 Air Terminal Height

AIR TERMINAL MAST ASSEMBLIES

AIR TERMINAL WITH FIBERGLASS MAST ASSEMBLY

Catalog No.	Fiberglass Pipe Length (ft.)	Air Terminal Length (in.)	Conductor Type	Exposed Conductor Length (ft.)	Approx. Wt. Each (lbs.)
FM10-1A	10	24	LC2414A	10	18
FM10-2A	10	24	LC2411A	10	34
FM10-1C	10	24	LC2917C	10	20
FM10-2C	10	24	LC2814C	10	36
FM20-1A	20	24	LC2414A	10	32
FM20-2A	20	24	LC2414A	10	48
FM20-1C	20	24	LC2917C	10	34
FM20-2C	20	24	LC2814C	10	50

- Designed for use with towers or other structures which require long air terminal extensions.
- Protects tower lighting, antennas and miscellaneous equipment from direct lightning strikes.
- Copper braided lightning conductor is attached to the air terminal and extends past the end of the mast.
- Masts are made of UV-resistant, rigid fiberglass-reinforced plastic with an OD of 2" and 1/4" wall thickness.
- Requires part MBG (not included) for mounting to tower platform.

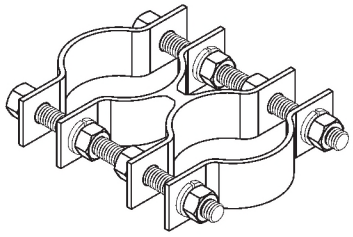


MAST MOUNTING BRACKET

Catalog No.	OD Range (in.)	Material	Approx Wt. Each (lbs.)
MBG	1.3 to 3.5	Galvanized Steel	7

Notes:

- Mounts Fiberglass Mast assembly to vertical pole or tower angle members up to 3" per side.
- Includes 1/2" mounting hardware. Tighten nuts to 516 in-lbs when installing.



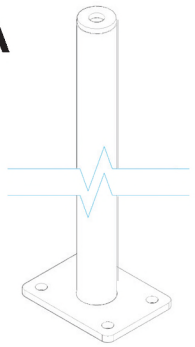
MAST STRIKE TERMINATION DEVICE

Catalog No.	Height (ft.)	Strike Termination Diameter (in.)	Weight (approx lbs.)	Base
VFC-3MAST	3	.5	9	A
VFC-4MAST	4	.5	11	A
VFC-10MAST	10	.5	35	B
VFC-12MAST	12	.5	41	B
VFC-15MAST	15	.5	50	B

Notes:

- Custom lengths available upon request

A



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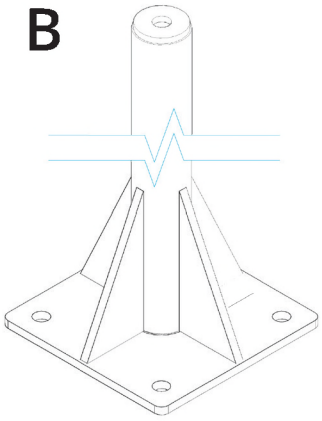
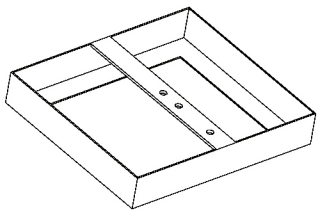


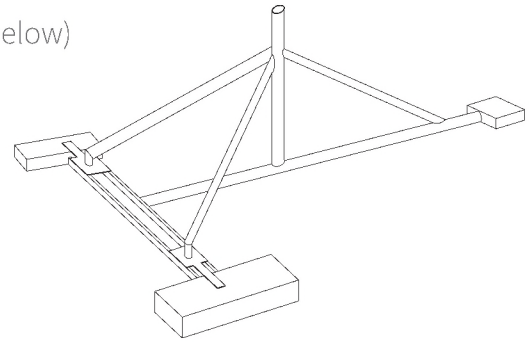
BALLASTED GRAVITY BASE

Catalog No.	Materials	Approx. Wt. Each (lbs.)
BSTBASE	Steel base, concrete feet	175

Notes:

- Provides a ballasted mounting location for an air terminal with a tripod support.
- Comprised of a stainless steel strike termination and support frame with reinforced concrete feet (ballasts) for quick, non-penetrating installation.
- Custom strike termination assemblies not included in this table are available upon request.
- Recommended bolt torque: 20 ft-lbs.
- Cage and Concrete block support separate purchases (pictured below)





AIR TERMINAL MAST ASSEMBLIES

AIR TERMINAL WITH TRIPOD BRACE

Catalog No.	Diameter (in.)	Height (ft.) Air	Terminal Material
ATB5810A	5/8	10	Aluminum

Notes:

- Assembly Includes:
  - Galvanized steel tripod brace with adhesive-mount feet
  - Air terminal
  - Universal Base

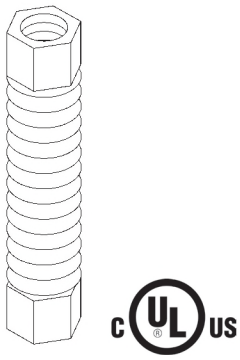
AIR TERMINAL ADAPTERS

FLEXIBLE ADAPTERS

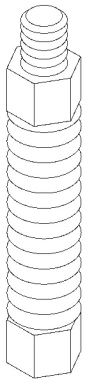
Catalog No.	Material	Thread A	Thread B Box	Qty. Unit	Weight (lbs.)
FA12FFC	Copper Alloy	1/2″ Female	1/2″ Female	10	0.47
FA12FMC	Copper Alloy	1/2″ Female	1/2″ Male	10	0.66
FA58FFC	Copper Alloy	5/8″ Female	5/8″ Female	10	0.47
FA12FFA	Aluminum	1/2″ Female	1/2″ Female	10	0.30
FA12FMA	Aluminum	1/2″ Female	1/2″ Male	10	0.33
FA58FFA	Aluminum	5/8″ Female	5/8″ Female	10	0.30

Notes:

- Flexible air terminal adapters are used with air terminals located underneath window washing or other mobile equipment.
- Comes complete with stainless steel spring and internal safety chain.
- Can be used in conjunction with safety tipped air terminals.
- Listed to UL® 96.



Female
Thread (F)



Male
Thread (M)

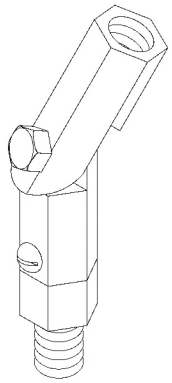
AIR TERMINAL ADAPTERS

SWIVEL ADAPTERS FEMALE TO MALE

Catalog No.	Material	Female Thread (in.)	Male Thread (in.)	Box Qty.	Unit Weight (lbs.)
SA3838FMC	Copper Alloy	3/8	3/8	10	0.43
SA1212FMC	Copper Alloy	1/2	1/2	10	0.43
SA1212FMA	Aluminum	1/2	1/2	10	0.18
SA5858FMA	Aluminum	5/8	5/8	10	0.18

Notes:

- Used to plumb air terminals where the bases are mounted on sloping surfaces.
- Male configuration designed to fit internally threaded air terminal bases.
- Available in tinned copper. Please use “T” instead of “C” when ordering (e.g. SA3838FMT).
- Listed to UL® 96.

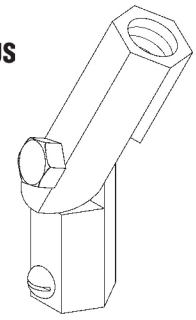


SWIVEL ADAPTERS FEMALE TO FEMALE

Catalog No.	Material	Thread A (in.)	Thread B (in.)	Box Qty.	Unit Weight (lbs.)
SA3838FFC	Copper Alloy	3/8	3/8	10	0.35
SA3812FFC	Copper Alloy	3/8	1/2	10	0.34
SA3858FFC	Copper Alloy	3/8	5/8	10	0.33
SA1212FFC	Copper Alloy	1/2	1/2	10	0.33
SA1258FFC	Copper Alloy	1/2	5/8	10	0.32
SA5858FFC	Copper Alloy	5/8	5/8	10	0.31
SA1212FFA	Aluminum	1/2	1/2	10	0.13
SA1258FFA	Aluminum	1/2	5/8	10	0.12
SA5858FFA	Aluminum	5/8	5/8	10	0.11

Notes:

- Used to plumb air terminals to vertical where the bases are mounted on sloping surfaces.
- Available in various thread configurations to allow the matching of air terminals to all bases.
- Stainless steel screws allow the adapter to be locked in any position.
- All threads listed are standard UNC.
- Available in tinned copper. Please use “T” instead of “C” when ordering (e.g. SA3838FFT).
- Listed to UL® 96.



AIR TERMINAL ADAPTERS
COPPER & ALUMINUM EXTENSION ROD COUPLERS

Catalog No.	Material	Diameter (in.)	Box Qty.	Unit Weight (lbs.)
EC12C	Copper Alloy	1/2	10	0.16
EC12A	Aluminum	1/2	10	0.05

Notes:

- Used to couple two rods together.
- Available in tinned copper. Please use "T" instead of "C" when ordering (e.g. EC12T).
- All threads are UNC.
- Listed to UL® 96.

AIR TERMINAL EXTENSION RODS
COPPER & ALUMINUM AIR TERMINAL EXTENSION RODS

Catalog No.	Material	Diameter (in.)	Length (in.)	Box Qty.	Unit Weight (lbs.)
ATE1224C	Copper	1/2	24	10	1.53
ATE1224A	Aluminum	1/2	24	10	0.48

Notes:

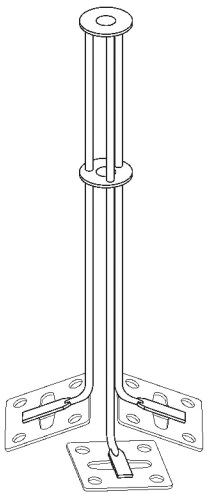
- Solid copper or aluminum extension rods are used to extend standard air terminals to lengths required.
- Extension rods are available in lengths up to 12 feet and have standard UNC threads at each end.
- Available in tinned copper. Please use "T" instead of "C" when ordering (e.g. ATE1224T).
- Listed to UL® 96.

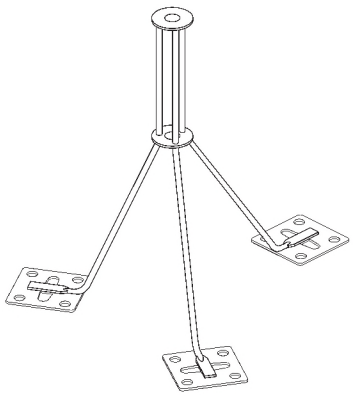
AIR TERMINAL BRACES
STEEL TRIPOD BRACES

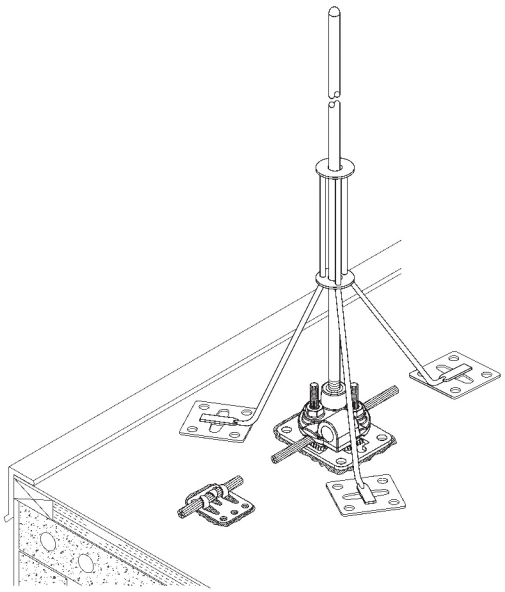
Catalog No.	Mounting Type	Length Prior to Installation	Supports AT Range (in.)	Material	Unit Weight (lbs.)
TSA18G	Adhesive Feet	18	24-32	Galvanized Steel	1.05
TSA24G	Adhesive Feet	24	32-42	Galvanized Steel	1.27
TSA36G	Adhesive Feet	36	42-54	Galvanized Steel	1.80
TSA48G	Adhesive Feet	48	54-76	Galvanized Steel	2.27
TSA18S	Adhesive Feet	18	24-32	Stainless Steel	1.05
TSA24S	Adhesive Feet	24	32-42	Stainless Steel	1.27
TSA36S	Adhesive Feet	36	42-54	Stainless Steel	1.80
TSA48S	Adhesive Feet	48	54-76	Stainless Steel	2.27
TSA60S	Adhesive Feet	60	120	Stainless Steel	36.0

Notes:

- Air terminals shall be secured against overturning by attachment to the object to be protected or by means of braces that shall be permanently and rigidly attached to the building. An air terminal exceeding 24 inches (600 mm) in height shall be supported at a point not less than one half its height.*
- Use galvanized steel for aluminum air terminals. Use stainless steel for copper air terminals.
- Braces available with 3/16 inch holes for anchoring with screws, nails, or with the adhesive feet when mounting to roofing membranes or similar surfaces where penetrations cannot be made.
- Listed to UL® 96.







*NFPA 780 Section 4.6.2.2 Air Terminal Support

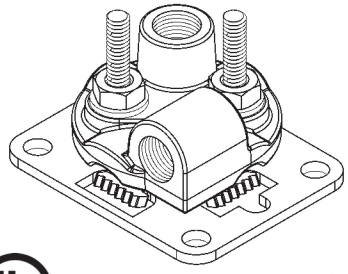
AIR TERMINAL BASES
AIR TERMINAL TKU BASE

SECTION 300

Catalog No.	Air Terminal Diameter (in.)	Material	Unit weight (lbs.)	Box Qty.
TKUB38C	3/8	Copper Alloy	1.07	10
TKUB12C	1/2	Copper Alloy	1.07	10
TKUB58C	5/8	Copper Alloy	1.07	10
TKUB38T	3/8	Tinned Copper Alloy	1.07	10
TKUB12T	1/2	Tinned Copper Alloy	1.07	10
TKUB58T	5/8	Tinned Copper Alloy	1.07	10
TKUB12A	1/2	Aluminum Alloy	0.39	10
TKUB58A	5/8	Aluminum Alloy	0.39	10
ZP1A	N/A	Aluminum Alloy	0.6	N/A [2]

The TKU series bases have an articulating puck, allowing the attached air terminal to be true plumb on surfaces with a slope up to 4/12 (25 degrees) without the need for an additional swivel adapter.

Manufactured from high quality copper alloy or aluminum alloy, these TKU air terminal bases can be mounted horizontally or vertically to secure an air terminal to a roof or wall, and include an innovative feature permitting adjustment to vertical on uneven surfaces.



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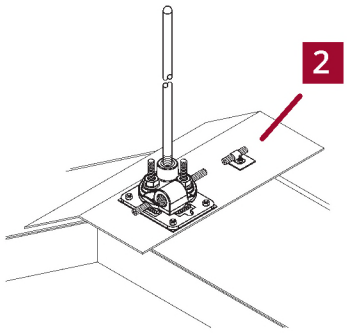
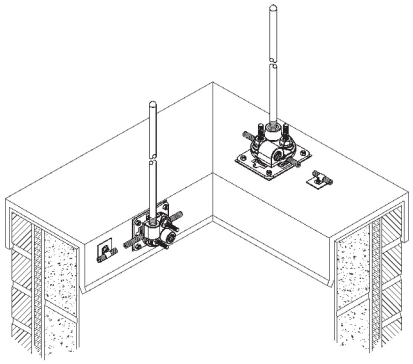




Notes:

- Suitable for use with all Class I and Class II main size lightning protection conductors in our range.
- Includes 4” x 1/4” drilled holes for connection to masonry or roof lines using self-tapping screws, nails or adhesive.
- Also available in nickel plated copper alloy. Please contact us for further information.
- Up to 4/12” slope, no swivel adapter needed.
- Listed to UL® 96.

TKU Series Installation:

- Install the TKU base using screws or appropriate adhesive.
- Install conductor between plate and puck.
- Install air terminal in puck.
- Be sure to position (plumb) the attached air terminal, then tighten the bolts to lock the air terminal in position and create a tight connection with conductor. Do not over-tighten the nuts, applied torque should not exceed 80 in-lbs.

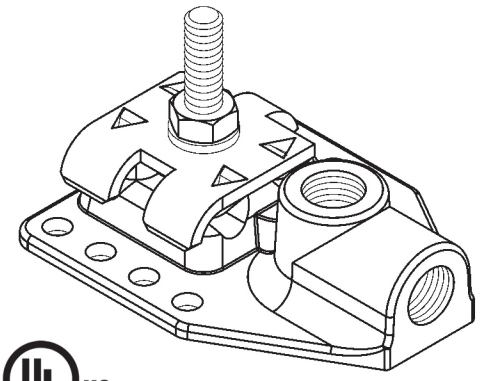
[1] This product may be subject to patent rights of VFC. Consult your patent attorney about your rights and responsibilities regarding patented products.

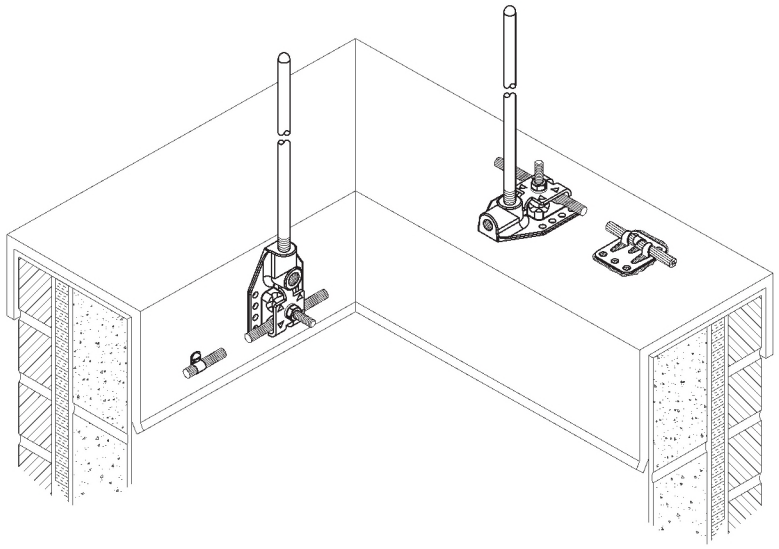
UNIVERSAL SERIES
HORIZONTAL AND VERTICAL BASES

Catalog No.	Material	Internal Threaded Diameter (in.)	Box Qty. Unit	Weight (lbs.)
UB38C	Copper Alloy	3/8	5	0.88
UB12C	Copper Alloy	1/2	5	0.88
UB58C	Copper Alloy	5/8	5	0.88
UB12A	Aluminum	1/2	5	0.28
UB58A	Aluminum	5/8	5	0.28
UB58CT	Tinned Copper	5/8	5	0.88
UB12CT	Tinned Copper	1/2	5	0.88

Notes:

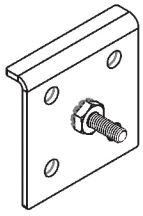
- 2-5/8 inch by 3 inch base features a universal mounting design allowing it to be installed either horizontally or vertically.
- Utilizes a variety of mounting applications such as self-tapping screws, nails, or adhesives.
- This series features an internally threaded hub design.
- Suitable for Class I and II conductors.
- Listed to UL® 96.





AIR TERMINAL BASES
VERTSTICK

Catalog No.	Dimensions (in.)	Material	Installation Application	Unit Weight (oz.)
ZP1A-VS	1.9 x 1.9 x 0.8H	AL	Cable Loops	0.6
TKUB12A-VS	3.0 x 3.0 x 1.75H	AL	Universal Air Terminal Bases	5.1
TKUB58A-VS	3.0 x 3.0 x 1.75H	AL	Universal Air Terminal Bases	5.1



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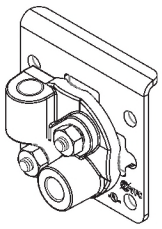
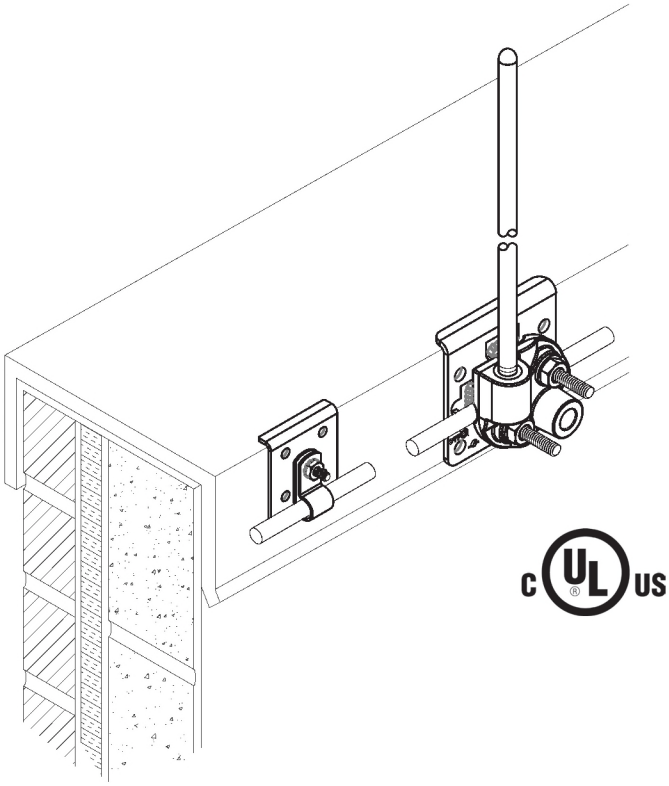
Cable Loops



1

Universal Air Terminal Base



1 This product may be subject to patent rights of VFC. Consult your patent attorney about your rights and responsibilities regarding patented products.

Adhesive Installation instructions:

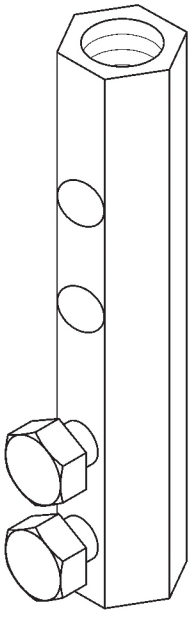
- Surface temperature should be between 40 and 100° F at time of installation.
- Apply small amount of M-1 or other adhesive
- Mount to parapet and let dry per adhesive manufacturer requirements
- Cable Loops sold separately

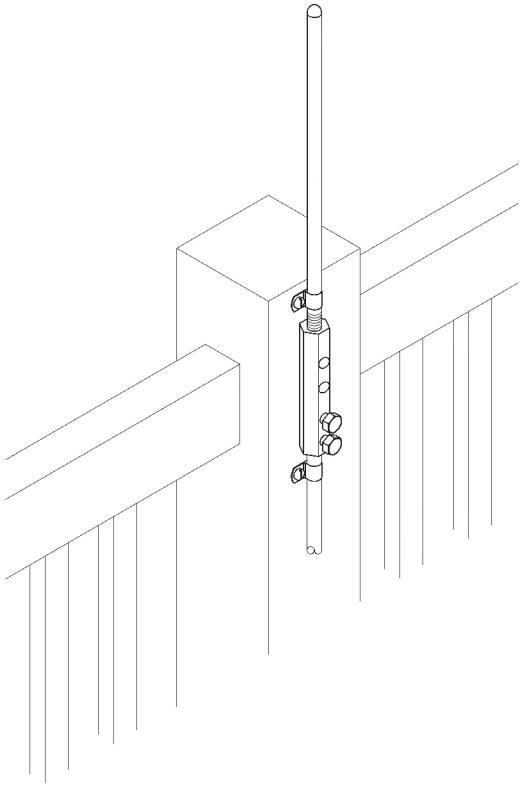
VERTICAL BASE

Catalog No.	Material	Internal Thread Diameter (in.)	Box Qty.	Unit Weight (lbs.)
VB38C	Copper Alloy	3/8″	10	0.42
VB12C	Copper Alloy	1/2″	10	0.42
VB12A	Aluminum	1/2″	10	0.16
VB58A	Aluminum	5/8″	10	0.16

Notes:

- 3-3/4 inches long, vertical base connector features two 1/4 inch mounting holes and two stainless steel cap screws to ensure a good electrical connection.
- For all standard cables up to 1/2 inch in diameter.
- Available in tinned copper. Please use “T” instead of “C” when ordering (e.g. VB38T).
- Listed to UL® 96.



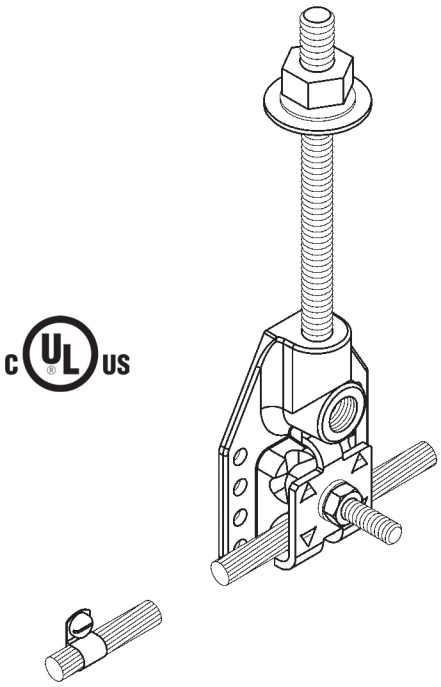


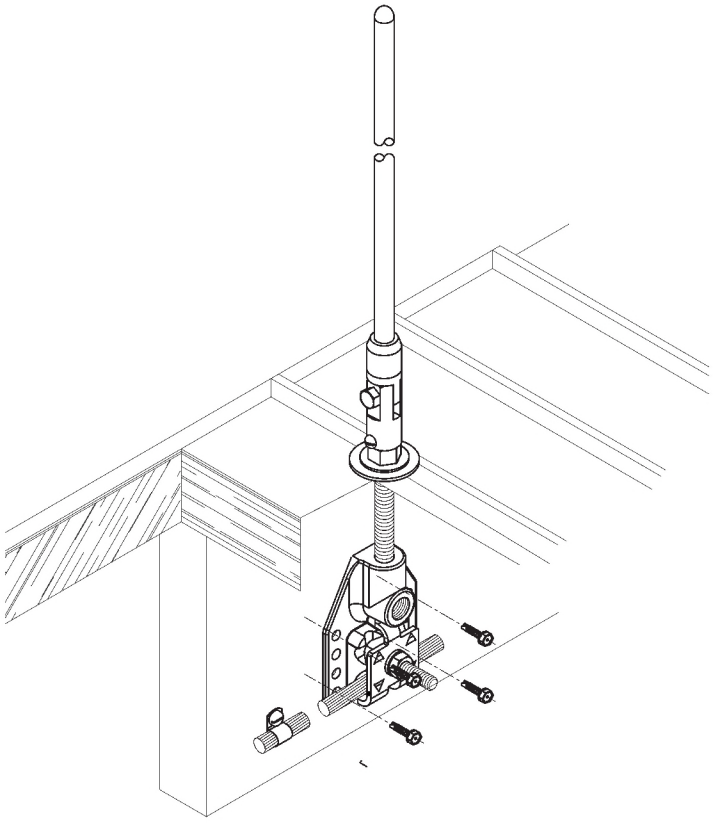
AIR TERMINAL BASES
CONCEALED BASE ASSEMBLY

Catalog No.	Material	Riser Bar Length (in.)	Riser Bar Diameter (in.)	Box Qty.	Unit Weight (lbs.)
CB12C	Copper Alloy	12	1/2	10	1.49
CB18C	Copper Alloy	18	1/2	10	1.77
CB12A	Aluminum	12	1/2	10	0.89
CB18A	Aluminum	18	1/2	10	1.16

Notes:

- Vertical concealed base assembly designed to be mounted on ridge boards or roof trusses.
- Horizontal concealed base assembly is designed for use on flat roof decks or other flat surfaces.
- Stainless steel jam nuts and washers are provided along with special neoprene sealing washers to assure a watertight installation.
- Suitable for Class I and II conductors.
- Adapter and Air Terminal sold separately
- Swivel Adapter included
- Listed to UL® 96.



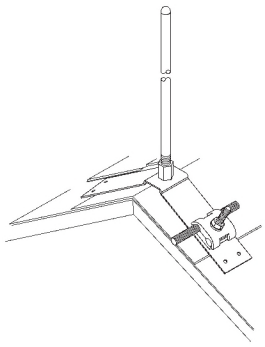


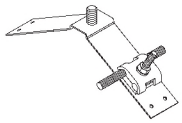
RIDGE MOUNT BASE

Catalog No.	Material	Thread Size	Unit Weight (lbs.)
RB38C	Copper Alloy	3/8	0.75
RB12C	Copper Alloy	1/2	0.75
RB12A	Aluminum	1/2	0.38
RB58A	Aluminum	5/8	0.38

Notes:

- Can be easily adjusted to fit common ridge types and slopes.
- Suitable for use with Class I and II conductors.
- Available in tinned copper. Please use "T" instead of "C" when ordering (e.g. RB38T).
- Adapter and Air Terminal sold separately
- Listed to UL® 96.



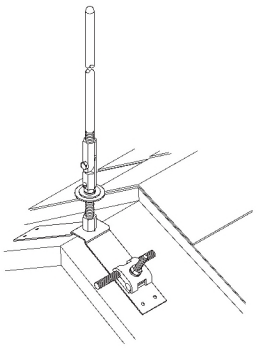


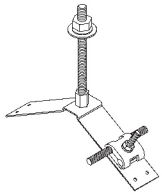
CONCEALED RIDGE MOUNT BASE

Catalog No.	Material	Thread Size	Riser Bar Length (in.)	Unit Weight (lbs.)
RBC12C	Copper Alloy	1/2	12	1.30
RBC12A	Aluminum	1/2	12	0.93

For installation in the insulation space on pitched roof decks:

- Can be easily adjusted to fit common ridge types and slopes.
- Suitable for use with Class I and II conductors.
- Available in tinned copper. Please use "T" instead of "C" when ordering (e.g. RBC12T).
- Adapter and Air Terminal sold separately
- Listed to UL® 96.





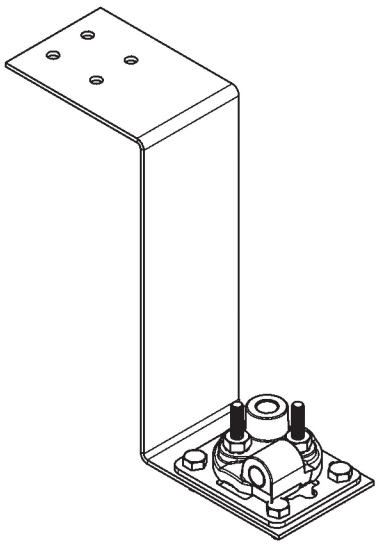
AIR TERMINAL BASES

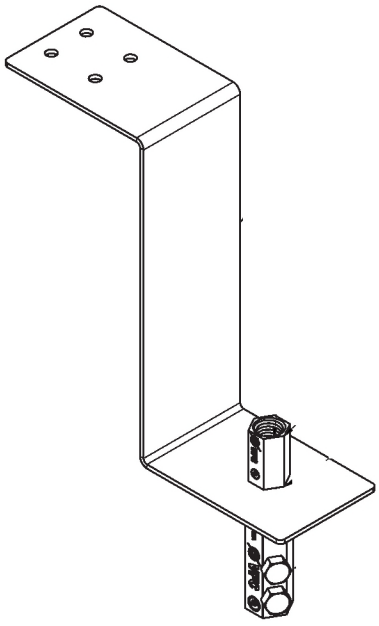
CONCEALED COPING BASE

Catalog No.	Material	Included Air Terminal Base	Thread Size (in.)	Unit Weight (lbs.)
CCB12S	Aluminum	TKUB12A	1/2	0.8
CCB58S	Aluminum	TKUB58A	5/8	0.8
CCB12VS	Stainless Steel	TKUB12A	1/2	0.8
CCB58VS	Stainless Steel	TKUB58A	5/8	0.8

Notes:

- Includes pre-assembled bracket and air terminal base.
- For installations where air terminals cannot be directly mounted to coping cap (For compliance with ANSI/SPRI/FM 4435/ES-1 -Wind Design Standard for Edge Systems).
- Mount before installing coping cap to secure air terminal without penetrating or transferring wind load to coping cap.
- Use 18” air terminal to fulfill 10” minimum installed height.



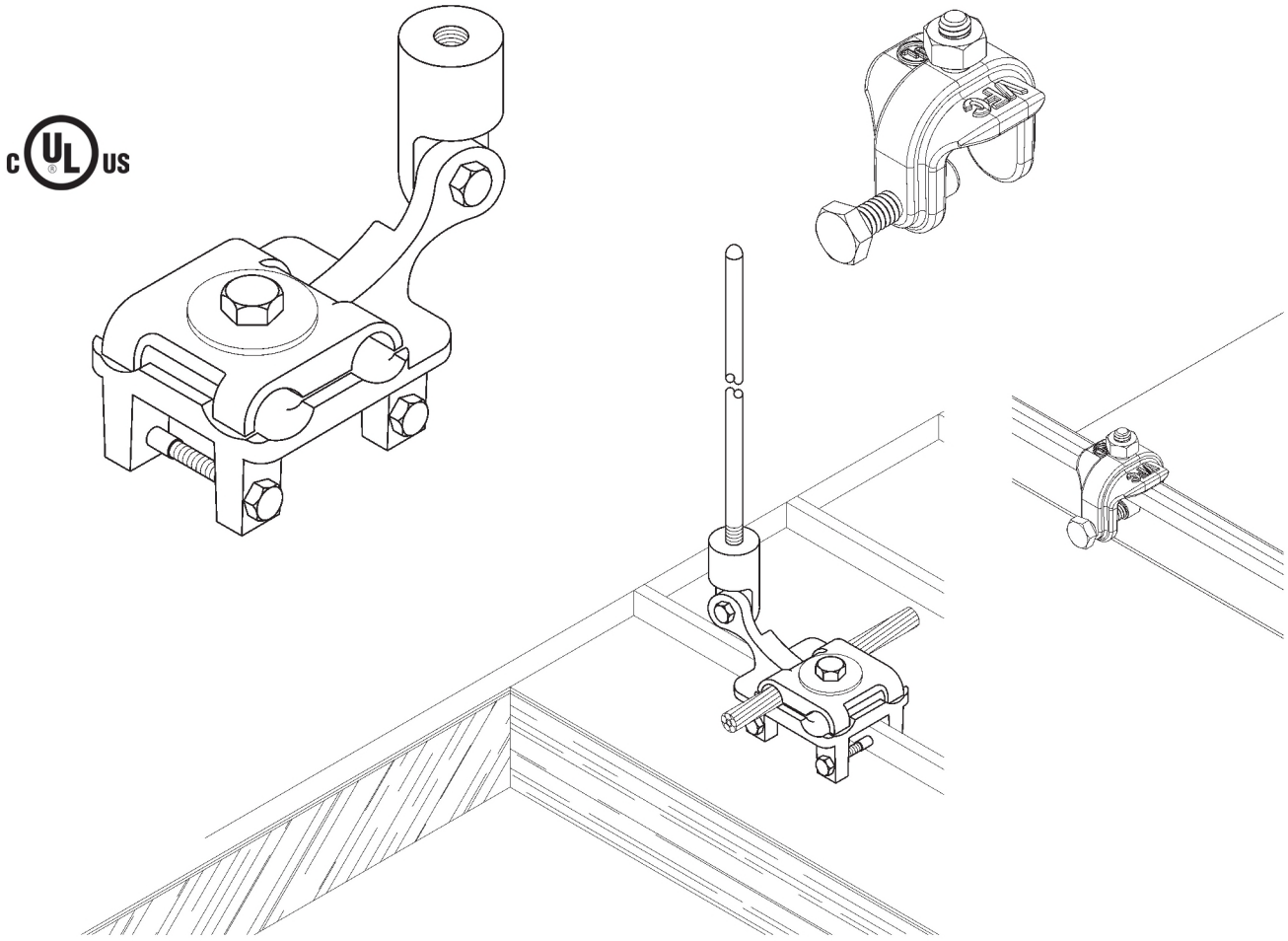


STANDING SEAM BASES

Catalog No.	Material	Thread Diameter (in.)	Box Qty.	Unit Weight. (lbs.)
SSB12A	Aluminum	1/2	10	0.42
SSB58A	Aluminum	5/8	10	0.42

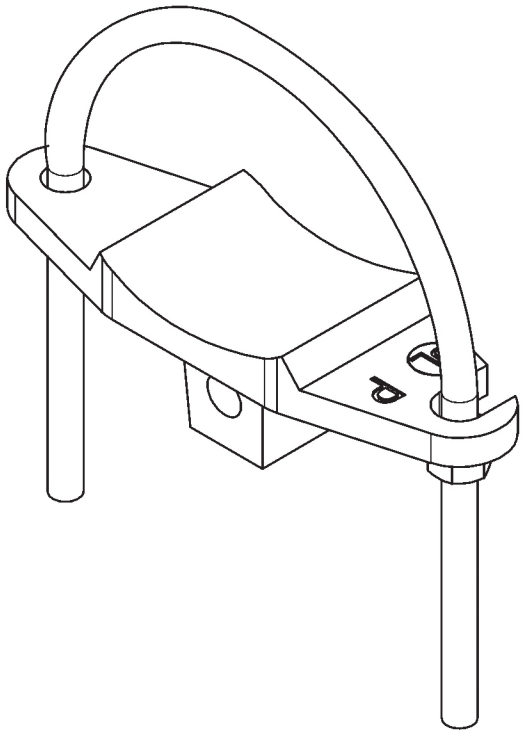
Notes:

- Fits up to 3/4 inch wide seam.
- Omni directional base design allows conductor to be coursed parallel or perpendicular to seam.
- Accepts a wide variety of conductors ranging from #14 bonding conductors up through Class II main lightning conductors.
- Suitable for Class I and II conductors.
- Listed to UL® 96.



AIR TERMINAL BASES
PIPE RAILING BASES TINNED COPPER

Catalog No.	Nominal Pipe Size Range (in.)	Outside Diameter Pipe Size Range (in.)	Air Terminal Size (in.)	Box Qty.	Unit Weight (lbs.)
PB1238T	0.5 to 1	0.5 to 1.25	3/8	5	0.71
PB1212T	0.5 to 1	0.5 to 1.25	1/2	5	0.71
PB11238T	1 to 2	1 to 2.4	3/8	5	0.93
PB11212T	1 to 2	1 to 2.4	1/2	5	0.93
PB21238T	2.5 to 3.5	2.3 to 4	3/8	5	1.34
PB21212T	2.5 to 3.5	2.3 to 4	1/2	5	1.34
PB438T	3 to 5	3.5 to 5.5	3/8	5	1.73
PB412T	3 to 5	3.5 to 5.5	1/2	5	1.73
PB638T	4.5 to 6	5 to 6.5	3/8	5	2.05
PB612T	4.5 to 6	5 to 6.5	1/2	5	2.05

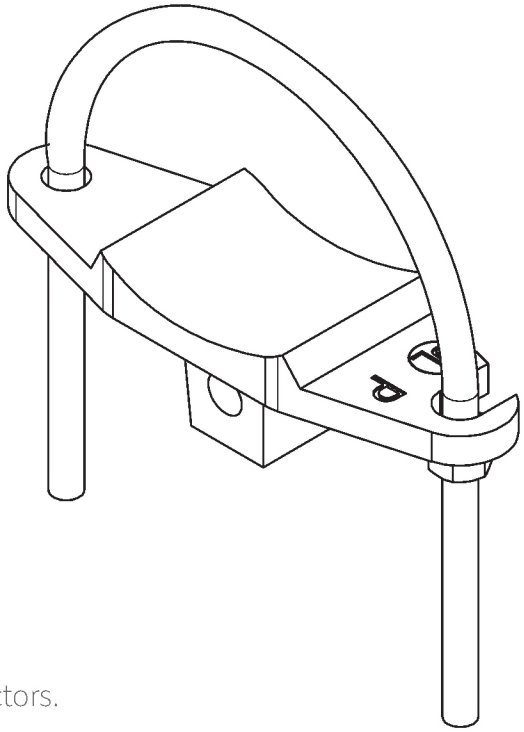


Notes:

- Air terminal not included.
- Suitable for Class I and II conductors.
- Listed to UL® 96.

PIPE RAILING BASES ALUMINUM

Catalog No.	Nominal Pipe Size Range (in.)	Outside Diameter Pipe Size Range (in.)	Air Terminal Size (in.)	Box Qty. Unit	Weight (lbs.)
PB1212A	.5 to 1	0.5 to 1.25	1/2	5	0.35
PB1258A	.5 to 1	0.5 to 1.25	5/8	5	0.35
PB11212A	1 to 2	1 to 2.4	1/2	5	0.40
PB11258A	1 to 2	1 to 2.4	5/8	5	0.40
PB21212A	2.5 to 3.5	2.3 to 4	1/2	5	0.52
PB21258A	2.5 to 3.5	2.3 to 4	5/8	5	0.52
PB412A	3 to 5	3.5 to 5.5	1/2	5	0.62
PB458A	3 to 5	3.5 to 5.5	5/8	5	0.62
PB612A	4.5 to 6	5 to 6.5	1/2	5	0.69
PB658A	4.5 to 6	5 to 6.5	5/8	5	0.69



Notes:

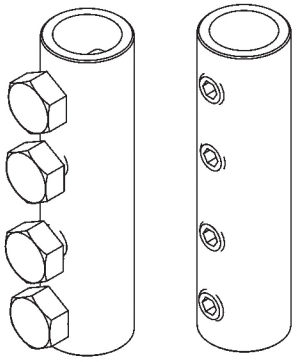
- Air terminal not included.
- Suitable for Class I and II conductors.
- Listed to UL® 96.

IN-LINE CABLE SPLICE

Catalog No.	Material	Box Qty.	Unit Weight (lbs.)
ISC	Copper	10	0.34
ISA	Aluminum	10	0.17
ISB	Bimetal	10	0.30

Notes:

- 4 inch connector provides at least 1-1/2 inches of contact with conductor, creating a straight connection.
- Four 5/16 inch by 1/2 inch hex head stainless steel cap screws assure a positive electrical connection.
- Suitable for Class I and II conductors.
- Listed to UL® 96.

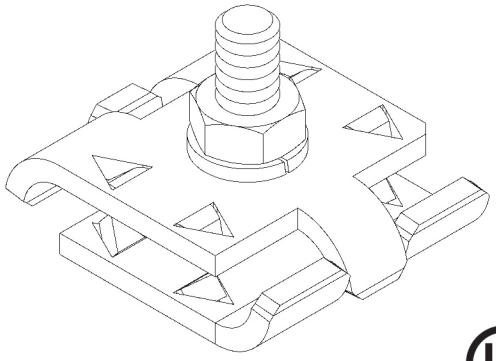


ONE BOLT PARALLEL SPLICE

Catalog No.	Material	Box Qty.	Unit Weight (lbs.)
PSC	Copper Alloy	10	0.20
PSA	Aluminum	10	0.09
PSB	Bimetal	10	0.18
PSDBC	Copper Alloy	10	0.40

Notes:

- Single bolt, two-piece connector provides over 1-1/2 inches of surface contact with conductor, creating a parallel connection.
- Suitable for Class I and II conductors.
- A Parallel Splice Bimetallic (PSB) connector includes a stainless steel plate to isolate dissimilar metals.
- Available in tinned copper. Please use "T" instead of "C" when ordering (e.g. PST).
- PSC, PSA, and PSB are listed to UL® 96.
- PSDBC is suitable for direct burial in earth and concrete, listed to UL® 467.

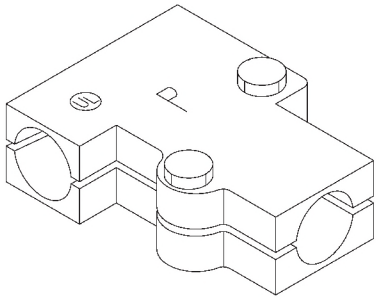


CABLE CONNECTORS
T-CONNECTOR

Catalog No.	Material	Box Qty.	Unit Weight (lbs.)
TCC	Copper Alloy	10	0.39
TCA	Aluminum	10	0.17

Notes:

- T-connector splices two perpendicular conductors providing at least a 1-1/2 inch connection with each.
- Suitable for use with all Class I and II conductors.
- Available in tinned copper. Please use “T” instead of “C” when ordering (e.g. TCT).
- Listed to UL® 96.

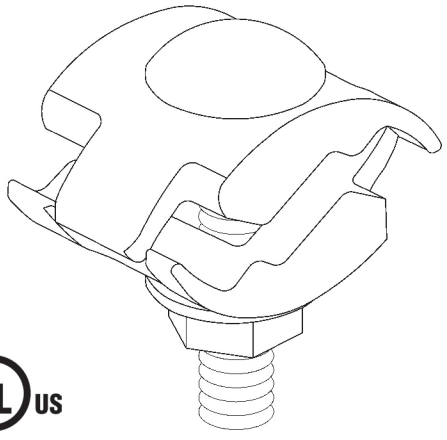


SECONDARY PARALLEL SPLICE

Catalog No.	Material	Box Qty.	Unit Weight (lbs.)
SPSC	Copper Alloy	10	0.23
SPSA	Aluminum	10	0.12

Notes:

- Single bolt clamp provides 1 inch of contact with conductor.
- Suitable for use with conductor #6 AWG through 4/0.
- Available in tinned copper. Please use “T” instead of “C” when ordering (e.g. SPST).
- Listed to UL® 96.

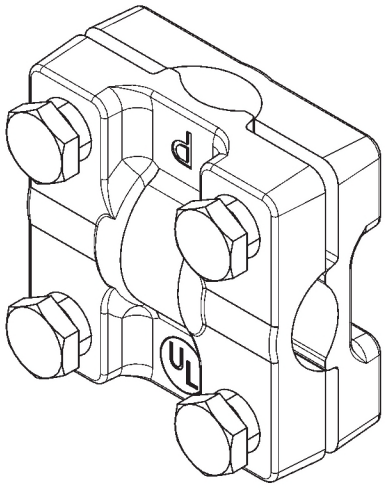


CABLE CONNECTORS
CROSS RUN CONNECTOR

Catalog No.	Material	Box Qty.	Unit Weight (lbs.)
CRCC	Copper Alloy	10	0.36
CRCA	Aluminum	10	0.18
CRCB	Bi-Metal	10	0.30

Notes:

- Two-bolt, two-piece clamp creates a perpendicular cross connection between conductors.
- Provides 1-1/2 inches of contact with conductors.
- Suitable for use with all Class I and II conductors.
- Available tinned. Please use "T" instead of "C" when ordering (e.g. CRCT).
- Listed to UL® 96.



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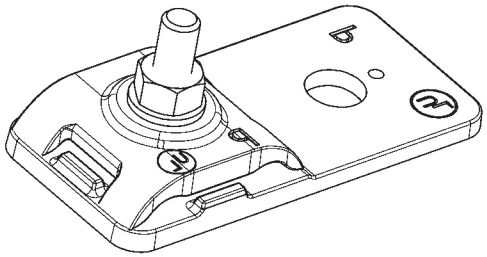
BONDING LUGS
MAIN SIZE BONDING LUG

Catalog No.	Material	Box Qty.	Unit Weight (lbs.)
BLC	Copper Alloy	10	0.49
BLA	Aluminum	10	0.19

Notes:

- One-bolt, main size bonding lug provides a connection between conductor and metalwork.
- Provides a 1-1/2 inch connection to conductor and 3 square inches of contact between lug and mounting surface.
- Suitable for use with Class I and II conductors.
- Available in tinned copper. Please use "T" instead of "C" when ordering (e.g. BLT).
- 3/8 inch mounting hole.
- Listed to UL® 96.



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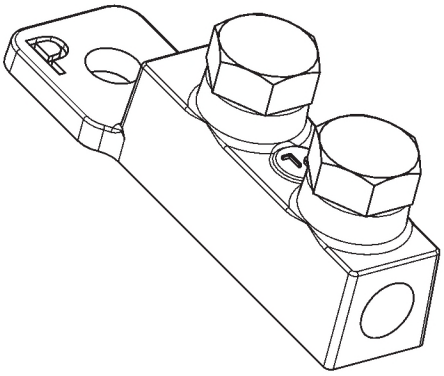
BONDING LUGS
SECONDARY BONDING LUG

Catalog No.	Material	Box Qty.	Unit Weight (lbs.)
SBLC	Copper Alloy	10	0.33
SBLA	Aluminum	10	0.15

Notes:

- Two-bolt lug secures secondary bonding conductor to metalwork.
- Provides 1-1/2 inches of contact with conductor and 2 square inches of contact between lug and mounting surface.
- Suitable for use with secondary bonding conductors.
- Available in tinned copper. Please use "T" instead of "C" when ordering (e.g. SBLT).
- 5/16 inch mounting hole.
- Listed to UL® 96.

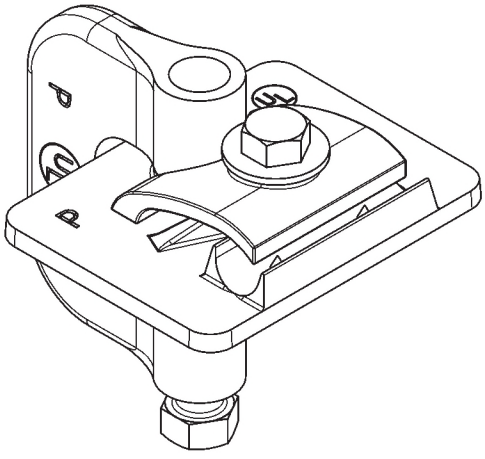


BONDING CLAMPS
BEAM BONDING CLAMP

Catalog No.	Material	Box Qty.	Unit Weight (lbs.)
BBCC	Copper Alloy	5	1.90
BBCA	Aluminum	5	0.68

Notes:

- Two-bolt clamp provides over 8 square inches of contact area with metal surface.
- Suitable for use with Class I and II conductors.
- Provides a 1-1/2 inch connection to conductors.
- Can be used on metalwork up to 1 inch thick.
- Available in tinned copper. Please use "T" instead of "C" when ordering (e.g. BBCT).
- Listed to UL® 96.

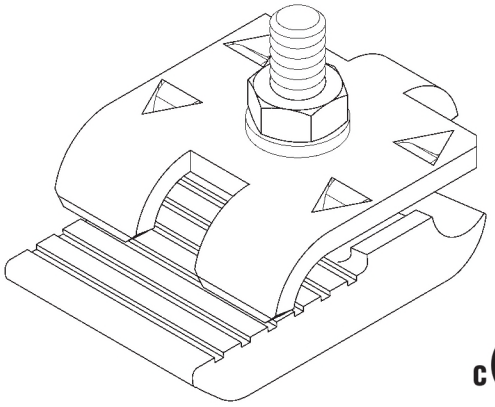


BONDING CLAMPS
FLANGE BONDING CLAMP

Catalog No.	Material	Box Qty.	Unit Weight (lbs.)
FBCC	Copper Alloy	10	0.31
FBCA	Aluminum	10	0.14

Notes:

- Single-bolt, two-piece clamp connects conductor to flat metal up to a 1/2 inch thick.
- Provides 1-1/2 square inches of contact area with metal surface.
- Suitable for use with conductor #2 AWG through 4/0.
- Suitable for use with Class I and II conductors.
- Available in tinned copper. Please use "T" instead of "C" when ordering (e.g. FBCT).
- Listed to UL® 96.

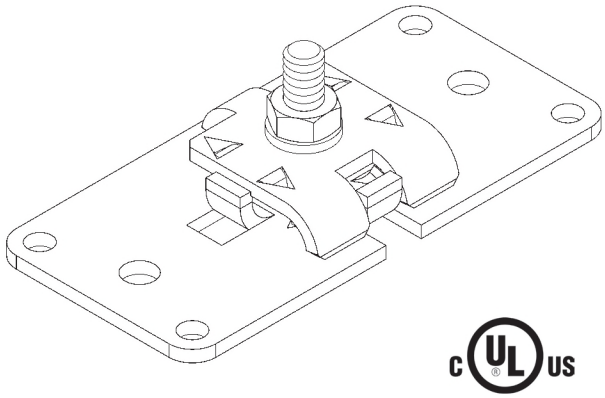


BONDING PLATES
MAIN SIZE BONDING PLATE

Catalog No.	Material	Box Qty.	Unit Weight (lbs.)
BPC	Copper Alloy	10	0.48
BPA	Aluminum	10	0.19

Notes:

- Main size bonding plate provides connection between conductor and metalwork.
- Provides a 1-1/2 inch connection to conductor and 8 square inches of contact between lug and mounting surface.
- Suitable for use with Class I and II conductors.
- Available in tinned copper. Please use "T" instead of "C" when ordering (e.g. BPT).
- Listed to UL® 96.

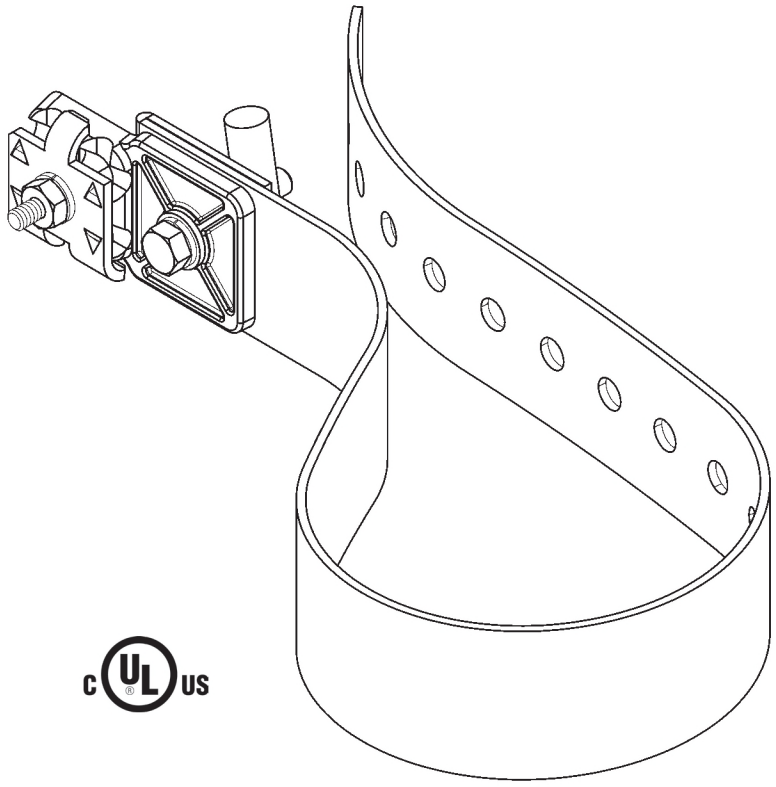


PIPE CLAMPS
STRAP TYPE PIPE CLAMP

Catalog No.	Material	Pipe OD (in.)	Unit Weight (lbs.)
PS4T	Tinned Copper	4	0.81
PS6T	Tinned Copper	6	0.94
PS8T	Tinned Copper	8	1.06
PS10T	Tinned Copper	10	1.21
PS4A	Aluminum	4	0.57
PS6A	Aluminum	6	0.69
PS8A	Aluminum	8	0.81
PS10A	Aluminum	10	0.95

Notes:

- Provides a 1-1/2 inch connection to conductor, with a 2 inch wide strap to ensure bond to pipework.
- Suitable for use with Class I and II conductors.
- Listed to UL® 96.



PIPE CLAMPS

U-BOLT TYPE PIPE CLAMP TINNED COPPER

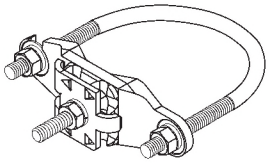
Catalog No.	Outside Diameter Pipe Size Range (in.)	Box Qty.	Unit Weight (lbs.)
PC12T	.04 to 1.315	5	0.390
PC112T	1.90 to 3	5	0.920
PC212T	2.75 to 4.50	5	1.380
PC4T	4.50 to 6.75	5	2.500
PC6T	5 to 6.5	5	1.90

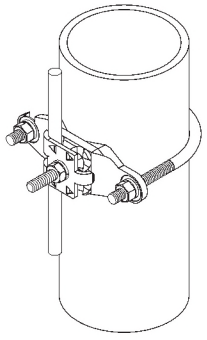
U-BOLT TYPE PIPE CLAMP ALUMINUM

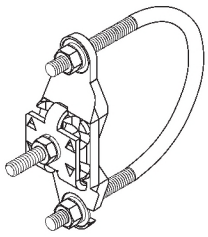
Catalog No.	Outside Diameter Pipe Size Range (in.)	Box Qty.	Unit Weight (lbs.)
PC12A	0.40 to 1.315	5	0.240
PC112A	1.90 to 3	5	0.460
PC212A	2.75 to 4.50	5	1.030
PC4A	4.50 to 6.75	5	1.320
PC6A	5 to 6.5	5	0.65

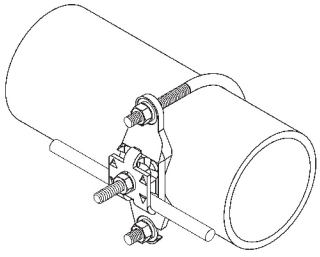
Notes:

- Suitable for use with Class I and II conductors.
- Provides a 1-1/2 inch connection to conductor.
- Listed to UL® 96.







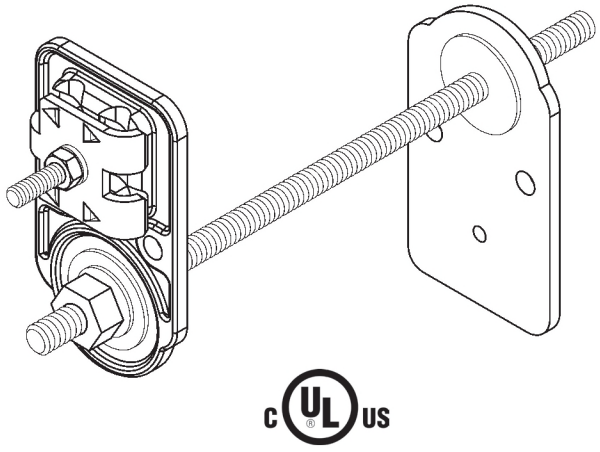


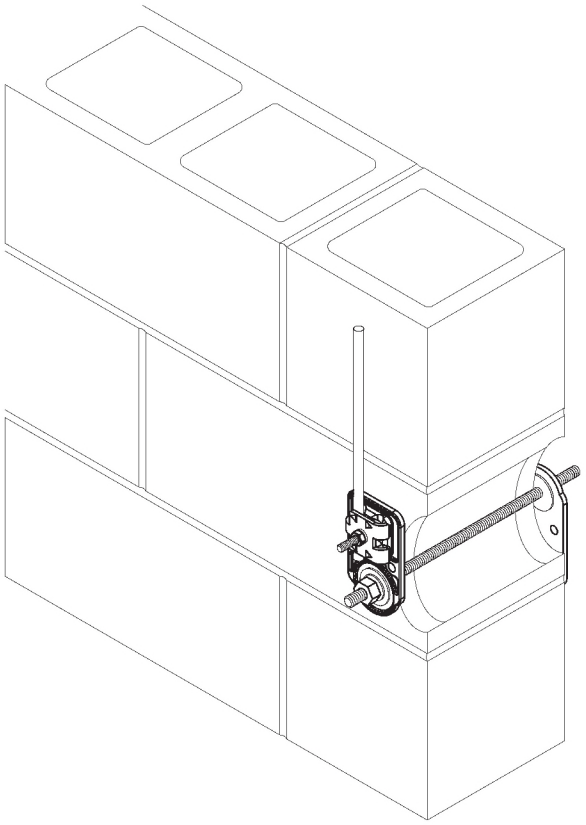
THROUGH-ROOF/WALL CONNECTOR
THROUGH-WALL CONNECTOR

Catalog No.	Threaded Rod Length (in.)	Connector A Material	Connector B Material	Box Qty.	Unit Weight (lbs.)
TW12C	12	Copper Alloy	Copper Alloy	5	2.02
TW18C	18	Copper Alloy	Copper Alloy	5	2.29
TW12B	12	Copper Alloy	Aluminum	5	1.57
TW18B	18	Copper Alloy	Aluminum	5	1.84
TW12A	12	Aluminum	Aluminum	5	1.12
TW18A	18	Aluminum	Aluminum	5	1.39

Notes:

- Through-wall connectors are used to create secure, sealed connections when making roof or wall penetrations.
- Provides a weatherproof connection using neoprene sealing washers.
- Suitable for use with Class I and II conductors.
- Other lengths available.
- Listed to UL® 96.



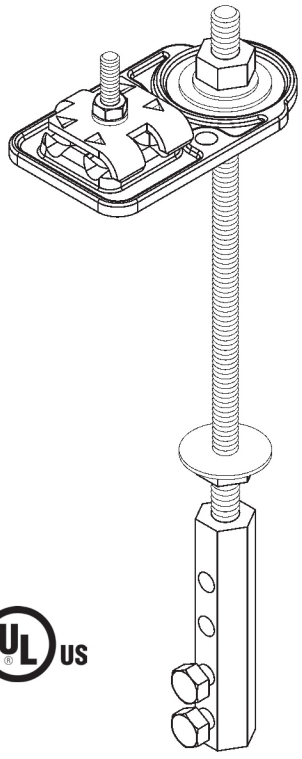


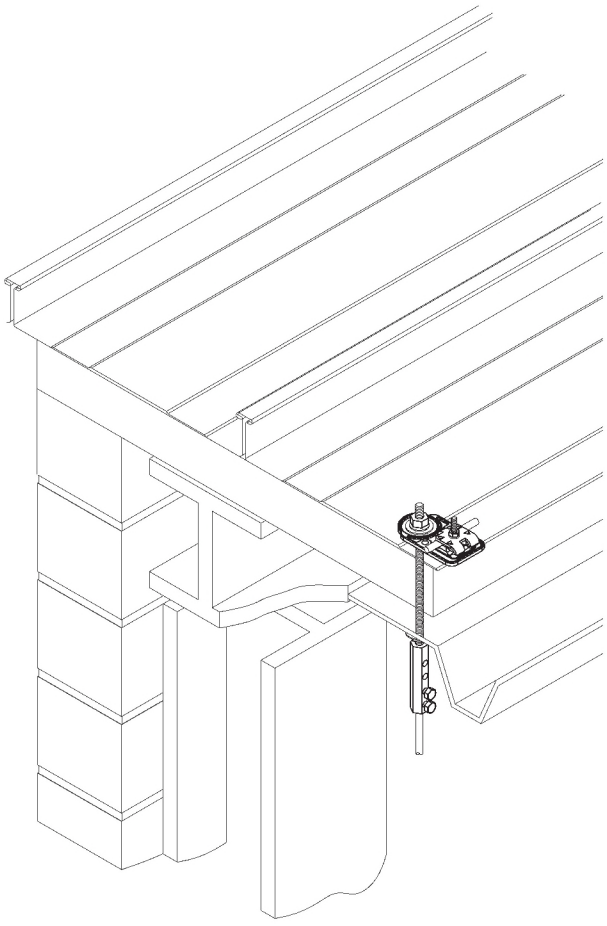
THROUGH-ROOF/WALL CONNECTOR
THROUGH-ROOF CONNECTOR

Catalog No.	Threaded Rod Length (in.)	Vertical Base Material	Top Connector Material	Box Qty.	Unit Weight (lbs.)
TR12C	12	Copper Alloy	Copper Alloy	5	1.76
TR18C	18	Copper Alloy	Copper Alloy	5	2.03
TR12B	12	Copper Alloy	Aluminum	5	1.31
TR18B	18	Copper Alloy	Aluminum	5	1.58
TR12A	12	Aluminum	Aluminum	5	1.05
TR18A	18	Aluminum	Aluminum	5	1.32

Notes:

- Through-roof connectors are used to create secure, sealed connections when making roof or wall penetrations.
- Provides a weatherproof connection using neoprene sealing washers.
- Suitable for use with Class I and II conductors.
- Other lengths available.
- Listed to UL® 96.



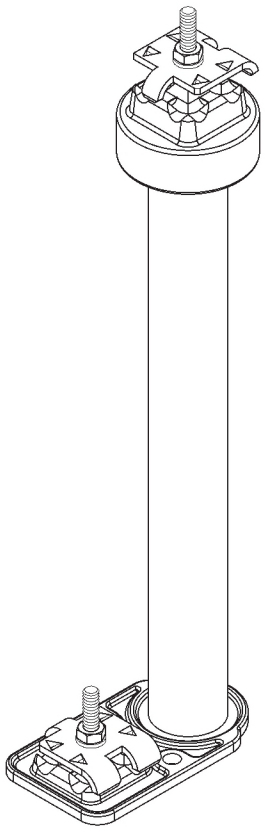


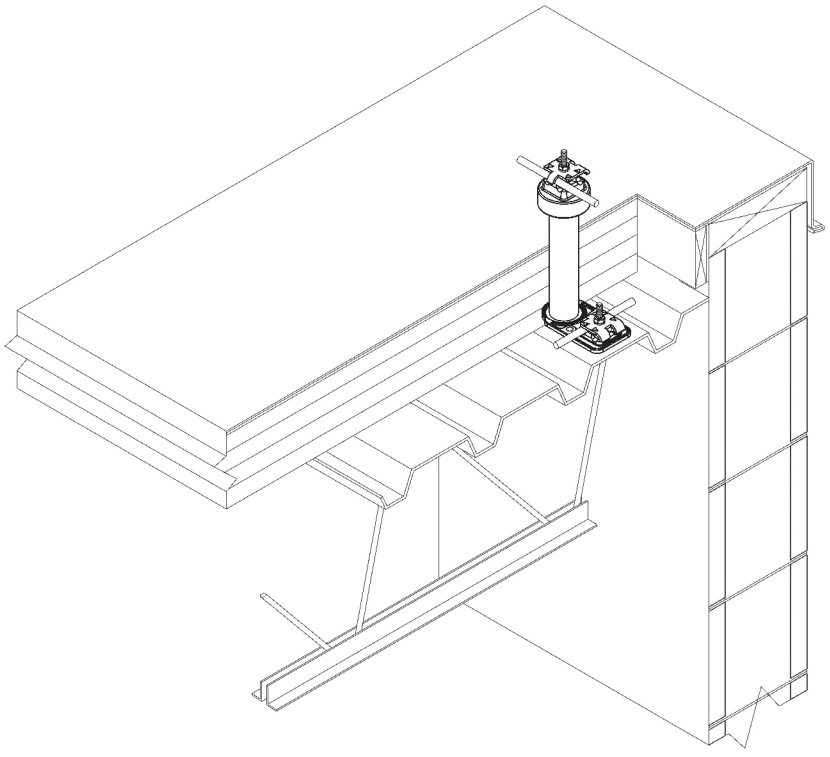
HORIZONTAL THROUGH-ROOF WITH PVC CONDUIT

Catalog No.	Nominal Conduit Size (in.)	Length (in.)	Horizontal Base Material	Top Connector Material	Unit Weight (lbs.)
TRPH24B	1-1/4	24	Copper Alloy	Aluminum	2.21

Notes:

- Through-roof connectors are used to create secure, sealed connections when making roof penetrations.
- Provides a weatherproof connection using a solid cap with an O-ring to seal around the conduit.
- Suitable for use with Class I and II conductors.
- Other lengths available.
- Listed to UL® 96.



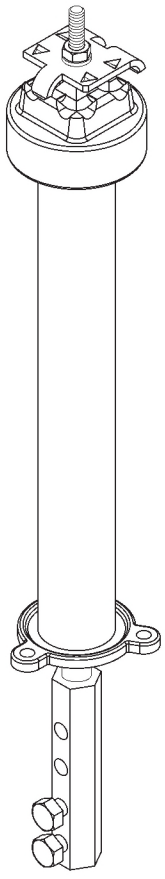


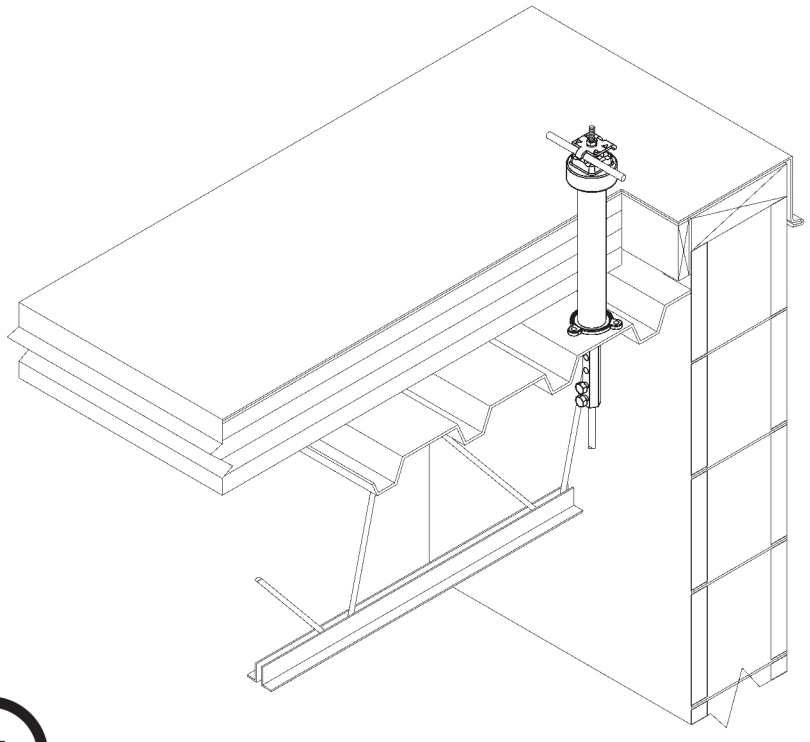
THROUGH-ROOF/WALL CONNECTORS
VERTICAL THROUGH-ROOF WITH PVC CONDUIT

Catalog No.	Nominal Conduit Size (in.)	Length (in.)	Horizontal Base Material	Top Connector Material	Unit Weight (lbs.)
TRPV24C	1-1/4	24	Copper Alloy	Copper Alloy	4.04
TRPV24B	1-1/4	24	Copper Alloy	Aluminum	3.12

Notes:

- Through-roof connectors are used to create secure, sealed connections when making roof penetrations.
- Provides a weatherproof connection using a solid cap with an O-ring to seal around the conduit.
- Suitable for use with Class I and II conductors.
- Other lengths available.
- Listed to UL® 96.



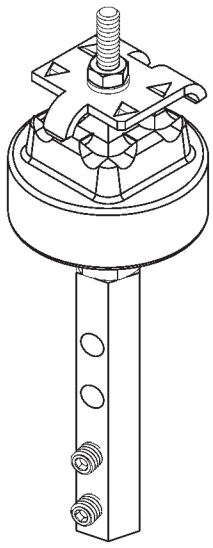


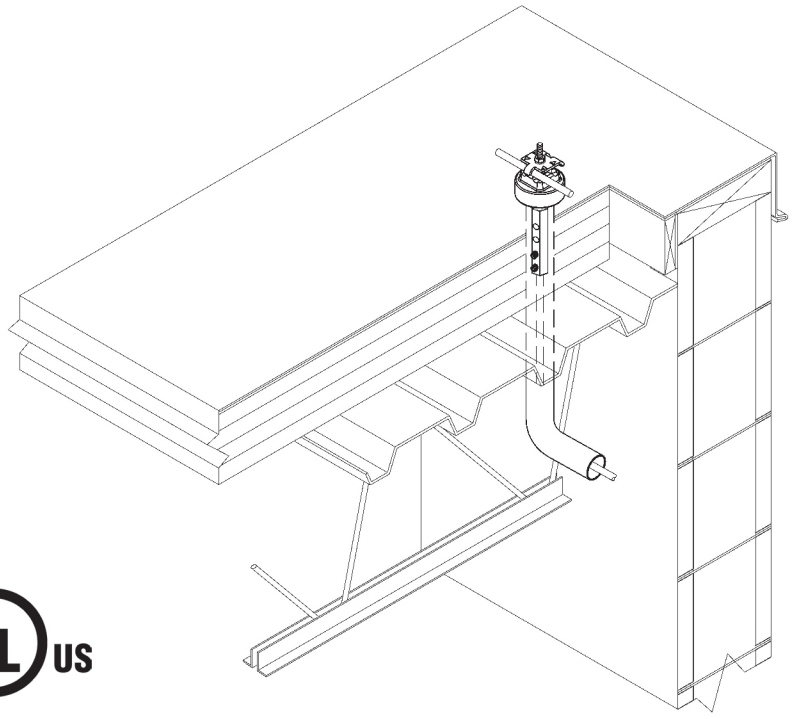
THROUGH-ROOF CONDUIT CAP

Catalog No.	Nominal Conduit Size (in.)	Horizontal Base Material Top	Connector Material	Unit Weight (lbs.)
TRC1C	1	Copper Alloy	Copper Alloy	1.90
TRC114C	1-1/4	Copper Alloy	Copper Alloy	1.70
TRC1B	1	Copper Alloy	Aluminum	1
TRC114B	1-1/4	Copper Alloy	Aluminum	0.94
TRC1A	1	Aluminum	Aluminum	0.74
TRC114A	1-1/4	Aluminum	Aluminum	0.68

Notes:

- Conduit cap through roof connectors provide a conductive, weatherproof connection using a solid cap with an O-ring to seal around the conduit.
- Used to install down conductor in pre-installed 1 inch or 1-1/4 inch nominal bore PVC conduit.
- Suitable for use with Class I and II conductors.
- Listed to UL® 96.



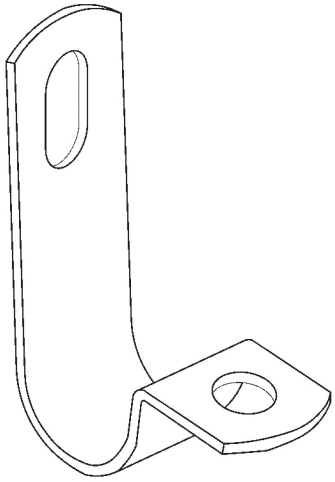


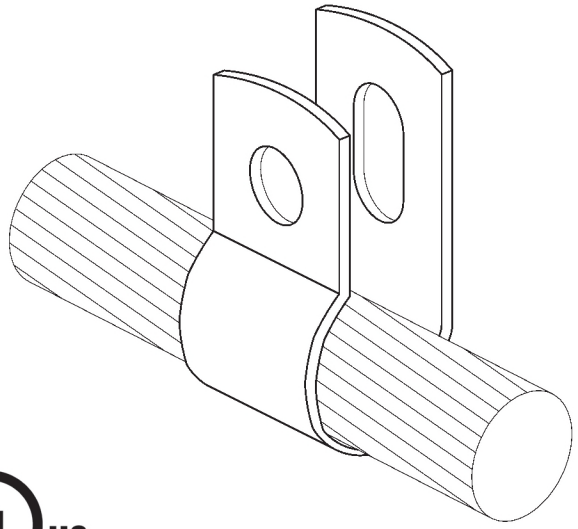
CABLE SUPPORTS
CABLE LOOPS

Catalog No.	Material	Fits Lightning Conductors	Fits Grounding Conductors Box Qty.	Unit	Weight (lbs.)
CLSC	Copper Alloy	SC14C	4 Str., 2 Sol.	250	0.02
CL1C	Copper Alloy	LC2917C, LC3217C	1/0, 2/0	250	0.02
CL2C	Copper Alloy	LC2814C	4/0	250	0.02
CLSA	Aluminum	SC10A	-	250	0.01
CL1A	Aluminum	LC2414A	-	250	0.01
CL2A	Aluminum	LC2411A	-	250	0.01

Notes:

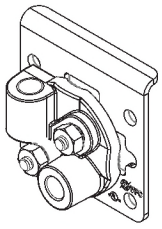
- Conductors shall be securely fastened to the structure upon which they are placed at intervals not exceeding 3 feet per NFPA 780 and UL96A.
- Mounting hole accommodates 1/4 inch hardware.
- Available in tinned copper. Please use “T” instead of “C” when ordering (e.g. CLST).
- Listed to UL® 96.



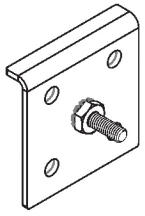


AIR TERMINAL BASES
VERTSTICK

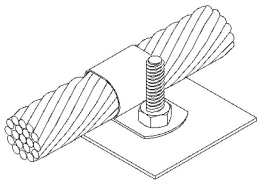
Catalog No.	Dimensions (in.)	Material	Installation Application	Unit Weight (oz.)
ZP1A-VS	1.9 x 1.9 x 0.8H	AL	Cable Loops	0.6
TKUB12A-VS	3.0 x 3.0 x 1.75H	AL	Universal Air Terminal Bases	5.1
TKUB58A-VS	3.0 x 3.0 x 1.75H	AL	Universal Air Terminal Bases	5.1
TKUB12A-VS-USA	3.0 x 3.0 x 1.75H	AL	Universal Air Terminal Bases	5.1
TKUB58A-VS-USA	3.0 x 3.0 x 1.75H	AL	Universal Air Terminal Bases	5.1
ZP1A	1.9 x 1.9 x 0.8H	AL	Cable Loops	0.6



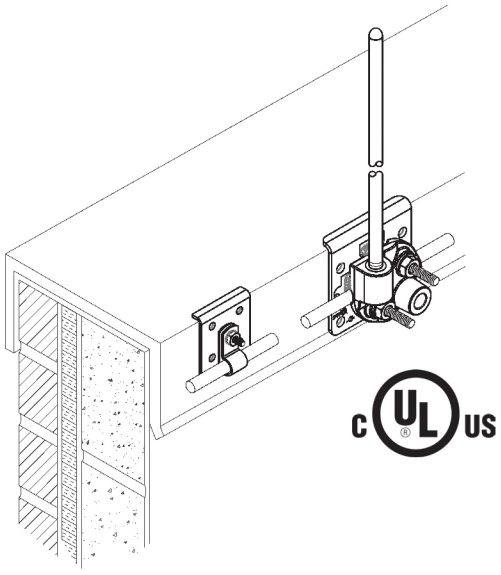
Universal Air Terminal Base [1]



Cable Loops [1]



ZPIA [1]



[1] This product may be subject to patent rights of VFC. Consult your patent attorney about your rights and responsibilities regarding patented products.

Adhesive Installation instructions:

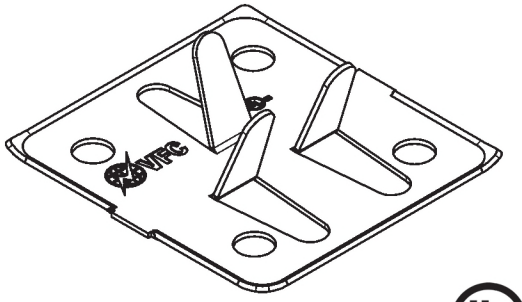
- Surface temperature should be between 40 and 100° F at time of installation.
- Apply small amount of M-1 or other adhesive
- Mount to parapet and let dry per adhesive manufacturer requirements
- Cable Loops sold separately

CABLE SUPPORTS
ADHESIVE CABLE SUPPORT

Catalog No.	Material	Box Qty.	Unit Weight (lbs.)
ASC	Copper Alloy	250	0.10
ASA	Aluminum	250	0.06

Notes:

- Stamped cable supports are used to quickly fasten cable to surfaces without penetration.
- Use surface-compatible adhesive to secure supports to mounting surface.
- Suitable for class I and II conductors.
- Suitable for grounding conductor up to 4/0.
- Turned-up edges reduce puncturing hazard and provides increase surface adhesion.
- Available in tinned copper. Please use "T" instead of "C" when ordering (e.g. AT3812T).
- Listed to UL® 96.

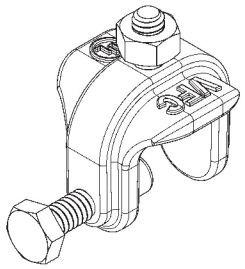


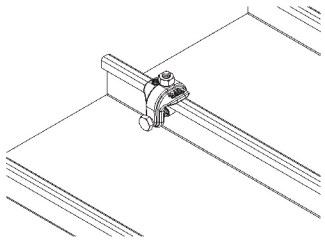
STANDING SEAM CLAMPS
STANDING SEAM ROOF CLAMP

Catalog No.	Material	Box Qty.	Unit Weight (lbs.)
SSRCA	Aluminum	50	0.10

Notes:

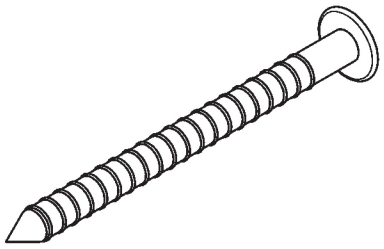
- Cast aluminum roof clamps are secured to standing seams using 1/4 inch stainless steel screws.
- Screw tips are covered with rubber caps to prevent damage to mounting surface.
- Can be used on seams up to 1/2 inch thick with thread protector cap.
- Conductor is connected to these clamps using single hole cable loops, sold separately.
- Listed to UL® 96.





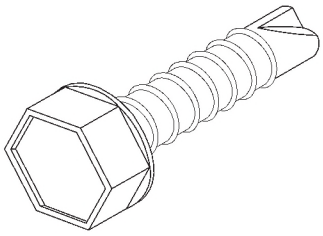
FASTENING & JOINING
NAILS

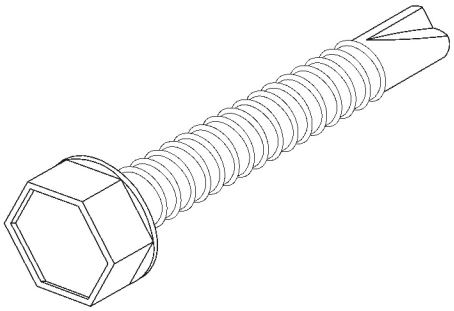
Catalog No.	Length (in.)	Type	Box Qty.	Approx. Box Wt. (lbs.)
N112S	1-1/2	4D, Stainless Steel, Ringed	100	.75
N2S	2	6D, Stainless Steel, Ringed	100	1



SELF DRILLING SCREWS

Catalog No.	Thread Size	Length (in.)	Type	Box Qty.	Approx Box Wt. (lbs.)
SMS	#10	3/4	TEKS/3	100	0.75
SSS	#12	1-1/4	TEKS/5	100	0.75





Notes:

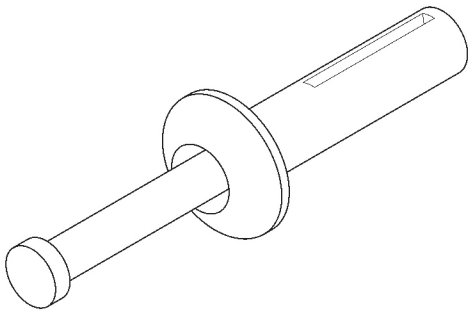
- Hex head screws with 410 stainless steel points are self-drilling and tapping.
- SMS can be used on sheet metal up to 1/10 inch thick (12 gauge).
- SSS can be used on structural steel up to 1/4 inch thick.

FASTENING & JOINING
EXPANSION ANCHORS

Catalog No.	Shank Diameter (in.)	Length (in.)	Box Qty.	Approx. Box Wt. (lbs.)
EA1S	1/4	1	100	2.25
EA112S	1/4	1-1/2	100	2.75

Notes:

- Fast, easy to use, one piece expansion anchor.
- Comprised of a stainless steel pin and Zamac #7 body for corrosion resistant installation.
- Requires a 1/4 inch diameter mounting hole.

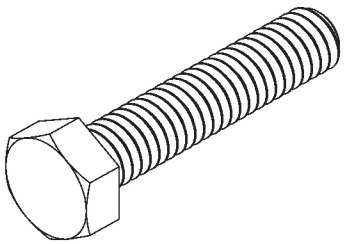


HEX BOLTS

Catalog No.	Thread Size (in.)	Length (in.)	Box Qty.	Approx. Box Wt. (lbs.)
HB51612S	5/16	1/2	100	2
HB51634S	5/16	3/4	100	3
HB5161S	5/16	1	100	3
HB3812S	3/8	1/2	100	3
HB3834S	3/8	3/4	100	4
HB381S	3/8	1	100	5

Notes:

- 18-8 stainless steel.
- UNC threads.

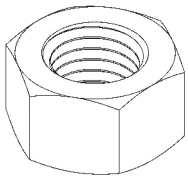


HEX NUTS

Catalog No.	Thread Size (in.)	Box Qty.	Approx. Box Wt. (lbs.)
HN14S	1/4	100	1
HN516S	5/16	100	1.5
HN38S	3/8	100	1.5
HN12S	1/2	50	2

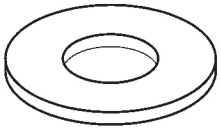
Notes:

— 18-8 stainless steel.
— UNC threads.



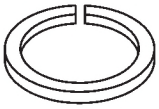
STAINLESS STEEL FLAT WASHERS

Catalog No.	Description
W516S	5/16″ I.D., 3/4″ O.D.
W38S	3/8″ I.D., 1″ O.D.
W12S	1/2″ I.D., 1-1/4″ O.D.



SPLIT LOCK WASHERS

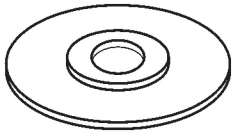
Catalog No.	Size (in.)	Box Qty.	Approx. Box Wt. (lbs.)
LW516S	5/16	100	2.50
LW38S	3/8	100	3.75
LW12S	1/2	100	5



FASTENING & JOINING

NEOPRENE SEALING WASHERS

Catalog No.	Size (in.)	Box Qty.	Approx. Box Wt. (lbs.)
W38N	3/8	100	1.50
W12N	1/2	100	1.50



ALLTHREAD RISER BAR

Catalog No.	Thread Size	Material	Approx. Wt. Per Foot (lbs.)
ALLT12S	1/2	18-8 Stainless Steel	0.50

Notes:

- UNC threads.
- Sold by the foot in lengths up to 12 feet.

20 OZ. CAULKING GUN

Catalog No.	Materials	Unit Weight. (lbs.)
GUN20	Aluminum, Plastic	4

Notes:

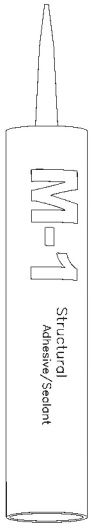
- 12:1 thrust ratio.
- Double gripping plate for no slipping and long life.

M1 UNIVERSAL ADHESIVE/SEALANT

Catalog No.	Packaging (oz.)	Standard Color	Box Qty.	Approx. Box Wt. (lbs.)
M110	10.1	Gray	24	17
M120	20	Gray	12	22.5

Notes:

- M-1 is a high performance versatile, polyether formula which can be used both as an adhesive and a sealant.
- Adheres to a wide range of construction materials including: PVC, EPDM, most metals, wood, glass, masonry, concrete, fiberglass, and solvent-sensitive foam.
- Non-shrinking, solvent-free, applies down to 32°F, effective on damp surfaces, paintable, and UV stable.
- M120 requires 20 oz. size caulking gun, item #GUN20.

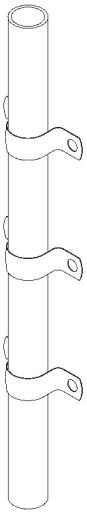


ACCESSORIES
PVC CABLE GUARD

Catalog No.	Nominal Size	OD (in.)	ID (in.)	Length (ft.)	Approx. Unit Wt. (lbs.)
CG1P	1	1.315	1.004	10	3.27
CG1P-80	1	1.315	0.936	10	3.27

Notes:

- Used in areas where conductor must be protected against damage.
- Durable, UV stabilized, schedule 40 PVC rigid conduit.
- Accommodates grounding cable up to 500 MCM and LP conductor up to Class II.
- Other sizes and materials available.
- Includes 3 zinc-plated, one-hole straps.



GROUND RODS & FITTINGS

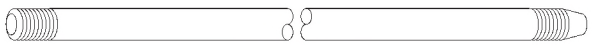
COPPER CLAD STEEL GROUND RODS

Catalog No.	Nominal Rod Diameter (in.)	Length (ft.)	Bundle Qty.	Unit Weight (kg.)
GR588C	5/8	8	5	1.92
GR5810C	5/8	10	5	3.07
GR348C	3/4	8	5	4.54
GR3410C	3/4	10	5	5.86

Catalog No.	Nominal Rod Diameter (in.)	Length (ft.)	Bundle Qty.	Unit Weight (kgs.)	End Type
GRT588C	5/8	8	5	1.92	Threaded
GRT5810C	5/8	10	5	3.07	Threaded
GRT348C	3/4	8	5	4.54	Threaded
GRT3410C	3/4	10	5	5.86	Threaded

Notes:

- Manufactured by molecularly bonding 99.9% pure electrolytic copper to a low carbon steel core, combining excellent corrosion resistance with high strength.
- Minimum 250 microns/10 mils of electroplated copper coating.
- Listed to UL® 467.

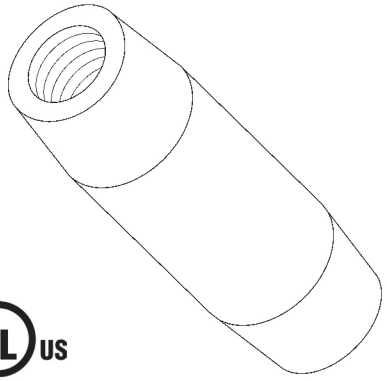


GROUND ROD ACCESORIES
GROUND ROD COUPLER

Catalog No.	Thread Size (in.)	Material	Box Qty.	Unit Weight (lbs.)
GRCO34C	3/4	Copper Alloy	5	0.37
GRCO58C	5/8	Copper Alloy	5	0.21

Notes:

- Corrosion resistant, threaded coupler for threaded sectional ground rods.
- Listed to UL® 467.

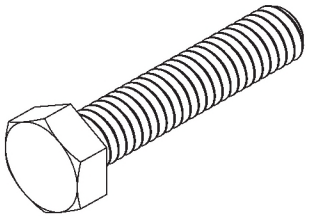


GROUND ROD DRIVING STUD

Catalog No.	Thread Size (in.)	Unit Wt. (lb.)
GRDS34	3/4	0.5

Notes:

- High strength stud prevents damage to the coupler or ground rod threads when driving ground rods.
- 3/4 inch UNC threads.



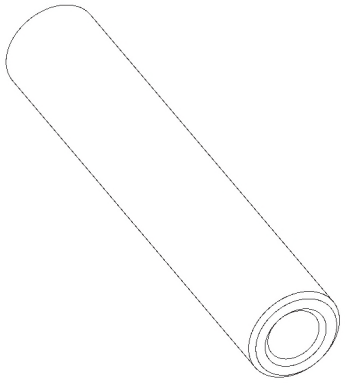
GROUND ROD ACCESORIES

GROUND ROD DRIVING HEAD

Catalog No.	Ground Rod Size (in.)	Approx. Wt. Each (lbs.)
GRDH34	3/4	3

Notes:

— Hardened steel driving head prevents damage to the coupler or ground rod threads when driving ground rods.

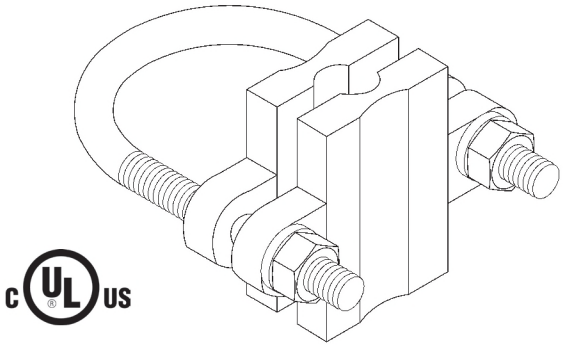


U-BOLT GROUND ROD CLAMP

Catalog No.	Ground Rod Size (in.)	Conductor Range	Box Qty.	Unit Weight. (lbs.)
GRC34C	Up through 1	#6 AWG–4/0 MCM	10	0.5

Notes:

— Bronze ground rod clamp features a stainless steel U-bolt for strength and corrosion resistance.
— Provides over 1-1/2 inches of contact between the ground electrode and conductors.
— Accommodates two horizontal conductors through 4/0 MCM.
— Accommodates one vertical conductor up to 4/0 MCM.
— Fits all ground rods through 1 inch diameter. Ideal for connecting down conductors to ground loop conductors.
— Listed to UL® 96 and 467.



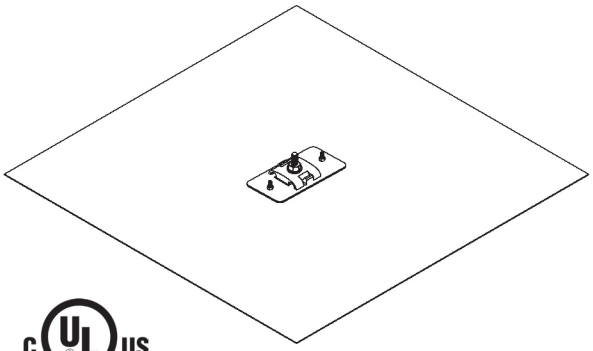
GROUND PLATES

COPPER GROUND PLATES

Catalog No.	Ground Plate Size (in.)	Thickness (in.)	Approx. Wt. Each (lbs.)
GP1818	18 x 18	.032	4

Notes:

- Copper ground plates are used in areas having little or no top soil.
- Can also be used to enhance ground grid systems.
- May be used in conjunction with earth enhancement material.
- For use in locations where a driven ground rod may be difficult or impossible to install.
- Listed to UL® 96.



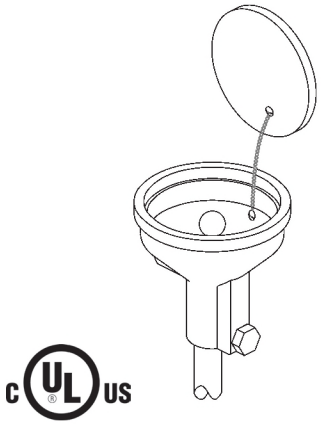
GROUND RECEPTACLES & ACCESSORIES

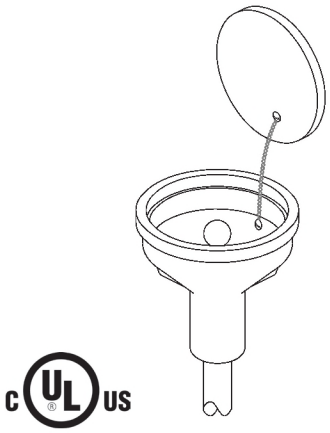
FLOOR GROUND RECEPTACLES

Catalog No.	Ground Rod Size (in.)	Connection Type	Approx. Wt. Each (lbs.)
FR34C	3/4	Set Screw	2
FRT34C	3/4	Threaded	2

Notes:

- Heavy duty bronze floor receptacle features a flush mount cover attached to the main body, via a stainless steel ball chain.
- Brass ball stud located inside the receptacle provides the termination point for ground clamps.
- Listed to UL® 96.



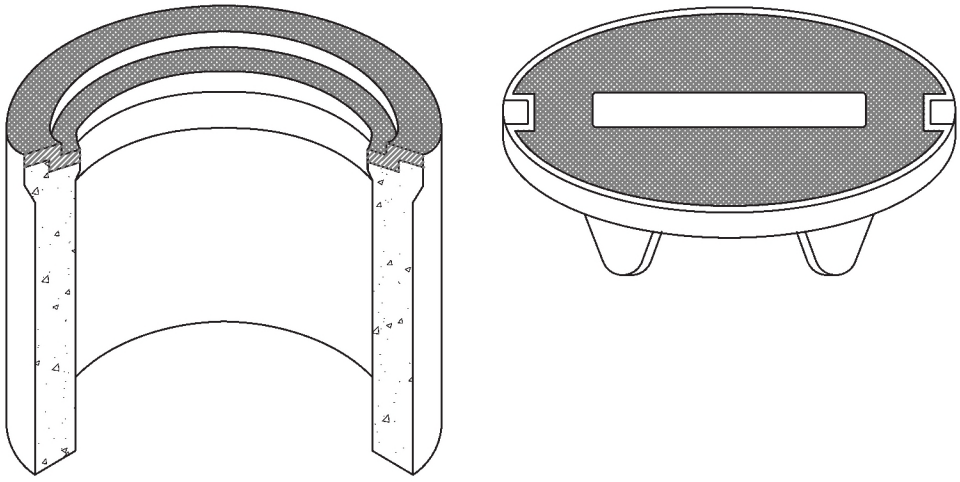


TEST WELLS
G5 TRAFFIC VALVE BOX

Catalog No.	Item	Description	Approx. Unit Wt. (lbs.)
G5BOX	Box	10-3/8" ID x 12" High, includes 1/4-20 x 1" bolts, 36 boxes per pallet	58
G5C	Lid	Bolt-down, cast iron lid marked "GROUND"	14
G5X12	Extension	12" Reinforced Concrete box extension, 36 per pallet	38

Notes:

- Rated to H20 and AASHTO M309, suitable for installation in areas of continuous roadway traffic.
- Largest throat diameter for any box in its size range permits quick, easy inspections or valve adjustments, and makes this unit highly adaptable as a survey mounting box. Locking grade ring assures permanence and quality of surface grades. Cast iron lid and ring design reduces the danger of lid "pop-out" in high traffic areas.
- Vandal-resistant fasteners available as required.

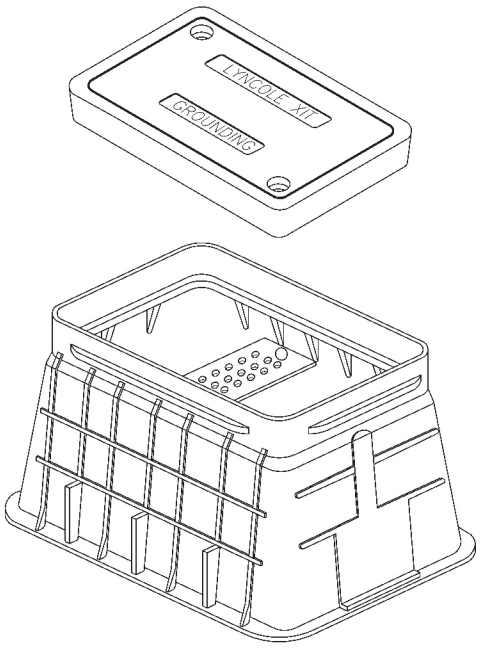


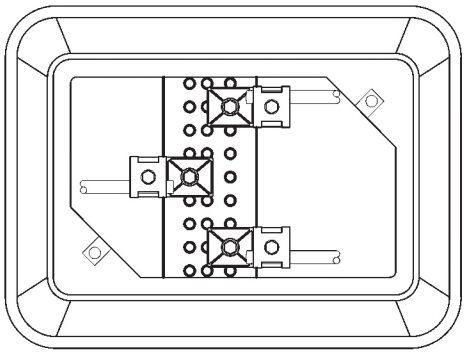
TRUE TEST WELL

Catalog No.	Weight with Lid	Material	Live Load Rating (PSF)	Opening Dimensions (in.)
XB36FTTW	31 lb.	Fibrelyte	16,000	14 (L), 8 3/4 (W) and 12 (D)

Notes:

- Fibrelyte is a proven polyester pre-mix with calcium carbonate and polyester resins interlaced with fiberglass and ultraviolet inhibitors.
- Fibrelyte is durable and made from noncombustible materials.
- Fibrelyte is stronger than pre-cast concrete and it exceeds WUC 3.6 recommendations for 10,000 LBS wheel loading.
- Flexural Strength: 6,000 PSI, Tensile Strength: 6,000 PSI, Compressive Strength: 20,000 PSI.
- *True Test Well* is a one of a kind, US manufactured, test well with an integrated UL Listed bus bar. It allows for a complete disconnection between the electrical service and your grounding system to facilitate actual systems to ground resistance testing.





LYNCOLE XIT® **GROUNDING BARS**

C PATTERN

PART NUMBER	PART DIMENSIONS	NUMBER OF HOLES	APPROX. WEIGHT (LBS)
LGB-12C	1/4" x 4" x 12"	15	5
LGB-24C	1/4" x 4" x 24"	33	8
LGB-36C	1/4" x 4" x 36"	51	11
LGB-48C	1/4" x 4" x 48"	66	14

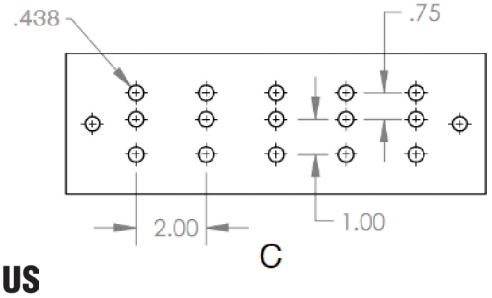
J PATTERN

PART NUMBER	PART DIMENSIONS	NUMBER OF HOLES	APPROX. WEIGHT (LBS)
LGB-12J	1/4" x 4" x 12"	27	5
LGB-24J	1/4" x 4" x 24"	63	8
LGB-36J	1/4" x 4" x 36"	99	11
LGB-48J	1/4"x4"x48"	132	14

- **UL Listed**
- Mounting brackets and insulators included
- Manufactured from electrolytic tough pitch copper
- Holes are sized for **3/8**" bolts and arranged in line ar, three-row columns
- NEMA hole spacing accommodates **2**-hole lugs with ¾ ", **1**", or **1-3/4**" hole spacing

*Contact us for bus bars with specifications such as: Tinned Copper, 1"& 2" widths for limited space applications, custom hole patterns and hole sizes, length snotlisted above, or exothermically welded tails

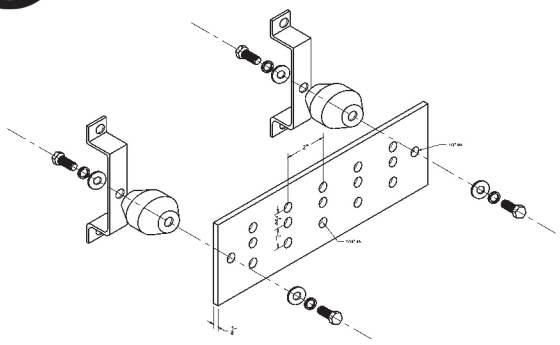
Standard Lyncole XIT copper bus bar specifications are 4" x ¼" and include mounting brackets and insulators.



Standard hole configuration consists of:
7/16" diameter holes in linear, three row columns.

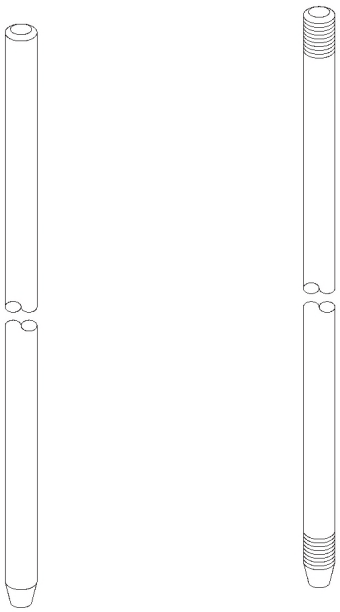
Please Call as Specialty Bus Bars are Available in:

- Tinned Copper
- 1" and 2" widths for limited space applications
- Customized hole patterns and sizes
- Lengths in excess of 10 ft.
- Exothermically welded tails



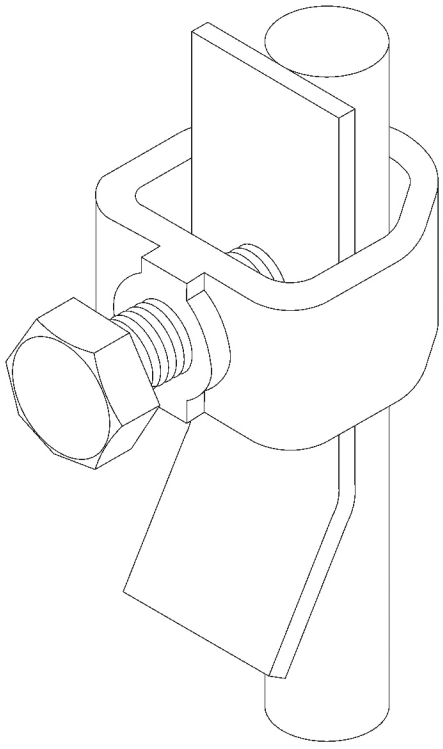
EARTH ELECTRODES

Catalog No.	Nominal Rod Diameter (in.)	Length (mm)	Thread "B" UNC (")	Shank "A"	Unit Weight (kg)
GR124C	Ø 1/2	1,200	9/16	12.7	1.18
GR125C	Ø 1/2	1,500	9/16	12.7	1.55
GR126C	Ø 1/2	1,800	9/16	12.7	1.76
GR128C	Ø 1/2	2,400	9/16	12.7	2.36
GR584C	Ø 5/8	1,200	5/8	14.2	1.53
GR585C	Ø 5/8	1,500	5/8	14.2	1.88
GR586C	Ø 5/8	1,800	5/8	14.2	2.29
GR587C	Ø 5/8	2,100	5/8	14.2	2.51
GR588C	Ø 5/8	2,400	5/8	14.2	3.00
GR5810C	Ø 5/8	3,000	5/8	14.2	3.79
GR344C	Ø 3/4	1,200	3/4	17.2	2.19
GR345C	Ø 3/4	1,500	3/4	17.2	2.73
GR346C	Ø 3/4	1,800	3/4	17.2	3.27
GR347C	Ø 3/4	2,100	3/4	17.2	3.83
GR348C	Ø 3/4	2,400	3/4	17.2	4.35
GR3410C	Ø 3/4	3,000	3/4	17.2	5.44



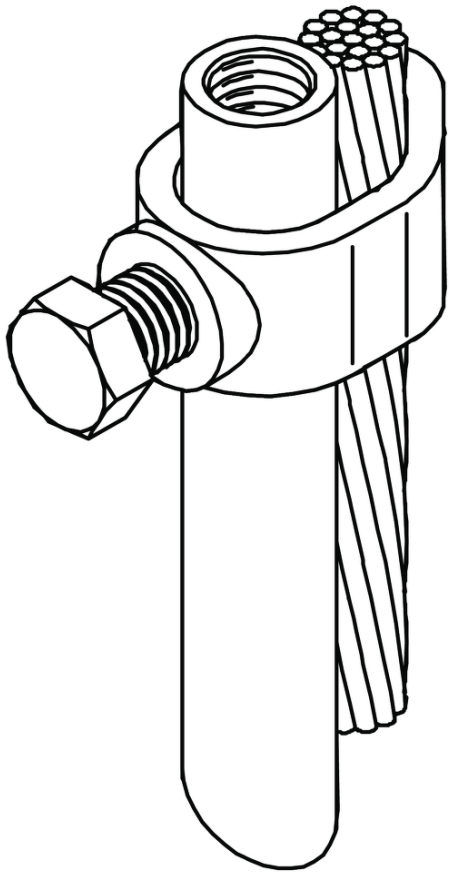
ROD TO TAPE CLAMP

Catalog No.	Nominal Rod Diameter (in.)	Max Conductor	Weight each
CR105	Ø 1/2	26 x 12	0.15
CR106	Ø 5/8	26 x 12	0.15
CR107	Ø 3/4	26 x 10	0.15
CR108	Ø 5/8	30 x 2	0.16
CR109	Ø 3/4	30 x 2	0.16
CR110	Ø 5/8	40 x 12	0.24
CR115	Ø 5/8	51 x 8	0.30
CR125	Ø 3/4	51x 12	0.30
CR130	Ø 1/2	26 x 20	0.23
CR131	Ø 5/8	26 x 18	0.23
CR132	Ø 3/4	26 x 10	0.23
CR133	Ø 1	26 x 10	0.23



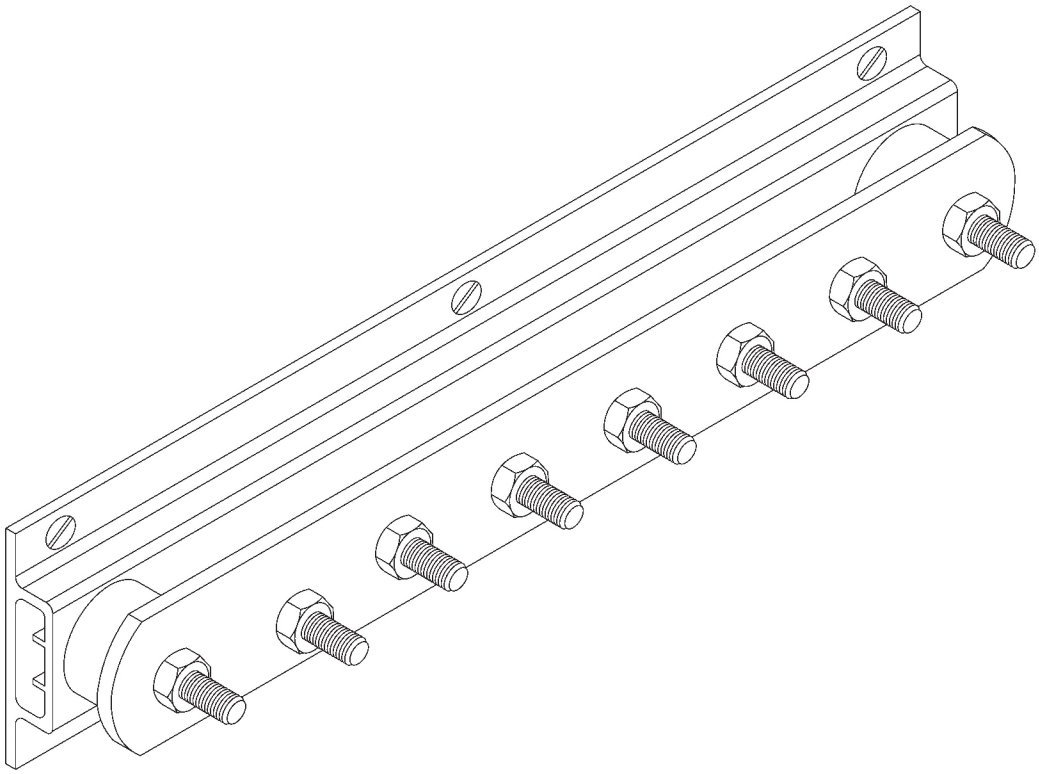
ROD TO TAPE CLAMP

Catalog No.	Ground Rod Diameter (in.)	Material	Unit Weight (lb)	Box Quantity
GRCC58	1/2 & 5/8	Copper alloy	0.12	20
GRCC34	3/4	Copper alloy	0.14	20
GRCT58	1/2 & 5/8	Tinned copper alloy	0.12	20
GRCT34	3/4	Tinned copper alloy	0.14	20



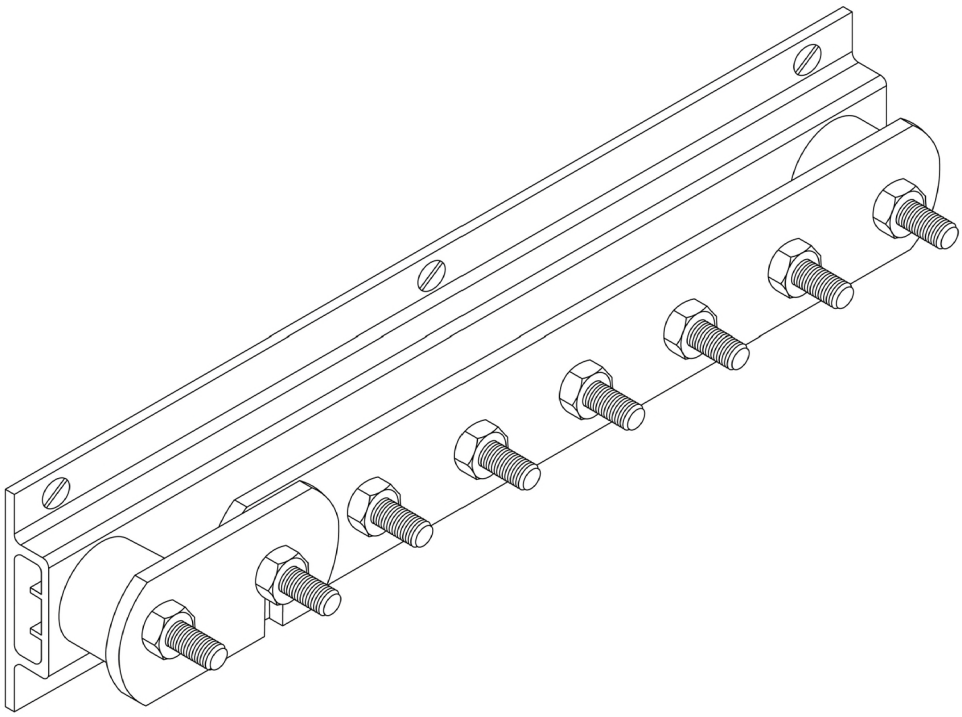
TINNED COPPER GROUNDING BAR WITHOUT DISCONNECTING LINK

Catalog No.	Description	Length (mm)	Weight each (kg)
GBDL-60	6 way	400	1.50
GBDL-80	8 way	500	1.90
GBDL-100	10 way	650	2.40
GBDL-120	12 way	750	2.90
GBDL-140	14 way	850	3.30
GBDL-160	16 way	950	3.60
GBDL-180	18 way	1050	4.00
GBDL-200	20 way	1200	4.60
GBDL-220	22 way	1300	5.00
GBDL-240	24 way	1400	5.35
GBDL-260	26 way	1500	5.70
GBDL-280	28 way	1650	6.10
GBDL-300	30 way	1750	6.50



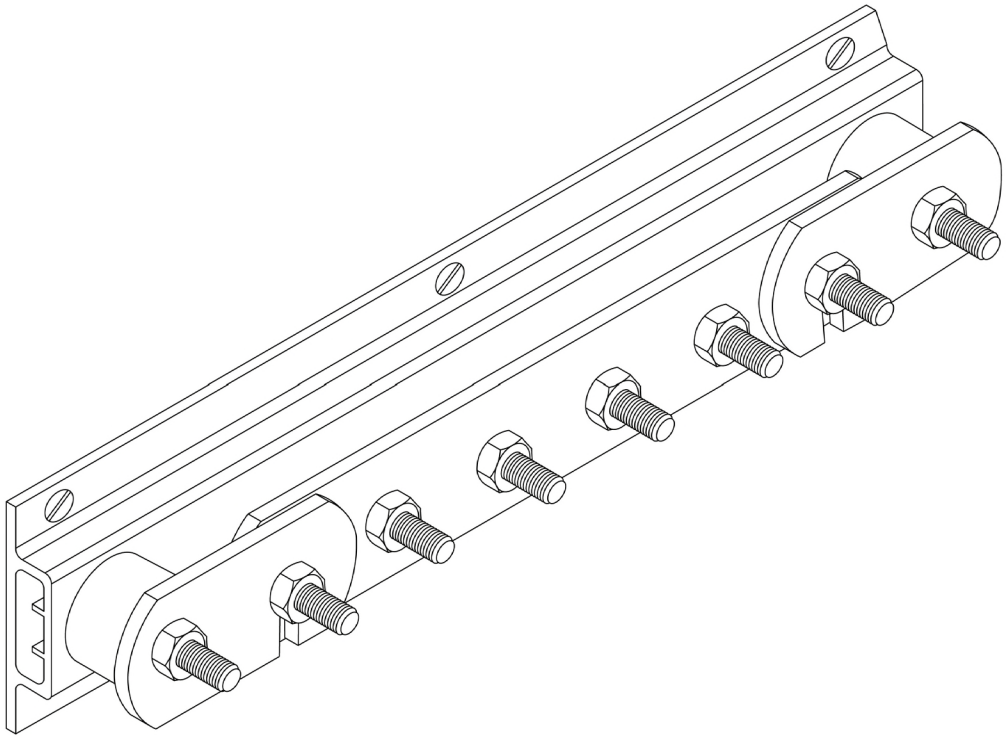
TINNED COPPER GROUNDING BAR
SINGLE DISCONNECTING LINK

Catalog No.	Description	Length (mm)	Weight each (kg)
GBDL-61	6 way	475	2.08
GBDL-81	8 way	575	2.40
GBDL-101	10 way	725	3.20
GBDL-121	12 way	825	3.60
GBDL-141	14 way	925	4.05
GBDL-161	16 way	1025	4.50
GBDL-181	18 way	1125	4.90
GBDL-201	20 way	1275	5.60
GBDL-221	22 way	1375	6.00
GBDL-241	24 way	1475	6.45
GBDL-261	26 way	1575	6.90
GBDL-281	28 way	1725	7.40
GBDL-301	30 way	1825	7.80



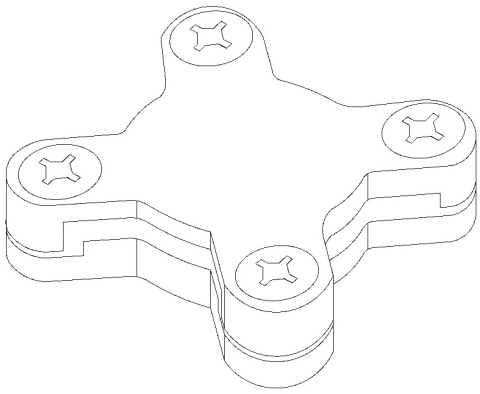
TINNED COPPER GROUNDING BAR TWIN DISCONNECTING

Catalog No.	Description	Length (mm)	Weight each (kg)
GBDL 62	6 way	550	2.8
GBDL 82	8 way	650	3.2
GBDL 102	10 way	800	3.8
GBDL 122	12 way	900	4.2
GBDL 142	14 way	1000	4.6
GBDL 162	16 way	1100	5.0
GBDL 182	18 way	1200	5.4
GBDL 202	20 way	1350	6.0
GBDL 222	22 way	1450	6.4
GBDL 242	24 way	1550	6.8
GBDL 262	26 way	1650	7.2
GBDL 282	28 way	1800	7.9
GBDL 302	30 way	1900	8.3



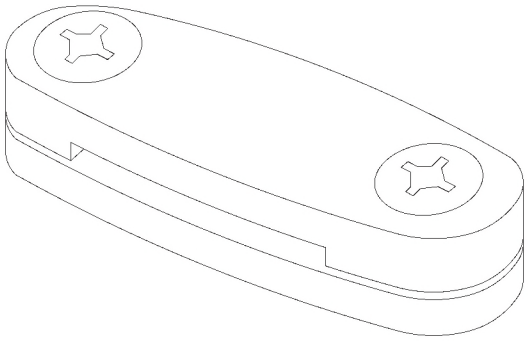
CLASS 1+2 SQUARE TAPE CLAMPS

Catalog Number	Conductor Size	Conductor Material	Weight each (kg)
CT253-H	25x3	Copper	0.15
CT256-H	25x6	Copper	0.216
CT506-H	50x6	Copper	0.561



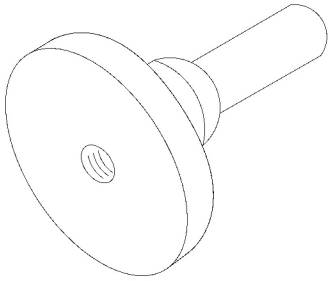
CLASS 1+2 DC CLIPS

Catalog Number	Conductor Size (Width)	Conductor Size (Thickness)
CP253	25x3	0.067
CP256	25x6	0.076
CP506	50x6	0.127



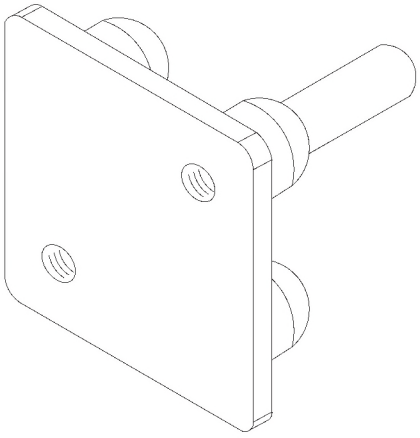
SINGLE HOLE EARTH POINT

Catalog Number	Description	Weight (kg)
EP105	PC100-FU earth point with pre-welded 500 earth cable	0.50
EP106	PC101 earth point with pre-welded 500 earth cable	0.56
EP107	PC102 earth point with pre-welded 500 earth cable	0.56
EP108	PC103 earth point with pre-welded 500 earth cable	0.56



TWO HOLE EARTH POINT

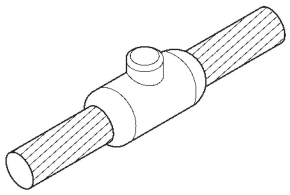
Catalog Number	Description	Weight (kg)
EP116	PC115-FU earth point with pre-welded 500 earth cable	0.84
EP121	PC120 earth point with pre-welded 500 earth cable	0.84
EP211	PC120 earth point with pre-welded 2x500 earth cable	1.26



VFCWELD®
EXOTHERMIC WELDING
CABLE TO CABLE CONNECTIONS

BS MOLD

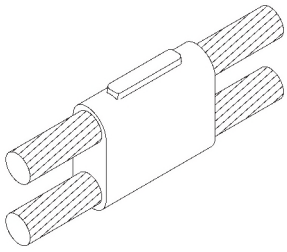
BUTT SPLICE CONNECTION



End to end splice of same cables.
Concentric stranded copper cable unless otherwise noted.

P MOLD

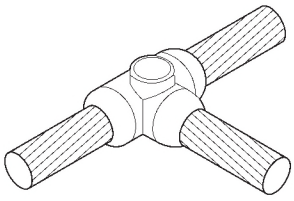
PARALLEL CONNECTION



Parallel cable to cable.
Concentric stranded copper cable unless otherwise noted.

T MOLD

HORIZONTAL TEE CONNECTION

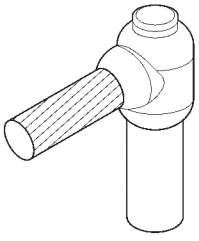


Tee of horizontal run and tap cables.
Concentric stranded copper cable unless otherwise noted.
Solid conductor can be either copper or copper-clad steel.

CABLE TO GROUND ROD CONNECTIONS

GR MOLD

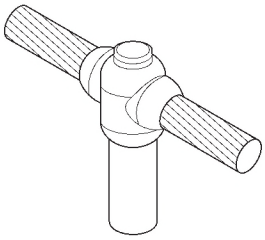
CABLE TO GROUND ROD



Single cable to top of ground rod.
Concentric stranded cable unless otherwise noted. For copper clad, galvanized, stainless clad or stainless steel ground rods.

GT MOLD

THROUGH CABLE TO GROUND ROD

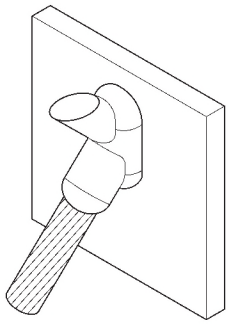


Through cable to top of ground rod.
Concentric stranded cable unless otherwise noted. For copper clad, galvanized, stainless clad or stainless steel ground rods.

VFCWELD® EXOTHERMIC WELDING
CABLE TO VERTICAL STEEL CONNETIONS

VSA MOLD

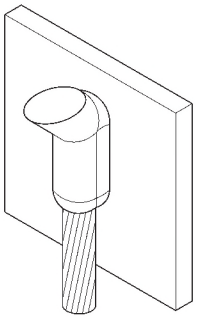
VERTICAL STEEL SURFACE, ANGLED



Connection of vertical cable to vertical flat steel surface or to side of vertical or horizontal steel pipe.
A test weld should be made to check the possibility of burn through on thin sections or thin wall pipe.
Concentric stranded copper cable unless otherwise noted.

VSD MOLD

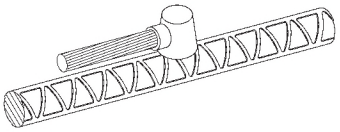
VERTICAL STEEL SURFACE, DOWN



Connection of vertical cable to vertical flat steel surface or to side of vertical or horizontal steel pipe.
A test weld should be made to check the possibility of burn through on thin sections or thin wall pipe.
Concentric stranded copper cable unless otherwise noted.

RB MOLD

CABLE TO REINFORCING BAR



Connection of cable to reinforcement bar.
Concentric stranded copper cable unless otherwise noted.

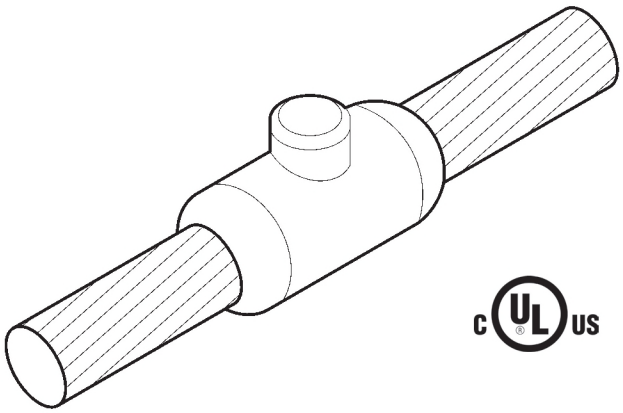
VFCWELD POWDERS

VFCWeld weld metal is contained in plastic cartridges, and are packed in plastic boxes of 10 or 20, depending on their size. Different joints require different powder sizes, and the size relates to the powder's nominal weight in grams. The weld powder packaging also containing retaining discs and starting powder. The retaining discs are contained in a separate bag within the box. Each weld uses one disc. These weld powders are suitable for making connections from copper and from copper to steel.

CABLE TO CABLE BS

Part No.	Cable Size	Weld Metal	Handle Clamp
BS1/0	1/0 or 29	WM45	HC1
BS2/0	2/0	WM65	HC1
BS4/0	4/0 or 28	WM90	HC1
BS250	250	WM115	HC1

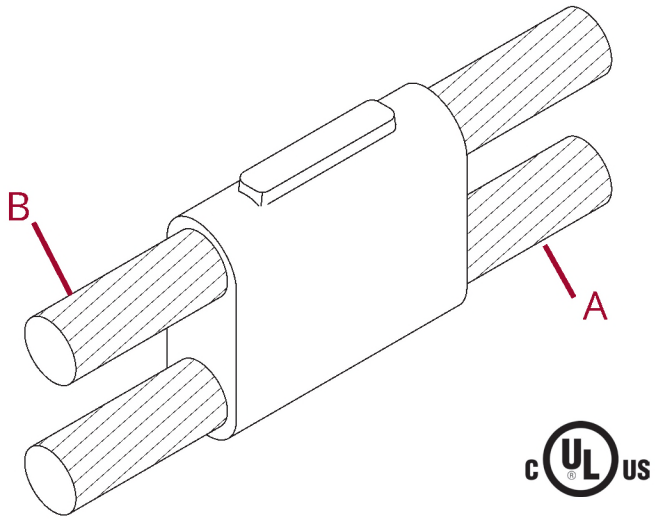
Molds for other cable sizes and combinations can be manufactured on request.



CABLE TO CABLE P

Part No.	Cable Size	Weld Metal	Handle Clamp
P#2#2	#2 Solid or Stranded	WM65	HC1
P4/04/0	4/0 or 28	WM150	HC1

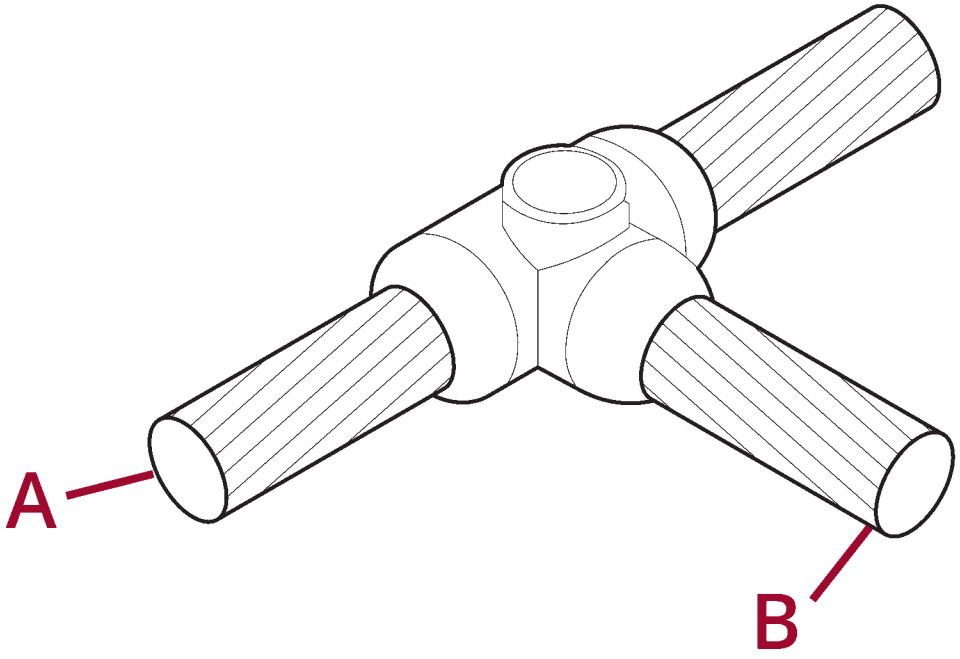
Molds for other cable sizes and combinations can be manufactured on request.



VFCWELD® EXOTHERMIC WELDING
CABLE TO CABLE T

Part No.	Cable Size A (Run)	Cable Size B (Tap)	Weld Metal	Handle Clamp
T#2#2	#2 Solid or Standed	#2 Solid or Stranded	WM45	HC1
T1/01/0	1/0 or 29	1/0 or 29	WM90	HC1
T2/01/0	2/0	1/0 or 29	WM90	HC1
T2/02/0	2/0	2/0	WM90	HC1
T2/04/0	2/0	4/0 or 28	WM90	HC1
T3/03/0	3/0	3/0	WM90	HC1
T3/04/0	3/0	4/0 or 28	WM115	HC1
T4/01/0	4/0 or 28	1/0 or 29	WM90	HC1
T4/02/0	4/0 or 28	2/0	WM115	HC1
T4/04/0	4/0 or 28	4/0 or 28	WM150	HC1
T2504/0	250	4/0 or 28	WM150	HC1
T250250	250	250	WM150	HC1

Molds for other cable sizes and combinations can be manufactured on request.



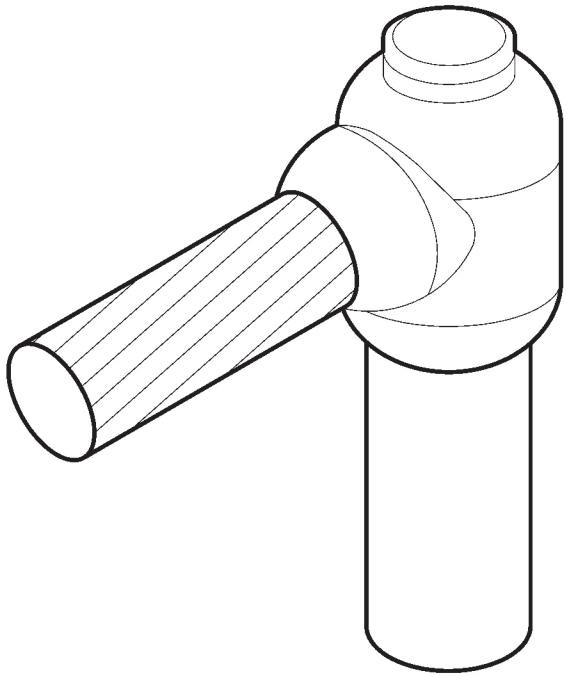
CABLE TO GROUND ROD GR

Part No.	Ground Rod Ø (in.)	Cable Size	Weld Metal	Handle Clamp
GR584/0	5/8	4/0	WM115	HC1
GR58250	5/8	250	WM150	HC1
GR341/0	3/4	1/0 or 29	WM150	HC1
GR342/0	3/4	2/0	WM150	HC1
GR344/0	3/4	4/0 or 28	WM150	HC1
GR34250	3/4	250	WM150	HC1

GR and GT are suitable for connections to copperbond rods – for connections to copper or stainless steel rods, please contact our sales office. Threaded portion of rod should be removed before welding.

Molds for other cable sizes and configurations can be manufactured on request. Special designs for all exothermic welding molds available on request.

For many more applications contact us for part numbers and pricing.



VFCWELD® EXOTHERMIC WELDING
CABLE TO GROUND ROD GT

Part No.	Ground Rod Ø (in.)	Cable Size A	Weld Metal	Handle Clamp
GT581/0	5/8	1/0 or 29	WM115	HC1
GT582/0	5/8	2/0	WM115	HC1
GT584/0	5/8	4/0 or 28	WM115	HC1
GT58250	5/8	250	WM150	HC1
GT341/0	3/4	1/0 or 29	WM115	HC1
GT342/0	3/4	2/0	WM115	HC1
GT343/0	3/4	3/0	WM115	HC1
GT344/0	3/4	4/0 or 28	WM150	HC1

GR and GT are suitable for connections to copperbond rods – for connections to copper or stainless steel rods, please contact our sales office. Threaded portion of rod should be removed before welding.

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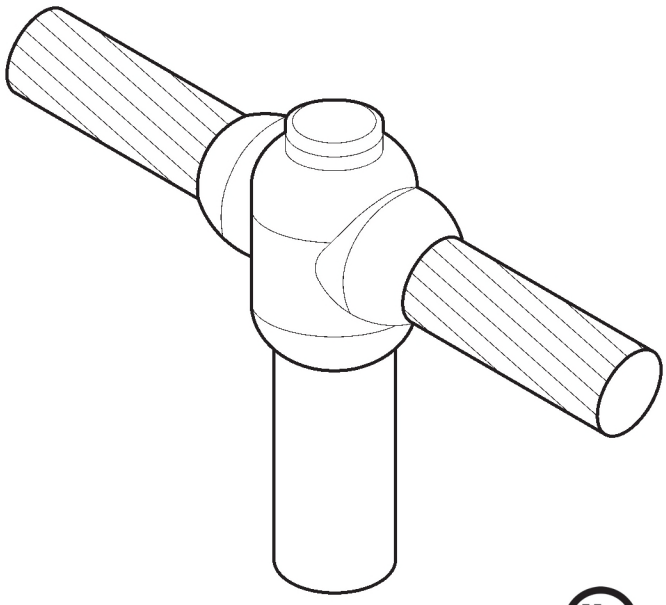
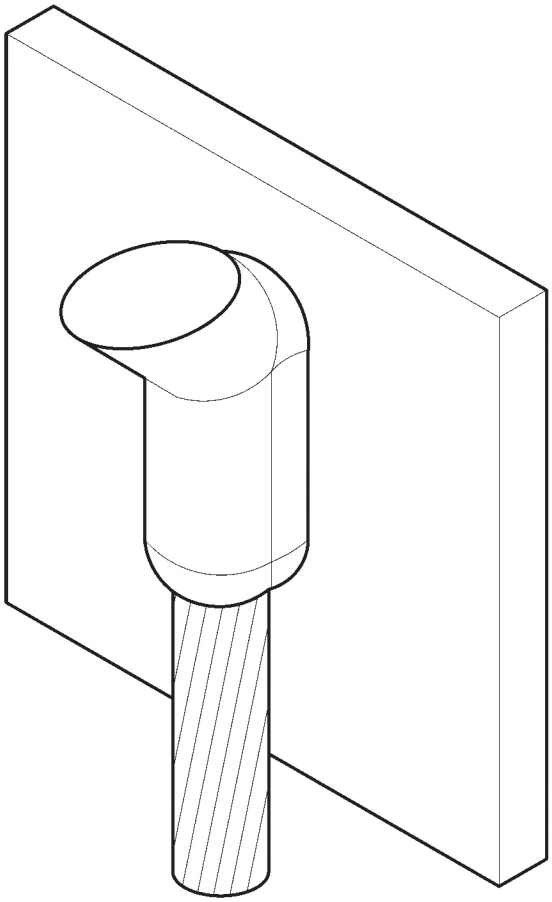


CABLE TO STEEL SURFACE VSD

Part No.	Cable Size	Weld Metal	Handle Clamp
VSD#2	#2 Solid or Stranded	WM90	HC1
VSD1/0	1/0 or 29	WM115	HC1
VSD2/0	2/0	WM115	HC1
VSD4/0	4/0 or 28	WM150	HC1

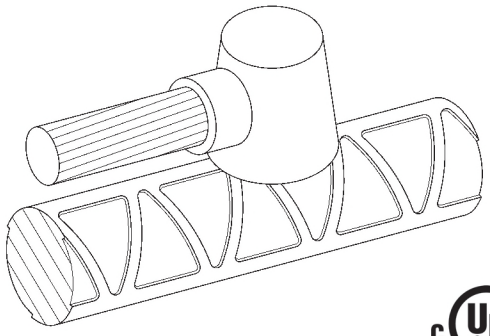
Molds for other cable sizes and combinations can be manufactured on request.



VFCWELD® EXOTHERMIC WELDING CABLE TO REINFORCING BAR RB

Part No.	Reinforcing Bar Size	Cable Size	Weld Metal	Handle Clamp	Packing
RB41/0	4 to 7	1/0 or 29	WM90	HCPK3B	MPACK 1
RB81/0	8 to 11	1/0 or 29	WM90	HCPK3B	MPACK 1
RB44/0	4 to 7	4/0 or 28	WM115	HCPK3B	MPACK 1
RB84/0	8 to 11	4/0 or 28	WM115	HCPK3B	MPACK 1

Molds for other cable sizes and configurations can be manufactured on request. Special designs for all exothermic welding molds available on request.



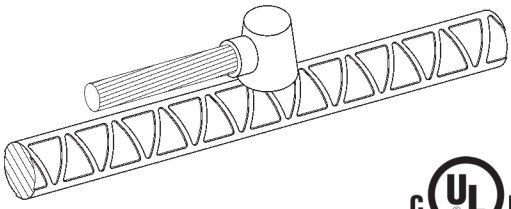
EXOTHERMIC REBAR GROUNDING ASSEMBLIES

REBAR GROUNDING ASSEMBLIES

Catalog No.	Rebar Size	Conductor Type	Conductor Length (ft.)	Approx. Wt. (lbs.)
RGKIT4/0C	4	4/0	5	2-1/2

Notes:

- This prefabricated assembly is comprised of conductor exothermically welded to a 24 inch length of rebar.
- Facilitates a fast and easy field connection.
- Can be wire tied or welded to rebar cage prior to concrete pour.
- Conductor can be stubbed out for connection to a downlead or ground grid.
- Other sizes are available.



EXOTHERMIC WELDING ACCESSORIES

Part No.	Description	Application
HC1	Handle clamp for two-part molds	
FGUN	Flint ignitor gun	Igniting powder
MSEAL	Mold sealing compound	Sealing molds to uneven surfaces
MPACK	Packing	Sealing molds to rebar
MBRUSH	Mold cleaning brush	Soft brush for mold cleaning

FGUN

HC1

MBRUSH

EXO IGNITE
EXOTHERMIC WELDING LIGHTER

Part No.	Dimensions (in.)	Approx. Wt. Each (lbs.)
EXOI	9 x 1 x 0.65	0.19

Notes:

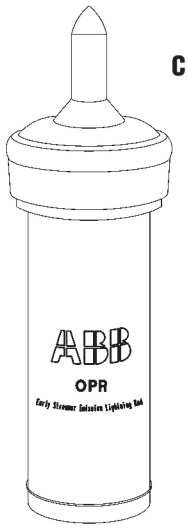
- Introducing the revolutionary ExoIgnite
- Rechargable lithium battery (micro USB)
- Revolutionary way to ignite exothermic welding powder
- Slide down switch to start spark

EARLY STREAMER EMISSION (ESE) AIR TERMINALS

OPR ESE HEADS

SECTION 800

Catalog no.	ΔT (µs)	Weight (lbs)
OPR 30	30	5.29
OPR 45	45	5.29
OPR 60	60	5.29



Notes:

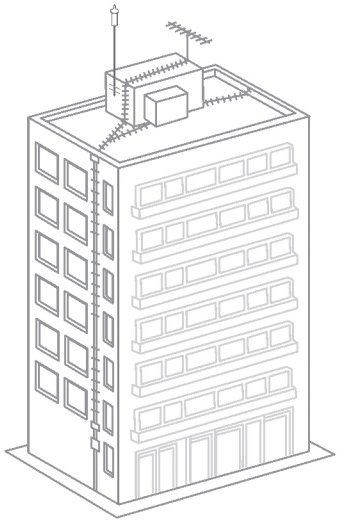
- Mast to be ordered separately.
- Maximum operating temperature: 120 °C (248 °F).
- Typical applications:
  - Industrial sites, buildings, warehouses, where a large area is in need of protection.

CALCULATING PROTECTED AREAS

The radius of protection RP of an OPR is given by French Standard NF C 17-102 (September 2011 edition) and ABB Standards and Guidelines, lightning protection system with Early Streamer Emision Air Terminal (ESEAT).

It depends on the ESEAT efficiency ΔT of the OPR measured in the high voltage laboratory, on the levels of protection I, II, III or IV calculated according to the lightning risk assessment guides or standards (NF C 17-102 Annex A or IEC 62305-2), ABB Standards and Guidelines, lightning protection system with Early Streamer Emmision Air Termal, and on the height (H) of the lightning air terminal over the area to be protected (minimum height = 2 m).

The protection radius is calculated according to Annex C in French Standard NF C 17-102. For OPR 60, limiting the value of ΔT used in the protection radius calculations to 60 µs (limited 60 µs in accordance with the Paragraph 5.2.2 of the NF C 17-102 standard).



MASTS AND EXTENSION MASTS
ESE MAST SELECTION GUIDE

OPR 30
OPR 45
OPR 60

Ø 30
A 51.18″ stainless steel ESEAT mast: 2CTH070001R0000
or
B 90.5″ stainless steel ESEAT mast: 2CTH070002R0000

Ø 35
C 118.11″ stainless steel ESEAT mast: 2CTH070011R0000

Ø 35
D 78.74″ extension mast: 2CTH070005R0000
or
E 118.11″ extension mast: 2CTH070006R0000

Ø 42
F 78.74″ extension mast: 2CTH070007R0000
or
G 118.11″ extension mast: 2CTH070008R0000

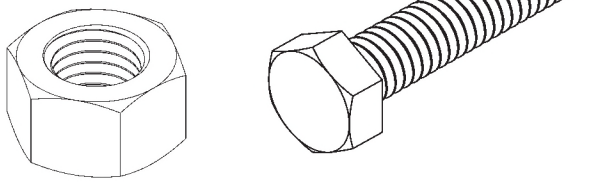
Ø 50
H 78.74″ extension mast: 2CTH070009R0000
or
I 118.11″ extension mast: 2CTH070010R0000

EXTENSION MAST FASTENER KITS

Catalog No.	Description
OPR-SK	4 Nuts and 4 Bolts to connect ø 30 to ø 35 and ø 35 to ø 42 masts
OPR-SK4250	2 Nuts and 2 Bolts to connect ø 42 to ø 50 masts

Notes:

- 18-8 Stainless Steel.
- UNC Threads.



MAST CONFIGURATION GUIDE

Nominal Height (m)	Mast Combination	ESEAT Mast Type	Extension Mast Type
BELOW 140 KM/H (87MPH)			
3.6	A + D	**A** 2CTH070001R0000	**D** 2CTH070005R0000
4.5	B + D	**B** 2CTH070002R0000	**D** 2CTH070005R0000
5.5	B + E	**B** 2CTH070002R0000	**E** 2CTH070006R0000
6.25	B + D + F	**B** 2CTH070002R0000	**D** 2CTH070005R0000 + **F** 2CTH0700007R0000
7.25	B + E + F	**B** 2CTH070002R0000	**E** 2CTH070006R0000 + **F** 2CTH0700007R0000
8.25	B + E + G	**B** 2CTH070002R0000	**E** 2CTH070006R0000 + **G** 2CTH070008R0000
9.25	B + D + G + H	**B** 2CTH070002R0000	**D** 2CTH070005R0000 + **G** 2CTH070008R0000 + **H** 2CTH070009R0000
UP TO 170 KM/H (105 MPH)			
3.6	A + D	**A** 2CTH070001R0000	**D** 2CTH070005R0000
4.5	B + D	**B** 2CTH070002R0000	**D** 2CTH070005R0000
5	C + F	**C** 2CTH070011R0000	**F** 2CTH070007R0000
6	C + G	**C** 2CTH070011R0000	**G** 2CTH070008R0000
6.75	C + F + H	**C** 2CTH070011R0000	**F** 2CTH070007R0000 + **H** 2CTH070009R0000
7.75	C + F + I	**C** 2CTH070011R0000	**F** 2CTH070007R0000 + **I** 2CTH070010R0000

For installation without guying.

MOUNTING ACCESSORIES
ESEAT MASTS

Catalog No.	Letter Code	Height (m)	Outside Diameter (mm)	Unit Weight (lbs.)
2CTH070001R0000	**A**	1.3	30	4.2
2CTH070002R0000	**B**	2.3	30	6.6
2CTH070011R0000	**C**	3.0	35	11.5

Notes:

- 304 Stainless Steel.
- For direct, threaded connection to ESEAT heads.

EXTENSION MASTS

Catalog No.	Letter Code	Height (m)	Outside Diameter (mm)	Fastener Kit Required	Unit Weight (lbs.)
2CTH070005R0000	**D**	2	35	OPR-SK	11.5
2CTH070006R0000	**E**	3	35	OPR-SK	14.1
2CTH070007R0000	**F**	2	42	OPR-SK	14.1
2CTH070008R0000	**G**	3	42	OPR-SK	21.2
2CTH070009R0000	**H**	2	50	OPR-SK4250	16.5
2CTH070010R0000	**I**	3	50	OPR-SK4250	24.3

Notes:

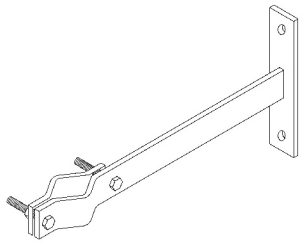
- 304 Stainless Steel.
- Extension masts connect to ESEAT masts using corresponding fastener kits.

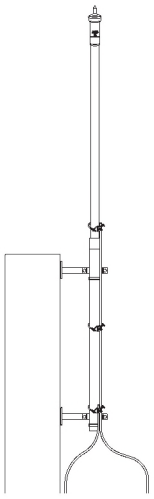
WALL MOUNT BRACKETS

Catalog No.	Description	Offset Distance (mm)	Unit Weight (lbs.)
2CTH050015R0000	Short Bolted Bracket	125	3.1
2CTH050016R0000	Long Bolted Bracket	290	4.2

Notes:

- Used to mount offset mast to vertical surface.
- Bolt hole diameter: 11.5 mm (fits 7/16 inch fastener).
- Distance between bolt holes: 120mm (4.72”).



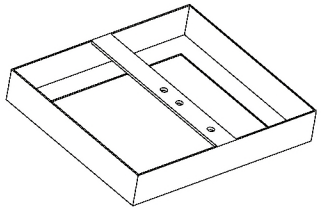


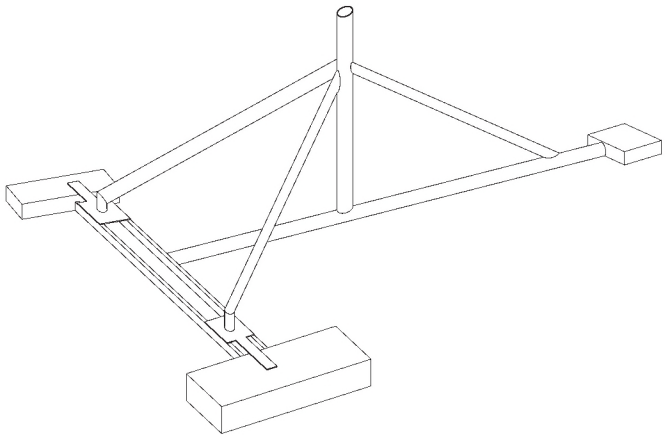
BALLASTED TRIPODS

Catalog No.	Maximum Wind Load (mph)	Unit Weight (lb.)
2CTHCTLB5002	92	265
2CTHCTLB5004	105	441

Notes:

- Used to support a mast of 5m (16 foot 5 inch) or less without penetrating fasteners or adhesives.
- Galvanized steel frame, concrete feet.
- Maximum roof gradient: 5%.
- Cage and Concrete block support seperate purchases (pictured below)





ESE SYSTEM ACCESSORIES
LIGHTNING STRIKE COUNTER

Catalog No.	Description	Unit Weight (lbs.)
2CTH060001R0000	**1** Lightning strike counter with flat conductor connection	0.90

Notes:

- Strike counters are installed in series with lightning down conductor to record lightning current.
- Counter 1 (2CTH060001R0000) uses the current induced in a secondary circuit to activate an electromechanical counter. It has been tested in high voltage laboratories and in situ.
- Counters are equipped with an external dry contact.
- Cable couplers are included with Counter 1 to connect standard LP conductor to the tinned copper shaft.

2CTH060001R0000

OPR LIGHTNING AIR TERMINAL TESTING KIT

Catalog No.	Description	Unit Weight (lbs.)
2CTH080004R0000	Telescoping ESE Test Pole	13.2
2CTH080001R0000	ESE Test System	4.2

Notes:

- The testing kit needs to be in contact with the OPR tip in one hand, and the bottom of the pole or the down conductor in the other hand.
- It tests the OPR electronics by activating the high-voltage internal circuit of the OPR.

PART INDEX

Catalog Version: 2025V1

We reserve the right to make technical changes or modify the contents of this document without prior notice.

VFC does not accept any responsibility whatsoever for potential errors or possible lack of information herein.

Product delivered will meet technical requirements, but may differ from description and/or line art.

Address

90 Cutler Drive
North Salt Lake
UT, 84054

Phone

Toll 800.825.1948
Office 801.292.2956
Fax 801.292.4164

Email sales@vfclp.com
Websites: vfclp.com

Exhibit 3
VFC Price List

VFC PRICE LIST

EFFECTIVE - June, 2025

Item Type	Part #	Description	Unit	Catalog Number	List Price		Manufacturer
Part	1/0C	1/0 AWG, 19 Strand Cu	ft	1/0C	$	5.02	VFC
Part	1/0-D-TOPS-10FT	1/0 top for K2 System	ea	1/0-D-TOPS-10FT	$	539.06	VFC
Part	1/0GRN	1/0 AWG 19 Strand Cu THHN GRN	ft	1/0GRN	$	5.37	VFC
Part	1/0-RISER-D-18	1/0 Riser for K2L System	ea	1/0-RISER-D-18	$	127.93	VFC
Part	1/0-RISER-D-24	1/0 Riser for K2L System	ea	1/0-RISER-D-24	$	144.40	VFC
Part	1/0-RISER-D-36	1/0 Riser for K2L System	ea	1/0-RISER-D-36	$	177.33	VFC
Part	1/0T	1/0 AWG 19 Strand Tinned Cu	ft	1/0T	$	7.24	VFC
Part	10' HORIZONTAL	Horizontal for K2L System	ea	10' HORIZONTAL	$	369.25	VFC
Part	10'-BOTTOM	10' Bottom for K2 System	ea	10'-BOTTOM	$	379.18	VFC
Part	10'-LEAD-BLUE	10' Blue Test Lead	ea	10'-LEAD-BLUE	$	41.00	VFC
Part	12' HORIZONTAL	12' Horizontal for K2L System	ea	12' HORIZONTAL	$	436.87	VFC
Part	2/0C	2/0 AWG, 19 Strand Cu	ft	2/0C	$	6.16	VFC
Part	2/0GRN	2/0 AWG 19 Strand Cu THHN GRN	ft	2/0GRN	$	6.60	VFC
Part	2/0-RISER-D-18	2/0 Riser for K2L System	ea	2/0-RISER-D-18	$	137.36	VFC
Part	2/0-RISER-D-24	2/0 Riser for K2L System	ea	2/0-RISER-D-24	$	153.83	VFC
Part	2/0-RISER-D-36	2/0 Riser for K2L System	ea	2/0-RISER-D-36	$	186.76	VFC
Part	2/0-RISER-T36	2/0-T Riser for K2L Systems	ea	2/0-RISER-T36	$	244.71	VFC
Part	2/0T	2/0 Tinned Copper Conductor	ft	2/0T	$	7.00	VFC
Part	2/0-TOPS-10FT	2/0 Top for K2 System	ea	2/0-TOPS-10FT	$	548.25	VFC
Part	2/0-TOPS-20FT	2/0 Top for K2 System	ea	2/0-TOPS-20FT	$	886.61	VFC
Part	20'-BOTTOM	20' Bottom for K2 System	ea	20'-BOTTOM	$	717.30	VFC
Part	20'-HORIZONTAL1	20' Horizontal for K2L System	ea	20'-HORIZONTAL1	$	712.47	VFC
Part	20'-HORIZONTAL2	20' Horizontal for K2L Systems	ea	20'-HORIZONTAL2	$	839.71	VFC
Part	20'-MIDDLE	20' Middle Section for K2	ea	20'-MIDDLE	$	824.54	VFC
Part	250C	250MCM 37 Strand Cu (Price dated 03/23/23)	ft	250C	$	18.89	VFC
Part	250GRN	250MCM 37 Strand Cu THHN GRN	ft	250GRN	$	12.10	VFC
Part	250-RISER-D-18	250mcm Riser for K2L System	ea	250-RISER-D-18	$	143.17	VFC
Part	250-RISER-D-36	250mcm Riser for K2L System	ea	250-RISER-D-36	$	192.57	VFC
Part	27C	2 AWG, 7 Strand Cu	ft	27C	$	4.08	VFC
Part	27T	2 AWG, 7 Strand Tinned Cu	ft	27T	$	3.58	VFC
Part	2C	2 AWG, Solid Cu	ft	2C	$	4.89	VFC
Part	2GRN	2 AWG THHN GRN	ft	2GRN	$	6.10	VFC
Part	2SLD-RISER-D-12	#2 Solid Riser for K2L System	ea	2SLD-RISER-D-12	$	110.58	VFC
Part	2SLD-RISER-D-18	#2 Solid Riser for K2L System	ea	2SLD-RISER-D-18	$	133.44	VFC
Part	2SLD-RISER-D-24	#2 Solid Riser for K2L System	ea	2SLD-RISER-D-24	$	143.52	VFC
Part	2SLD-RISER-D-36	#2 Solid Riser for K2L System	ea	2SLD-RISER-D-36	$	166.88	VFC
Part	2SLD-TOPS-20FT	#2 Tinned Solid Top for K2 Sys	ea	2SLD-TOPS-20FT	$	876.30	VFC
Part	2STR-RISER-18	#2 Stranded Riser for K2L Syst	ea	2STR-RISER-18	$	133.44	VFC
Part	2STR-RISER-D-36	#2 Stranded Riser for K2L Syst	ea	2STR-RISER-D-36	$	177.74	VFC
Part	2T	2 AWG, Solid Tinned Cu	ft	2T	$	3.14	VFC
Part	3/0C	3/0 AWG, 19 Strand Cu	ft	3/0C	$	7.48	VFC
Part	3/0-D-TOPS-10FT	3/0 Top for K2 System	ea	3/0-D-TOPS-10FT	$	544.27	VFC
Part	3/0GRN	3/0 AWG 19 Strand Cu THHN GRN	ft	3/0GRN	$	8.34	VFC
Part	3/0-RISER-D-18	3/0 Riser for K2L System	ea	3/0-RISER-D-18	$	133.38	VFC
Part	3/0-RISER-D-24	3/0 Riser for K2L System	ea	3/0-RISER-D-24	$	156.23	VFC
Part	3/0-RISER-D-36	3/0 Riser for K2L System	ea	3/0-RISER-D-36	$	182.78	VFC
Part	3/0T	3/0 Tinned Copper Conductor	ft	3/0T	$	12.04	VFC
Part	350MCM-TOP-10FT	10' Top for K2 System 250MCM	ea	350MCM-TOP-10FT	$	554.30	VFC
Part	350-RISER-D-36	350mcm Riser for K2L System	ea	350-RISER-D-36	$	193.06	VFC
Part	4/07C	4/0 AWG, 7 Strand Cu	ft	4/07C	$	12.71	VFC
Part	4/0C	4/0 AWG, 19 Strand Cu	ft	4/0C	$	10.26	VFC
Part	4/0-D-TOPS-10FT	4/0 Top for K2 Systems	ea	4/0-D-TOPS-10FT	$	559.48	VFC
Part	4/0-D-TOPS-20FT	4/0 Top for K2 System	ea	4/0-D-TOPS-20FT	$	897.60	VFC
Part	4/0GRN	4/0 AWG 19 Strand Cu Green Ins	ft	4/0GRN	$	10.41	VFC
Part	4/0-RISER-D-12	4/0 Riser for K2L System	ea	4/0-RISER-D-12	$	131.89	VFC
Part	4/0-RISER-D-18	4/0 Riser for K2L System	ea	4/0-RISER-D-18	$	148.36	VFC
Part	4/0-RISER-D-24	4/0 Riser for K2L System	ea	4/0-RISER-D-24	$	164.82	VFC
Part	4/0-RISER-D-36	4/0 Riser for K2L System	ea	4/0-RISER-D-36	$	197.76	VFC
Part	4/0T	4/0 Tinned Copper Conductor	ft	4/0T	$	15.08	VFC
Part	47C	4 AWG, 7 Strand Cu	ft	47C	$	2.57	VFC
Part	4GRN	4 AWG THHN GRN	ft	4GRN	$	3.86	VFC
Part	500C	500MCM 37 Strand Cu	ft	500C	$	20.62	VFC
Part	500GRN	500MCM 37 Strand Cu THHN GRN-7-19-2023	ft	500GRN	$	24.42	VFC
Part	500MCM-TOP-10FT	10' Top for K2 System 500MCM	ea	500MCM-TOP-10FT	$	595.93	VFC
Part	500MCM-TOP-20FT	20' Top for K2 System 500MCM	ea	500MCM-TOP-20FT	$	948.67	VFC
Part	500-RISER-D-36	500MCM Riser for K2L System	ea	500-RISER-D-36	$	234.20	VFC
Part	600BLK	600MCM 61 Strand Cu	ft	600BLK	$	26.07	VFC

Part	600C	600MCM 61 Strand Cu	ft	600C	$	26.10	VFC
Part	67C	6 AWG, 7 Strand Cu	ft	67C	$	1.61	VFC
Part	6C	6 AWG, Solid Cu	ft	6C	$	1.12	VFC
Part	6GRN	6 AWG THHN GRN	ft	6GRN	$	2.52	VFC
Part	6T	6 AWG, Solid Tinned Cu	ft	6T	$	1.24	VFC
Part	750GRN	750MCM 61 Strand Cu THHN GRN-7-19-2023	ft	750GRN	$	49.82	VFC
Part	ALLT12S	Threaded Rod, 1/2"-13 18-8 SS	ea	ALLT12S	$	3.37	VFC
Part	ASA	Adhesive Cable Fastener Al	ea	ASA	$	1.04	VFC
Part	ASC	Adhesive Cable Fastener Cu	ea	ASC	$	4.64	VFC
Part	AST	Adhesive Cable Fastener Tin	ea	AST	$	6.02	VFC
Part	AT12120A	Air Terminal - 1/2" Dia., 120"	ea	AT12120A	$	41.42	VFC
Part	AT12120C	Air Terminal 1/2" x 120" Cu	ea	AT12120C	$	278.84	VFC
Part	AT1212A	Air Terminal - 1/2" Dia., 12"	ea	AT1212A	$	5.13	VFC
Part	AT1212C	Air Terminal - 1/2" Dia., 12"	ea	AT1212C	$	26.89	VFC
Part	AT1212T	Air Terminal - 1/2" Dia., 12"a	ea	AT1212T	$	34.07	VFC
Part	AT1216A	Air Terminal - 1/2" Dia., 16"	ea	AT1216A	$	5.98	VFC
Part	AT1216C	Air Terminal - 1/2" Dia., 16"	ea	AT1216C	$	33.81	VFC
Part	AT1216T	Air Terminal - 1/2" Dia., 16"	ea	AT1216T	$	44.74	VFC
Part	AT1218A	Air Terminal - 1/2" Dia., 18"	ea	AT1218A	$	6.85	VFC
Part	AT1218C	Air Terminal - 1/2" Dia., 18"	ea	AT1218C	$	39.42	VFC
Part	AT1218T	Air Terminal - 1/2" Dia., 18"	ea	AT1218T	$	50.15	VFC
Part	AT1224A	Air Terminal - 1/2" Dia., 24"	ea	AT1224A	$	8.59	VFC
Part	AT1224C	Air Terminal - 1/2" Dia., 24"	ea	AT1224C	$	51.94	VFC
Part	AT1224T	Air Terminal - 1/2" Dia., 24"	ea	AT1224T	$	66.18	VFC
Part	AT1236A	Air Terminal - 1/2" Dia., 36"	ea	AT1236A	$	12.20	VFC
Part	AT1236C	Air Terminal - 1/2" Dia., 36"	ea	AT1236C	$	74.16	VFC
Part	AT1236T	Air Terminal - 1/2" Dia., 36"	ea	AT1236T	$	98.40	VFC
Part	AT1248A	Air Terminal - 1/2" Dia., 48"	ea	AT1248A	$	15.87	VFC
Part	AT1248C	Air Terminal - 1/2" Dia., 48"	ea	AT1248C	$	98.45	VFC
Part	AT1248T	Air Terminal - 1/2" Dia., 48"	ea	AT1248T	$	130.78	VFC
Part	AT1260A	Air Terminal - 1/2" Dia., 60"	ea	AT1260A	$	19.37	VFC
Part	AT1260C	Air Terminal - 1/2" Dia., 60"	ea	AT1260C	$	122.74	VFC
Part	AT1260T		ea	AT1260T	$	163.11	VFC
Part	AT1272A	Air Terminal - 1/2" Dia., 72"	ea	AT1272A	$	22.37	VFC
Part	AT1272C	Air Terminal - 1/2" Dia., 72"	ea	AT1272C	$	147.03	VFC
Part	AT1284A		ea	AT1284A	$	25.96	VFC
Part	AT1284C		ea	AT1284C	$	195.79	VFC
Part	AT1296A		ea	AT1296A	$	29.50	VFC
Part	AT1296C		ea	AT1296C	$	223.63	VFC
Part	AT3812C	Air Terminal - 3/8" Dia., 12"	ea	AT3812C	$	16.69	VFC
Part	AT3812T	Air Terminal - 3/8" Dia., 12"	ea	AT3812T	$	21.01	VFC
Part	AT3816C	Air Terminal - 3/8" Dia., 16"	ea	AT3816C	$	20.74	VFC
Part	AT3816T	Air Terminal - 3/8" Dia., 16"	ea	AT3816T	$	27.32	VFC
Part	AT3818C	Air Terminal - 3/8" Dia., 18"	ea	AT3818C	$	23.82	VFC
Part	AT3818T	Air Terminal - 3/8" Dia., 18"	ea	AT3818T	$	30.56	VFC
Part	AT3824C	Air Terminal - 3/8" x 24" Cu	ea	AT3824C	$	31.53	VFC
Part	AT3824T	Air Terminal - 3/8" x 24" Tin	ea	AT3824T	$	40.03	VFC
Part	AT3836C	Air Terminal - 3/8" Dia., 36"	ea	AT3836C	$	45.10	VFC
Part	AT3836T	Air Terminal - 3/8" Dia., 36"	ea	AT3836T	$	62.12	VFC
Part	AT3848C	Air Terminal - 3/8" Dia., 48"	ea	AT3848C	$	59.30	VFC
Part	AT3848T	Air Terminal - 3/8" Dia., 48"	ea	AT3848T	$	78.59	VFC
Part	AT3860C	Air Terminal - 3/8" Dia., 60"	ea	AT3860C	$	73.82	VFC
Part	AT3860T		ea	AT3860T	$	97.88	VFC
Part	AT3872C	Air Terminal - 3/8" Dia., 72"	ea	AT3872C	$	88.41	VFC
Part	AT58120A	Air Terminal - 5/8" Dia., 120"	ea	AT58120A	$	53.84	VFC
Part	AT58120C		ea	AT58120C	$	430.33	VFC
Part	AT5812A	Air Terminal - 5/8" Dia., 12"	ea	AT5812A	$	6.97	VFC
Part	AT5812C	Air Terminal - 5/8" Dia., 12"	ea	AT5812C	$	39.32	VFC
Part	AT5812T	Air Terminal - 5/8" Dia., 12"	ea	AT5812T	$	52.00	VFC
Part	AT5816A	Air Terminal - 5/8" Dia., 16"	ea	AT5816A	$	9.47	VFC
Part	AT5816C	Air Terminal - 5/8" Dia., 16"	ea	AT5816C	$	52.52	VFC
Part	AT5816T	Air Terminal - 5/8" Dia., 16"	ea	AT5816T	$	68.60	VFC
Part	AT5818A	Air Terminal - 5/8" Dia., 18"	ea	AT5818A	$	9.60	VFC
Part	AT5818C	Air Terminal - 5/8" Dia., 18"	ea	AT5818C	$	57.95	VFC
Part	AT5818T	Air Terminal - 5/8" Dia., 18"	ea	AT5818T	$	76.90	VFC
Part	AT5824A	Air Terminal - 5/8" Dia., 24"	ea	AT5824A	$	12.20	VFC
Part	AT5824C	Air Terminal - 5/8" Dia., 24"	ea	AT5824C	$	76.60	VFC
Part	AT5824T	Air Terminal - 5/8" Dia., 24"	ea	AT5824T	$	101.72	VFC
Part	AT5836A	Air Terminal - 5/8" Dia., 36"	ea	AT5836A	$	16.95	VFC
Part	AT5836C	Air Terminal - 5/8" Dia., 36"	ea	AT5836C	$	114.05	VFC
Part	AT5836T	Air Terminal - 5/8" Dia., 36"	ea	AT5836T	$	151.65	VFC
Part	AT5848A	Air Terminal - 5/8" Dia., 48"	ea	AT5848A	$	22.29	VFC

Part	AT5848C	Air Terminal - 5/8" Dia., 48"	ea	AT5848C	$	151.65	VFC
Part	AT5848T	Air Terminal - 5/8" Dia., 48"	ea	AT5848T	$	201.72	VFC
Part	AT5860A	Air Terminal - 5/8" Dia., 60"	ea	AT5860A	$	27.56	VFC
Part	AT5860C	Air Terminal - 5/8" Dia., 60"	ea	AT5860C	$	189.18	VFC
Part	AT5860T		ea	AT5860T	$	251.74	VFC
Part	AT5872A	Air Terminal - 5/8" Dia., 72"	ea	AT5872A	$	32.90	VFC
Part	AT5872C	Air Terminal - 5/8" Dia., 72"	ea	AT5872C	$	226.70	VFC
Part	AT5884A		ea	AT5884A	$	38.17	VFC
Part	AT5884C		ea	AT5884C	$	301.97	VFC
Part	AT5896A		ea	AT5896A	$	43.50	VFC
Part	AT5896C		ea	AT5896C	$	344.86	VFC
Part	ATB5810A	Air Terminal Assem. 5/8" x 10'	ea	ATB5810A	$	263.36	VFC
Part	ATE1212A	Air Terminal Extension Rods	ea	ATE1212A	$	4.90	VFC
Part	ATE1216A	Air Terminal Extension Rods	ea	ATE1216A	$	5.57	VFC
Part	ATE1218A	Air Terminal Extension Rods	ea	ATE1218A	$	6.28	VFC
Part	ATE1224A	Air Terminal Extension Rods	ea	ATE1224A	$	7.25	VFC
Part	ATE1236A	Air Terminal Extension Rods	ea	ATE1236A	$	9.58	VFC
Part	ATE1248A	Air Terminal Extension Rods	ea	ATE1248A	$	12.07	VFC
Part	ATE5812A	Air Terminal Extension Rods	ea	ATE5812A	$	6.25	VFC
Part	ATE5818A	Air Terminal Extension Rods	ea	ATE5818A	$	7.73	VFC
Part	ATE5824A	Air Terminal Extension Rods	ea	ATE5824A	$	9.19	VFC
Part	ATE5824C	Air Terminal Extension Rods	ea	ATE5824C	$	39.79	VFC
Part	ATE5836A	Air Terminal Extension Rods	ea	ATE5836A	$	12.12	VFC
Part	ATE5848A	Air Terminal Extension Rods	ea	ATE5848A	$	15.06	VFC
Part	BBCT	Beam Bonding Clamp, Tin	ea	BBCT	$	117.73	VFC
Part	BLA	Main Size Bonding Lug, Al	ea	BLA	$	7.29	VFC
Part	BLC	Main Size Bonding Lug, Cu	ea	BLC	$	14.77	VFC
Part	BLT	Main Size Bonding Lug, Tin	ea	BLT	$	15.56	VFC
Part	BPA	Bonding Plate, Al, 8"sq	ea	BPA	$	8.01	VFC
Part	BPC	Bonding Plate, Cu, 8" square	ea	BPC	$	24.56	VFC
Part	BPT	Bonding Plate, Tin, 8" square	ea	BPT	$	31.96	VFC
Part	BS1/0	Mold, Butt Splice 1/0 or 29	ea	BS1/0	$	149.00	VFC
Part	BS1C		ea	BS1C	$	149.00	VFC
Part	BS2/0	Mold, Butt Splice 2/0 to 2/0	ea	BS2/0	$	149.00	VFC
Part	BS250	Mold, Butt Splice 250 to 250	ea	BS250	$	149.00	VFC
Part	BS3/0		ea	BS3/0	$	149.00	VFC
Part	BS32		ea	BS32	$	149.00	VFC
Part	BS350	Mold, In-Line Splice 350MCM	ea	BS350	$	148.78	VFC
Part	BS4/0	Mold, Butt Splice 4/0 or 28	ea	BS4/0	$	149.00	VFC
Part	BST101	Ballasted Strike Term, 10', Z1	ea	BST101	$	1,156.18	VFC
Part	BST103	Ballasted Strike Term, 10', Z3	ea	BST103	$	1,598.72	VFC
Part	BSTBASE	3 BSTFOOT + 1 BSTFRAME1	ea	BSTBASE	$	792.94	VFC
Part	BSTFOOT	Concrete Foot for BST	ea	BSTFOOT	$	36.96	VFC
Part	BSTFRAME1	3 Leg Frame, SS, Zone 1	ea	BSTFRAME1	$	734.87	VFC
Part	BSTFRAME3	3 Leg Frame, SS, Zone 3	ea	BSTFRAME3	$	1,254.23	VFC
Part	BW38S		ea	BW38S	$	0.57	VFC
Part	CB12C	Air Terminal Concealed Base -	ea	CB12C	$	38.81	VFC
Part	CB516112S		ea	CB516112S	$	0.44	VFC
Part	CG1P-Schedule 40	Cond Guard Schedule 40 1"x10' PVC w/Clips	ea	CG1P	$	32.72	VFC
Part	CGS114Z	1-1/4" 1 Hole Zinc Strap	ea	CGS114Z	$	1.08	VFC
Part	CGS1S	Conduit Grd Strap 1" Stainless	ft	CGS1S	$	6.58	VFC
Part	CGS1Z	Conduit Grd Strap 1" Zinc	ft	CGS1Z	$	0.45	VFC
Part	CL1A	Cable Loop Class 1 Al	ea	CL1A	$	0.46	VFC
Part	CL1C	Cable Loop Class 1 Cu	ea	CL1C	$	0.99	VFC
Part	CL1CT		ea	CL1CT	$	1.19	VFC
Part	CL2A	Cable Loop Class 2 Al	ea	CL2A	$	0.62	VFC
Part	CL2C	Cable Loop Class 2 Cu	ea	CL2C	$	1.34	VFC
Part	CL2T	Cable Loop Class 2 Tinned	ea	CL2T	$	1.36	VFC
Part	CL3C	Cable Loop 0.875 Cu	ea	CL3C	$	1.85	VFC
Part	CL3T		ea	CL3T	$	1.96	VFC
Part	CLSA	Cable Loop Secondary Al	ea	CLSA	$	1.47	VFC
Part	CLSC	Cable Loop Secondary Cu	ea	CLSC	$	1.48	VFC
Part	CLST	Tinned Cable Clip	ea	CLST	$	1.58	VFC
Part	CLUG1/0P	Lug, 2 Hole Long Brl 3/8, 1/0	ea	CLUG1/0P	$	9.32	VFC
Part	CLUG1P	Lug, 2 Hole Long Brl 3/8, #1	ea	CLUG1P	$	8.29	VFC
Part	CLUG2	Lug, 2 Hole Long Brl 5/16 #2	ea	CLUG2	$	7.49	VFC
Part	CLUG2/0P	Lug, 2 Hole Long Brl 3/8, 2/0	ea	CLUG2/0P	$	9.50	VFC
Part	CLUG250P	Lug, 2 Hole Long Brl 3/8, 250	ea	CLUG250P	$	13.77	VFC
Part	CLUG2P	Lug, 2 Hole Long Brl 3/8, #2-3	ea	CLUG2P	$	7.72	VFC
Part	CLUG3/0P	Lug, 2 Hole Long Brl 3/8, 3/0	ea	CLUG3/0P	$	16.29	VFC
Part	CLUG350P	Lug, 2 Hole Long Brl 3/8, 350	ea	CLUG350P	$	16.61	VFC
Part	CLUG4/0P	Lug, 2 Hole Long Brl 3/8, 4/0	ea	CLUG4/0P	$	10.31	VFC

Part	CLUG4P	Lug, 2 Hole Long Brl 3/8, #4	ea	CLUG4P	$	7.33	VFC
Part	CLUG500P	Lug, 2 Hole Long Brl 3/8, 500	ea	CLUG500P	$	22.29	VFC
Part	CLUG6	Lug, 2 Hole Long Brl 3/8, #6	ea	CLUG6	$	7.14	VFC
Part	CLUG6P	Lug, 2 Hole Long Brl 3/8, #6	ea	CLUG6P	$	7.14	VFC
Part	CLUG750P	Lug, 2 Hole Long Brl 3/8, 750	ea	CLUG750P	$	37.88	VFC
Part	CLUG8P	Lug, 2 Hole Long Brl 3/8, #8	ea	CLUG8P	$	3.95	VFC
Part	CRCA	Cross Run Clamp, Aluminium	ea	CRCA	$	13.11	VFC
Part	CRCB	Cross Run Clamp, Bimetal	ea	CRCB	$	22.86	VFC
Part	CRCC	Cross Run Clamp, Cu	ea	CRCC	$	18.33	VFC
Part	CS1Z	1" 1 Hole Conduit Strap Zinc	ea	CS1Z	$	0.82	VFC
Part	CS34Z	3/4" 1 Hole Conduit Strap Zinc	ea	CS34Z	$	0.82	VFC
Part	EA112S	Expansion Anchor 1/4" x 1-1/2"	ea	EA112S	$	0.56	VFC
Part	EA1S	Expansion Anchor 1/4" x 1"	ea	EA1S	$	0.28	VFC
Part	EC12A	Air Term Ext Coupler 1/2" Al	ea	EC12A	$	4.39	VFC
Part	EC12C	Air Term Ext Coupler 1/2" Cu	ea	EC12C	$	8.20	VFC
Part	EC38C	Air Term Ext Coupler 1/2" Cu	ea	EC38C	$	8.20	VFC
Part	EC58A	Air Term Ext Coupler 1/2" Al	ea	EC58A	$	5.65	VFC
Part	EGS-RISER28U24	EGS Riser, LC28C, Up, 24"	ea	EGS-RISER28U24	$	65.06	VFC
Part	EGS-RISER29U24	EGS Riser, LC29C, Up, 24"	ea	EGS-RISER29U24	$	61.60	VFC
Part	EGS-RISER2TD24	EGS Riser, 2 Tinned, Down, 24"	ea	EGS-RISER2TD24	$	87.94	VFC
Part	EGS-RISER4/0D24	EGS Riser, 4/0 Bare, Down, 24"	ea	EGS-RISER4/0D24	$	94.85	VFC
Part	EXOI	Exolgnite w/Lyncole logo	ea	EXOI	$	23.14	VFC
Part	FA1212FFA	Air Terminal Flexible Adapter	ea	FA1212FFA	$	26.73	VFC
Part	FA1258FFA	Air Terminal Flexible Adapter	ea	FA1258FFA	$	40.17	VFC
Part	FA1258FFC	Air Terminal Flexible Adapter	ea	FA1258FFC	$	63.71	VFC
Part	FA12FFA	Flexible Adapter 1/2" Fem Al	ea	FA12FFA	$	40.17	VFC
Part	FA12FFC	Flexible Adapter 1/2" Fem Cu	ea	FA12FFC	$	63.71	VFC
Part	FA12FMA	Flex Adapt 1/2" Fem to Male Al	ea	FA12FMA	$	30.12	VFC
Part	FA12FMC	Flex Adapt 1/2" Fem to Male Cu	ea	FA12FMC	$	36.40	VFC
Part	FA5812FMA	Air Terminal Flexible Adapter	ea	FA5812FMA	$	40.17	VFC
Part	FA5812FMC		ea	FA5812FMC	$	46.07	VFC
Part	FA58FFA	Flexible Adapter 5/8" Fem Al	ea	FA58FFA	$	36.14	VFC
Part	FA58FMA	Flexible Adapter 5/8" Fem Al	ea	FA58FMA	$	30.12	VFC
Part	FA58FMC		ea	FA58FMC	$	36.40	VFC
Part	FBCA	Flange Bonding Clamp, Al	ea	FBCA	$	5.98	VFC
Part	FBCC	Flange Bonding Clamp, Cu	ea	FBCC	$	9.85	VFC
Part	FBCT	Flange Bonding Clamp, Cu	ea	FBCT	$	10.16	VFC
Part	FHS0420-24		ea	FHS0420-24	$	0.39	VFC
Part	FHS0420-28		ea	FHS0420-28	$	0.61	VFC
Part	FL30BOX	FL30 Box - 13' x 24" x 18"	ea	FL30BOX	$	353.93	VFC
Part	FL30LID	FL30 "ELECTRIC" LID & Bolts	ea	FL30LID	$	195.29	VFC
Part	FL8BOX	Christy Box	ea	FL8BOX	$	39.92	VFC
Part	FL8D	Christy Lid	ea	FL8D	$	22.58	VFC
Part	FM10	Fiberglass Mast, 10' + 2' AT	ea	FM10	$	629.59	VFC
Part	FM16-32		ea	FM16-32	$	1,178.76	VFC
Part	FM20	Fiberglass Mast, 20' + 2' AT	ea	FM20	$	866.24	VFC
Part	FM-CAP-2	Cap Asm for 2" Fiberglass Mast	ea	FM-CAP-2	$	951.07	VFC
Part	FR34C	Floor Gnd Recep 3/4" Set Screw	ea	FR34C	$	71.90	VFC
Part	FRT12C		ea	FRT12C	$	127.63	VFC
Part	FRT34C	Floor Gnd Recep 3/4" Threaded	ea	FRT34C	$	71.01	VFC
Part	FRT58C		ea	FRT58C	$	127.63	VFC
Part	G08T	Concrete Traffic Valve box	ea	G08T	$	138.91	VFC
Part	G08X12	12" Concrete Extension	ea	G08X12	$	62.89	VFC
Part	G12BOX	G12 Bpx	ea	G12BOX	$	533.17	VFC
Part	G12C	Lid	ea	G12C	$	470.35	VFC
Part	G12X12	Extension	ea	G12X12	$	248.15	VFC
Part	G5-71CT	Cast Iron Grate Lid	ea	G5-71CT	$	70.26	VFC
Part	G5BOX	G05T Box 12" Import	ea	G5BOX	$	130.59	VFC
Part	G5BOX-US	G05T Box 12" Domestic	ea	G5BOX-US	$	131.19	VFC
Part	G5C	G05CT Lid "GROUND" Import	ea	G5C	$	98.11	VFC
Part	G5C-US	G05CT Lid "GROUND" Domestic	ea	G5C-US	$	106.90	VFC
Part	G5VP	Traffic Box 12" Vandal Resist	ea	G5VP	$	153.97	VFC
Part	G5X	*Use G5X12	ea	G5X	$	55.27	VFC
Part	G5X12	Extension for G5BOX, 12" High	ea	G5X12	$	26.13	VFC
Part	G5XP12	PVC Extension, 12"	ea	G5XP12	$	21.97	VFC
Part	G-GRAVEL-BAG	50# Bag of Grounding Gravel	ea	G-GRAVEL-BAG	$	21.01	VFC
Part	GP1224	Ground Plate, Cu, 12"x24"	ea	GP1224	$	91.26	VFC
Part	GP1818	Ground Plate 18x18", Cu	ea	GP1818	$	143.05	VFC
Part	GR110S		ea	GR110S	$	560.65	VFC
Part	GR128C	1/2" x 8' Cu Clad Grd Rod	ea	GR128C	$	27.41	VFC
Part	GR341/0	Mold, 3/4" Rod to 1/0 or 29	ea	GR341/0	$	191.57	VFC
Part	GR3410C	3/4" x 10' Cu Clad Grd Rod	ea	GR3410C	$	65.37	VFC

Part	GR3410S	3/4"x10' Stainless Grd Rod	ea	GR3410S	$	261.95	VFC
Part	GR341C		ea	GR341C	$	314.54	VFC
Part	GR342/0	Mold, 3/4" Rod to 2/0	ea	GR342/0	$	191.57	VFC
Part	GR34250		ea	GR34250	$	191.57	VFC
Part	GR3432		ea	GR3432	$	191.57	VFC
Part	GR344/0	Mold, 3/4" Rod to 4/0 or 28	ea	GR344/0	$	191.57	VFC
Part	GR5810C	5/8" x 10' Copper Clad Ground	ea	GR5810C	$	43.66	VFC
Part	GR5810S	5/8"x10' Stainless Grd Rod	ea	GR5810S	$	136.57	VFC
Part	GR58250		ea	GR58250	$	191.57	VFC
Part	GR5828		ea	GR5828	$	191.57	VFC
Part	GR5829		ea	GR5829	$	191.57	VFC
Part	GR5832		ea	GR5832	$	191.57	VFC
Part	GR584/0		ea	GR584/0	$	191.57	VFC
Part	GR588C	5/8" x 8' Copper Clad Ground R	ea	GR588C	$	36.26	VFC
Part	GRC34C	Ground Rod Clamp, U Bolt, 3/4"	ea	GRC34C	$	15.62	VFC
Part	GRCO34C	Ground Rod Coupler, 3/4" Cu	ea	GRCO34C	$	11.27	VFC
Part	GRCO58C	Ground Rod Coupler, 5/8" Cu	ea	GRCO58C	$	8.40	VFC
Part	GRDH34	Ground Rod Drive Head, 3/4"	ea	GRDH34	$	18.65	VFC
Part	GRDS34	Ground Rod Drive Stud, 3/4"	ea	GRDS34	$	6.73	VFC
Part	GRT3410C	3/4x10 Threaded Grd Rod Cu Cla	ea	GRT3410C	$	49.73	VFC
Part	GRT3410S	3/4x10 Threaded Grd Rod SS	ea	GRT3410S	$	163.72	VFC
Part	GRT5810C	5/8x10 Threaded Grd Rod Cu Cla	ea	GRT5810C	$	44.18	VFC
Part	GT34#2	Mold, 3/4" Rod to #2, Thru	ea	GT34#2	$	191.57	VFC
Part	GT341/0	Mold, 3/4" Rod to 1/0 or 29	ea	GT341/0	$	191.57	VFC
Part	GT341C		ea	GT341C	$	191.57	VFC
Part	GT342/0	Mold, 3/4" Rod to 2/0, Thru	ea	GT342/0	$	191.57	VFC
Part	GT34250	250 mcm to 3/4 Grd Rd	ea	GT34250	$	191.57	VFC
Part	GT3428		ea	GT3428	$	191.57	VFC
Part	GT343/0	Mold, 3/4" Rod to 3/0, Thru	ea	GT343/0	$	191.57	VFC
Part	GT3432	Mold, 3/4" Rod to 32 Cable	ea	GT3432	$	191.57	VFC
Part	GT344/0	Mold, 3/4" Rod to 4/0 or 28	ea	GT344/0	$	191.57	VFC
Part	GT34500	Mold, 3/4" Rod to 500 MCM	ea	GT34500	$	264.55	VFC
Part	GT581/0		ea	GT581/0	$	191.57	VFC
Part	GT582/0		ea	GT582/0	$	191.57	VFC
Part	GT58250		ea	GT58250	$	191.57	VFC
Part	GT5828		ea	GT5828	$	191.57	VFC
Part	GT5829		ea	GT5829	$	191.57	VFC
Part	GT583/0		ea	GT583/0	$	191.57	VFC
Part	GT5832		ea	GT5832	$	191.57	VFC
Part	GT584/0		ea	GT584/0	$	191.57	VFC
Part	GUN20	B12S20 20oz Sausage Gun	ea	GUN20	$	102.67	VFC
Part	HAH2Q3C		ea	HAH2Q3C	$	229.04	VFC
Part	HB1412S	Hex Bolt 1/4-20 x 1/2" SS	ea	HB1412S	$	0.14	VFC
Part	HB141S	Hex Bolt 1/4-20 x 1" SS	ea	HB141S	$	0.36	VFC
Part	HB38112S	Hex Bolt 3/8-16 x 1-1/2" SS	ea	HB38112S	$	1.00	VFC
Part	HB38114S	Hex Bolt 3/8-16 x 1-1/4" SS	ea	HB38114S	$	1.42	VFC
Part	HB3812S	Hex Bolt 3/8"-16 x 1/2" SS	ea	HB3812S	$	0.34	VFC
Part	HB381S	Hex Bolt 3/8-16 x 1" SS	ea	HB381S	$	0.75	VFC
Part	HB38212S	Hex Bolt 3/8x2-1/2 Prt Thd SS	ea	HB38212S	$	0.62	VFC
Part	HB38214S	Hex Bolt 3/8x2-1/4 Prt Thd SS	ea	HB38214S	$	0.97	VFC
Part	HB3834S	Hex Bolt 3/8-16 x 3/4" SS	ea	HB3834S	$	0.34	VFC
Part	HB51612S	Hex Bolt 5/16-18 x 1/2" SS	ea	HB51612S	$	0.41	VFC
Part	HB5161S	Hex Bolt 5/16-18 x 1" SS	ea	HB5161S	$	0.46	VFC
Part	HB5162S	Hex Bolt 5/16-18 x 2" SS	ea	HB5162S	$	0.89	VFC
Part	HB51634S	Hex Bolt 5/16-18 x 3/4" SS	ea	HB51634S	$	0.46	VFC
Part	HBB12A	Bond Point Base Aluminium 1/2	ea	HBB12A	$	6.82	VFC
Part	HBB12C		ea	HBB12C	$	12.45	VFC
Part	HBB38C		ea	HBB38C	$	12.45	VFC
Part	HBB58A	Bond Point Base Aluminium 5/8	ea	HBB58A	$	6.82	VFC
Part	HBB58C		ea	HBB58C	$	12.45	VFC
Part	HC1	Handle Clamp M	ea	HC1	$	100.25	VFC
Part	HHN14S	Heavy Hex Nut 1/4-20 SS	ea	HHN14S	$	0.17	VFC
Part	HN12S	Hex Nut 1/2-13 SS	ea	HN12S	$	0.28	VFC
Part	HN14S	Hex Nut 1/4-20 SS	ea	HN14S	$	0.08	VFC
Part	HN38S	Hex Nut 3/8-16 SS	ea	HN38S	$	0.17	VFC
Part	HN516S	Hex Nut 5/16-18 SS	ea	HN516S	$	0.20	VFC
Part	ISA	Inline Cable Splice, Al	ea	ISA	$	9.01	VFC
Part	ISB	Inline Cable Splice, Bi	ea	ISB	$	13.02	VFC
Part	ISC	Inline Cable Splice, Cu	ea	ISC	$	19.03	VFC
Part	K2-2-20CS	Lyncole XIT 20ft Chem Rod	ea	K2-2-20CS	$	1,734.54	VFC
Part	K2L-10CS	Chemical Ground Rod	ea	K2L-10CS	$	1,258.95	VFC
Part	LC2411A	LP Conductor, Class II Al	ft	LC2411A	$	3.82	VFC

Part	LC2414A	LP Conductor, Class I Al	ft	LC2414A	$	1.91	VFC
Part	LC2814C	LP Conductor, Class II Cu	ft	LC2814C	$	6.31	VFC
Part	LC2814T	LP Conductor, Class II Tinned	ft	LC2814T	$	6.79	VFC
Part	LC2817C	LP Conductor, Class I Cu	ft	LC2817C	$	3.60	VFC
Part	LC2917C	Class I Copper LP Conductor	ft	LC2917C	$	4.46	VFC
Part	LC2817T	LP Conductor, Class I Tinned	ft	LC2817T	$	3.86	VFC
Part	LC3217C	LP Conductor, 32x17AWG Cu	ft	LC3217C	$	3.18	VFC
Part	LC3217T	LP Conductor, 32x17AWG Tinned	ft	LC3217T	$	3.56	VFC
Part	LGB-12C	Ground Bar Assembly, 12" C Pat	ea	LGB-12C	$	285.53	VFC
Part	LGB-12CT		ea	LGB-12CT	$	272.06	VFC
Part	LGB-12J	Ground Bar Assembly, 12" J Pat	ea	LGB-12J	$	285.53	VFC
Part	LGB-12JT		ea	LGB-12JT	$	272.06	VFC
Part	LGB-12M		ea	LGB-12M	$	247.34	VFC
Part	LGB-12MT		ea	LGB-12MT	$	272.06	VFC
Part	LGB-20M		ea	LGB-20M	$	305.22	VFC
Part	LGB-20MT		ea	LGB-20MT	$	327.42	VFC
Part	LGB-24C	Ground Bar Assembly, 24" C Pat	ea	LGB-24C	$	417.72	VFC
Part	LGB-24CT		ea	LGB-24CT	$	398.03	VFC
Part	LGB-24J	Ground Bar Assembly, 24" J Pat	ea	LGB-24J	$	417.72	VFC
Part	LGB-24JT		ea	LGB-24JT	$	398.03	VFC
Part	LGB-24M		ea	LGB-24M	$	361.85	VFC
Part	LGB-24MT		ea	LGB-24MT	$	398.03	VFC
Part	LGB-36C	Ground Bar Assembly, 36" C Pat	ea	LGB-36C	$	642.48	VFC
Part	LGB-36CT		ea	LGB-36CT	$	612.20	VFC
Part	LGB-36J	Ground Bar Assembly, 36" J Pat	ea	LGB-36J	$	642.48	VFC
Part	LGB-36JT		ea	LGB-36JT	$	612.20	VFC
Part	LGB-36M		ea	LGB-36M	$	556.54	VFC
Part	LGB-36MT		ea	LGB-36MT	$	612.20	VFC
Part	LGB-48C	Ground Bar Assembly, 48" C Pat	ea	LGB-48C	$	877.60	VFC
Part	LGB-48CT		ea	LGB-48CT	$	836.23	VFC
Part	LGB-48J	Ground Bar Assembly, 48" J Pat	ea	LGB-48J	$	877.54	VFC
Part	LGB-48JT		ea	LGB-48JT	$	836.23	VFC
Part	LGB-48M		ea	LGB-48M	$	760.22	VFC
Part	LGB-48MT		ea	LGB-48MT	$	836.23	VFC
Part	LGB-BRACKET	1" Wall Mount Bracket	ea	LGB-BRACKET	$	11.91	VFC
Part	LNCII-BAG	50# Bag of Lynconite II	ea	LNCII-BAG	$	46.22	VFC
Part	LW12S	Washer Split Lock 1/2" SS	ea	LW12S	$	0.17	VFC
Part	LW14S	Washer Split Lock 1/4" SS	ea	LW14S	$	0.09	VFC
Part	LW38S	Washer Split Lock 3/8" SS	ea	LW38S	$	0.08	VFC
Part	LW516S	Washer Split Lock 5/16" SS	ea	LW516S	$	0.15	VFC
Part	M110	Adhesive 10.1oz Tube 24/Carton	ea	M110	$	13.47	VFC
Part	M120	Adhesive 20oz Sausage 12/Cartn	ea	M120	$	28.68	VFC
Part	MBG	2 Mast Bkts 1.25-3.5" OD Galv	ea	MBG	$	196.54	VFC
Part	MBRUSH	Mold cleaning brush	ea	MBRUSH	$	19.74	VFC
Part	MPACK		ea	MPACK	$	5.21	VFC
Part	MSEAL	Mold Sealing Compound	ea	MSEAL	$	46.91	VFC
Part	N112S	Nail 4D ringed 1-1/2" SS	ea	N112S	$	0.15	VFC
Part	N2S	Nail 6D ringed 2" SS	ea	N2S	$	0.18	VFC
Part	OPR 30	ESE Air Terminal, 30 µs	ea	OPR 30	$	1,477.71	VFC
Part	OPR 45	ESE Air Terminal, 45 µs	ea	OPR 45	$	2,064.22	VFC
Part	OPR 60	ESE Air Terminal, 60 µs	ea	OPR 60	$	2,742.33	VFC
Part	OPRA12FA		ea	OPRA12FA	$	6.71	VFC
Part	OPRAS	OPR adapter, Stainless	ea	OPRAS	$	161.08	VFC
Part	OPRBS	25" Mast Base for RTHA Masts	ea	OPRBS	$	812.54	VFC
Part	OPR-SK	Screw Kit Steel Ex Mast ø35/42	ea	OPR-SK	$	8.01	VFC
Part	OPR-SK4250	Screw Kit Steel Ex Mast ø42/50	ea	OPR-SK4250	$	124.72	VFC
Part	P#2#2	Mold, Parallel #2 to #2	ea	P#2#2	$	149.00	VFC
Part	P2/02/0	Mold, Parallel 2/0 to 2/0	ea	P2/02/0	$	149.00	VFC
Part	P4/01/0	Mold, Parallel 4/0 to 1/0	ea	P4/01/0	$	226.41	VFC
Part	P4/04/0	Mold, Parallel 4/0 or 28	ea	P4/04/0	$	149.00	VFC
Part	PB11212A	Pipe Railing Base, Al	ea	PB11212A	$	36.32	VFC
Part	PB11212T	Pipe Railing Base, Tinned Cu	ea	PB11212T	$	58.90	VFC
Part	PB11238T	Pipe Railing Base, Tinned Cu	ea	PB11238T	$	58.90	VFC
Part	PB11258A	Pipe Railing Base, Al	ea	PB11258A	$	36.32	VFC
Part	PB11258T	Pipe Railing Base, Tinned Cu	ea	PB11258T	$	58.90	VFC
Part	PB1212A	Pipe Railing Base, Al	ea	PB1212A	$	36.24	VFC
Part	PB1212T	Pipe Railing Base, Tinned Cu	ea	PB1212T	$	57.61	VFC
Part	PB1238T	Pipe Railing Base, Tinned Cu	ea	PB1238T	$	57.61	VFC
Part	PB1258A	Pipe Railing Base, Al	ea	PB1258A	$	36.24	VFC
Part	PB1258T		ea	PB1258T	$	57.61	VFC
Part	PB21212A	Pipe Railing Base, Al	ea	PB21212A	$	38.42	VFC
Part	PB21212T	Pipe Railing Base, Tinned Cu	ea	PB21212T	$	68.24	VFC

Part	PB21238T	Pipe Railing Base, Tinned Cu	ea	PB21238T	$	68.24	VFC
Part	PB21258A	Pipe Railing Base, Al	ea	PB21258A	$	38.44	VFC
Part	PB21258T	Pipe Railing Base, Tinned Cu	ea	PB21258T	$	68.24	VFC
Part	PB412A	Pipe Railing Base, Al	ea	PB412A	$	42.41	VFC
Part	PB412T	Pipe Railing Base, Tinned Cu	ea	PB412T	$	78.86	VFC
Part	PB438T	Pipe Railing Base, Tinned Cu	ea	PB438T	$	78.86	VFC
Part	PB458A	Pipe Railing Base, Al	ea	PB458A	$	42.46	VFC
Part	PB458T		ea	PB458T	$	78.86	VFC
Part	PB612A	Pipe Railing Base, Al	ea	PB612A	$	59.07	VFC
Part	PB612T	Pipe Railing Base, Tinned Cu	ea	PB612T	$	120.43	VFC
Part	PB638T	Pipe Railing Base, Tinned Cu	ea	PB638T	$	120.42	VFC
Part	PB6585		ea	PB6585	$	120.42	VFC
Part	PB658A	Pipe Railing Base, Al	ea	PB658A	$	59.07	VFC
Part	PC112A	Pipe Clamp, Al, 1.5 to 2	ea	PC112A	$	24.92	VFC
Part	PC112C	Pipe Clamp, Cu, 1.5 to 2	ea	PC112C	$	61.39	VFC
Part	PC112T	Pipe Clamp, Tinned, 1.5-2	ea	PC112T	$	64.62	VFC
Part	PC12A	Pipe Clamp, Al, 0.5 to 1	ea	PC12A	$	24.46	VFC
Part	PC12C	Pipe Clamp, Cu, 0.5 to 1	ea	PC12C	$	31.30	VFC
Part	PC12T	Pipe Clamp, Tinned, 0.5-1	ea	PC12T	$	32.93	VFC
Part	PC212A	Pipe Clamp, Al, 2.5 to 3.5	ea	PC212A	$	27.29	VFC
Part	PC212C	Pipe Clamp, Cu, 2.25 to 3.5	ea	PC212C	$	64.42	VFC
Part	PC212T	Pipe Clamp, Tinned, 2.25-3.5	ea	PC212T	$	67.80	VFC
Part	PC4A	Pipe Clamp, Al, 4 to 5	ea	PC4A	$	32.07	VFC
Part	PC4C	Pipe Clamp, Cu, 4 to 5	ea	PC4C	$	83.96	VFC
Part	PC4T	Pipe Clamp, Tinned, 4-5	ea	PC4T	$	88.38	VFC
Part	PC6A	Pipe Clamp, Al, 6	ea	PC6A	$	51.31	VFC
Part	PC6C	Pipe Clamp, Cu, 6	ea	PC6C	$	100.13	VFC
Part	PC6T	Pipe Clamp, Tinned, 6	ea	PC6T	$	105.40	VFC
Part	PENE8	Penetrox E Ox Inhibitor Cu-Cu	ea	PENE8	$	202.71	VFC
Part	PS10A	Pipe Strap, Al, 10-12"	ea	PS10A	$	41.06	VFC
Part	PS10T	Pipe Strap, Tinned, 10-12"	ea	PS10T	$	90.63	VFC
Part	PS3A	Pipe Strap, Al, 3-4"	ea	PS3A	$	31.88	VFC
Part	PS3T	Pipe Strap, Tinned, 3-4"	ea	PS3T	$	59.88	VFC
Part	PS4A	Pipe Strap, Al, 4"	ea	PS4A	$	35.33	VFC
Part	PS4T	Pipe Strap, Tinned, 4"	ea	PS4T	$	64.76	VFC
Part	PS6A	Pipe Strap, Al, 6-8"	ea	PS6A	$	39.23	VFC
Part	PS6T	Pipe Strap, Tinned, 6-8"	ea	PS6T	$	70.65	VFC
Part	PS8A	Pipe Strap, Al, 8-10"	ea	PS8A	$	60.35	VFC
Part	PS8C	Pipe Strap, Cu, 8-10"	ea	PS8C	$	77.62	VFC
Part	PS8T	Pipe Strap, Tinned, 8-10"	ea	PS8T	$	77.62	VFC
Part	PSA	Parallel Splice, Al	ea	PSA	$	4.59	VFC
Part	PSB	Parallel Splice, Bimetal	ea	PSB	$	8.80	VFC
Part	PSC	Parallel Splice, Cu	ea	PSC	$	9.99	VFC
Part	PSDBC	Parallel Splice Direct Bur. Cu	ea	PSDBC	$	8.14	VFC
Part	PST	Parallel Splice, Tinned	ea	PST	$	11.95	VFC
Part	PSTA	Parallel Splice, Threaded, Al	ea	PSTA	$	6.58	VFC
Part	PSTC	Parallel Splice, Threaded, Cu	ea	PSTC	$	12.12	VFC
Part	PVC1	1" PVC Conduit	ft	PVC1	$	1.03	VFC
Part	PVC114	1-1/4" SCH 40 PVC Conduit	ft	PVC114	$	1.29	VFC
Part	PVCCAP1	1" PVC Conduit Cap	ea	PVCCAP1	$	3.50	VFC
Part	PVCCAP112	1-1/2" PVC Conduit Cap	ea	PVCCAP112	$	4.20	VFC
Part	PVCCAP114	1-1/4" PVC Conduit Cap	ea	PVCCAP114	$	3.46	VFC
Part	RMB12A	Ridge Mount Base 1/2" Al	ea	RMB12A	$	13.10	VFC
Part	RMB12C	Ridge Mount Base 1/2" Cu	ea	RMB12C	$	24.09	VFC
Part	RMB12T	Air Terminal Ridge Mount Base	ea	RMB12T	$	71.10	VFC
Part	RMB38C	Ridge Mount Base 3/8" Cu	ea	RMB38C	$	24.09	VFC
Part	RMB38T	Air Terminal Ridge Mount Base	ea	RMB38T	$	71.10	VFC
Part	RB41/0	Mold, 1/0 or 29 to #4 Rebar	ea	RB41/0	$	149.00	VFC
Part	RB41C		ea	RB41C	$	149.00	VFC
Part	RB44/0	Mold, 4/0 or 28 to #4 Rebar	ea	RB44/0	$	149.00	VFC
Part	RMB58A	Ridge Mount Base 5/8" Al	ea	RMB58A	$	13.10	VFC
Part	RMB58C	Air Terminal Ridge Mount Base	ea	RMB58C	$	24.09	VFC
Part	RMB58T	Air Terminal Ridge Mount Base	ea	RMB58T	$	71.10	VFC
Part	RB81/0	Mold, 1/0 or 29 to #8 Rebar	ea	RB81/0	$	149.00	VFC
Part	RB81C		ea	RB81C	$	149.00	VFC
Part	RB84/0	Mold, 4/0 or 28 to #8 Rebar	ea	RB84/0	$	149.00	VFC
Part	RBC12A	Concealed Ridge Base 12" Al	ea	RBC12A	$	43.18	VFC
Part	RBC12C	Concealed Ridge Base 12" Cu	ea	RBC12C	$	83.74	VFC
Part	RGKIT4/0C	Rebar Ground Kit, 4/0	ea	RGKIT4/0C	$	67.45	VFC
Part	SA1212FFA	Swivel Adapter	ea	SA1212FFA	$	10.75	VFC
Part	SA1212FFC	Swivel Adapter	ea	SA1212FFC	$	27.11	VFC
Part	SA1212FMA	Swivel Adapter, 1/2" Al	ea	SA1212FMA	$	12.52	VFC

Part	SA1212FMC	Swivel Adapter	ea	SA1212FMC	$	20.42	VFC
Part	SA1258FFA	Swivel Adapter	ea	SA1258FFA	$	12.52	VFC
Part	SA3812FFC	Swivel Adapter	ea	SA3812FFC	$	22.73	VFC
Part	SA3838FFC	Swivel Adapter	ea	SA3838FFC	$	21.87	VFC
Part	SA3838FMC	Swivel Adapter	ea	SA3838FMC	$	28.21	VFC
Part	SA3858FFC	Swivel Adapter	ea	SA3858FFC	$	30.05	VFC
Part	SA3858FFT		ea	SA3858FFT	$	39.71	VFC
Part	SA5858FFA	Swivel Adapter	ea	SA5858FFA	$	10.59	VFC
Part	SA5858FMA	Swivel Adapter	ea	SA5858FMA	$	12.48	VFC
Part	SBLA	Secondary Bonding Lug, Al	ea	SBLA	$	5.50	VFC
Part	SBLC	Secondary Bonding Lug, Cu	ea	SBLC	$	7.89	VFC
Part	SBLT	Secondary Bonding Lug, Tinned	ea	SBLT	$	8.47	VFC
Part	SC10A	14 AWG, 10 Strand Al	ft	SC10A	$	0.55	VFC
Part	SC14C	17 AWG, 14 Strand Cu	ft	SC14C	$	1.22	VFC
Part	SC4A	4 AWG, Solid Al	ft	SC4A	$	0.35	VFC
Part	SC4C	4 AWG, Solid Cu	ft	SC4C	$	1.66	VFC
Part	SC6C	6 AWG, Solid Cu	ft	SC6C	$	1.33	VFC
Part	SMS	TEKS #10-14 x 3/4" SS	ea	SMS	$	0.14	VFC
Part	SPSA	Secondary Parallel Splice Al	ea	SPSA	$	4.18	VFC
Part	SPSC	Secondary Parallel Splice Cu	ea	SPSC	$	7.03	VFC
Part	SPST		ea	SPST	$	7.70	VFC
Part	SS51658S		ea	SS51658S	$	0.26	VFC
Part	SSB12A	Standing Seam Base 1/2" Al	ea	SSB12A	$	14.05	VFC
Part	SSB12C	Standing Seam Base 1/2" Cu	ea	SSB12C	$	33.08	VFC
Part	SSB38C	Standing Seam Base 3/8" Cu	ea	SSB38C	$	33.08	VFC
Part	SSB58A	Standing Seam Base 5/8" Al	ea	SSB58A	$	14.05	VFC
Part	SSB58C	Standing Seam Base 5/8" Cu	ea	SSB58C	$	33.08	VFC
Part	SSRCA	Standing Seam Roof Clamp Al	ea	SSRCA	$	4.96	VFC
Part	SSRCC	Standing Seam Roof Clamp Cu	ea	SSRCC	$	10.07	VFC
Part	SSS	TEKS #12-14 x 1-1/4" SS	ea	SSS	$	0.28	VFC
Part	ST12A	Safety Tip, Tapered, 1/2" Al	ea	ST12A	$	20.92	VFC
Part	ST12C	Safety Tip - Tapered - 1/2" Co	ea	ST12C	$	34.14	VFC
Part	ST38C	Safety Tip - Tapered - 3/8" Co	ea	ST38C	$	34.49	VFC
Part	ST58A	Safety Tip, Tapered, 5/8" Al	ea	ST58A	$	24.33	VFC
Part	ST58C	Safety Tip - Tapered - 5/8" Co	ea	ST58C	$	34.49	VFC
Part	STT12A	Safety Tip, Threaded, 1/2" Al	ea	STT12A	$	9.64	VFC
Part	STT12C		ea	STT12C	$	17.32	VFC
Part	STT58A	Safety Tip, Threaded, 5/8" Al	ea	STT58A	$	9.64	VFC
Part	STT58C		ea	STT58C	$	17.32	VFC
Part	SW12S	Star Washer 1/2" SS	ea	SW12S	$	0.42	VFC
Part	SW14S	Star Washer 1/4" SS	ea	SW14S	$	0.04	VFC
Part	SW38S	Star Washer 3/8" SS	ea	SW38S	$	0.15	VFC
Part	SW516S	Star Washer 5/16" SS	ea	SW516S	$	0.11	VFC
Part	T#2#2	Mold, #2 Run to #2 Tap, T	ea	T#2#2	$	149.00	VFC
Part	T1/01/0	Mold, 1/0 or 29 to 1/0 or 29	ea	T1/01/0	$	149.00	VFC
Part	T1/01C		ea	T1/01C	$	149.00	VFC
Part	T1C1/0		ea	T1C1/0	$	149.00	VFC
Part	T1C1C		ea	T1C1C	$	149.00	VFC
Part	T2/0#2		ea	T2/0#2	$	149.00	VFC
Part	T2/01/0	Mold, 2/0 to 1/0 or 29	ea	T2/01/0	$	134.33	VFC
Part	T2/01C		ea	T2/01C	$	149.00	VFC
Part	T2/02/0	Mold, 2/0 Run to 2/0 Tap, T	ea	T2/02/0	$	149.00	VFC
Part	T2/032	Mold, T-style, 2/0 Run 32mm^2	ea	T2/032	$	149.00	VFC
Part	T2/04/0	Mold, 2/0 to 4/0 or 28	ea	T2/04/0	$	149.00	VFC
Part	T2502/0		ea	T2502/0	$	149.00	VFC
Part	T250250	Mold, 250 to 250	ea	T250250	$	149.00	VFC
Part	T2503/0	Mold, 250 Run to 3/0 Tap, T	ea	T2503/0	$	149.00	VFC
Part	T2504/0	Mold, 250 to 4/0 or 28	ea	T2504/0	$	149.00	VFC
Part	T3/01/0	Mold, 3/0 Run to 1/0 Tap, T	ea	T3/01/0	$	149.00	VFC
Part	T3/01C		ea	T3/01C	$	149.00	VFC
Part	T3/03/0	Mold, 3/0 Run to 3/0 Tap, T	ea	T3/03/0	$	149.00	VFC
Part	T3/04/0	Mold, 3/0 Run to 4/0 Tap, T	ea	T3/04/0	$	149.00	VFC
Part	T3232	#32 to #32 "T"	ea	T3232	$	149.00	VFC
Part	T4/0#2	Mold, T-style, 4/0 Run #2 Tap	ea	T4/0#2	$	149.00	VFC
Part	T4/01/0	Mold, 4/0 or 28 to 1/0 or 29	ea	T4/01/0	$	149.00	VFC
Part	T4/01C		ea	T4/01C	$	149.00	VFC
Part	T4/02/0	Mold, 4/0 or 28 to 2/0	ea	T4/02/0	$	149.00	VFC
Part	T4/0250		ea	T4/0250	$	149.00	VFC
Part	T4/032	Mold, T-style, 4/0 Run 32mm^2	ea	T4/032	$	149.00	VFC
Part	T4/04/0	Mold, 4/0 or 28 to 4/0 or 28	ea	T4/04/0	$	149.00	VFC
Part	T500250		ea	T500250	$	149.00	VFC
Part	T500500		ea	T500500	$	149.00	VFC

Part	T7502/0	Mold, T-style, 750 Run 2/0 Tap	ea	T7502/0	$	149.00	VFC
Part	TCA	T Connector, Al	ea	TCA	$	8.68	VFC
Part	TCC	T Connector, Cu	ea	TCC	$	15.69	VFC
Part	TCT	Cable Tee Clamp, Tinned Copper	ea	TCT	$	16.48	VFC
Part	TKUB12A	TKU Base, Al 1/2"	ea	TKUB12A	$	12.62	VFC
Part	TKUB12A-US		ea	TKUB12A-US	$	20.40	VFC
Part	TKUB12C	TKU Base, Cu 1/2"	ea	TKUB12C	$	39.31	VFC
Part	TKUB12C-US		ea	TKUB12C-US	$	61.26	VFC
Part	TKUB12T		ea	TKUB12T	$	46.65	VFC
Part	TKUB38C	TKU Base, Cu 3/8"	ea	TKUB38C	$	41.46	VFC
Part	TKUB38C-US		ea	TKUB38C-US	$	61.26	VFC
Part	TKUB38T		ea	TKUB38T	$	46.57	VFC
Part	TKUB58A	TKU Base, Al 5/8"	ea	TKUB58A	$	15.48	VFC
Part	TKUB58A-US		ea	TKUB58A-US	$	20.40	VFC
Part	TKUB58C	TKU Base, Cu 5/8"	ea	TKUB58C	$	39.18	VFC
Part	TKUB58C-US		ea	TKUB58C-US	$	61.26	VFC
Part	TKUB58T		ea	TKUB58T	$	45.47	VFC
Part	TR12A	Through Roof, 12" Al	ea	TR12A	$	83.15	VFC
Part	TR12B	Through Roof, 12" Bimetal	ea	TR12B	$	83.15	VFC
Part	TR12C	Through Roof, 12" Cu	ea	TR12C	$	106.65	VFC
Part	TR18A	Through Roof, 18" Al	ea	TR18A	$	85.78	VFC
Part	TR18B	Through Roof, 18" Bimetal	ea	TR18B	$	89.54	VFC
Part	TR18C	Through Roof, 18" Cu	ea	TR18C	$	109.29	VFC
Part	TR24A	Through Roof, 24" Al	ea	TR24A	$	88.42	VFC
Part	TR24B		ea	TR24B	$	92.18	VFC
Part	TR24C		ea	TR24C	$	111.92	VFC
Part	TRC114A	Cond Cap Through Roof Al 1.25"	ea	TRC114A	$	34.53	VFC
Part	TRC114B	Cond Cap Through Roof Bi 1.25"	ea	TRC114B	$	40.26	VFC
Part	TRC114C	Cond Cap Through Roof Cu 1.25"	ea	TRC114C	$	49.26	VFC
Part	TRC1A	Cond Cap Through Roof Al 1"	ea	TRC1A	$	33.44	VFC
Part	TRC1B	Cond Cap Through Roof Bi 1"	ea	TRC1B	$	45.35	VFC
Part	TRC1-BODY-A	Through Roof Cap, AL.	ea	TRC1-BODY-A	$	21.84	VFC
Part	TRC1C	Cond Cap Through Roof Cu 1"	ea	TRC1C	$	42.79	VFC
Part	TRPH12B		ea	TRPH12B	$	167.72	VFC
Part	TRPH12C		ea	TRPH12C	$	197.99	VFC
Part	TRPH18A	PVC Conduit Horizontal Base TR	ea	TRPH18A	$	99.92	VFC
Part	TRPH18B	PVC Conduit Horizontal Base TR	ea	TRPH18B	$	178.40	VFC
Part	TRPH18C	Thru Roof - Horiz PVC Cu 1.25x	ea	TRPH18C	$	206.39	VFC
Part	TRPH24A	PVC Conduit Horizontal Base TR	ea	TRPH24A	$	103.97	VFC
Part	TRPH24B	PVC Conduit Horizontal Base TR	ea	TRPH24B	$	189.65	VFC
Part	TRPH24C		ea	TRPH24C	$	231.98	VFC
Part	TRPV12B	PVC Conduit Vertical Base TR	ea	TRPV12B	$	103.54	VFC
Part	TRPV12C		ea	TRPV12C	$	127.77	VFC
Part	TRPV18A	PVC Conduit Vertical Base TR	ea	TRPV18A	$	58.65	VFC
Part	TRPV18B	PVC Conduit Vertical Base TR	ea	TRPV18B	$	112.47	VFC
Part	TRPV18C	PVC Conduit Vertical Base TR	ea	TRPV18C	$	144.51	VFC
Part	TRPV24A	PVC Conduit Vertical TR, AL	ea	TRPV24A	$	72.12	VFC
Part	TRPV24B	PVC Conduit Vertical Base TR	ea	TRPV24B	$	121.33	VFC
Part	TRPV24C	PVC Conduit Vertical Base TR	ea	TRPV24C	$	172.41	VFC
Part	TS18G	Tripod, Screw Mount, 18"	ea	TS18G	$	24.17	VFC
Part	TS24G	Tripod, Screw Mount, 24"	ea	TS24G	$	25.06	VFC
Part	TS36G	Tripod, Screw Mount, 36"	ea	TS36G	$	26.79	VFC
Part	TS48G	Tripod, Screw Mount, 48"	ea	TS48G	$	28.77	VFC
Part	TS60G		ea	TS60G	$	32.70	VFC
Part	TS72G		ea	TS72G	$	34.24	VFC
Part	TS84G		ea	TS84G	$	36.02	VFC
Part	TSA18G	Tripod, Adhesive Mount, 18"	ea	TSA18G	$	35.75	VFC
Part	TSA24G	Tripod, Adhesive Mount, 24"	ea	TSA24G	$	37.29	VFC
Part	TSA24S	Tripod, Adhesive Mount, 24" SS	ea	TSA24S	$	75.21	VFC
Part	TSA36G	Tripod, Adhesive Mount, 36"	ea	TSA36G	$	38.63	VFC
Part	TSA36S	Tripod, Adhesive Mount, 36" SS	ea	TSA36S	$	55.79	VFC
Part	TSA48G	Tripod, Adhesive Mount, 48"	ea	TSA48G	$	41.02	VFC
Part	TSA48S	Tripod, Adhesive Mount, 48" SS	ea	TSA48S	$	63.13	VFC
Part	TSA60G	Tripod, Adhesive Mount, 60"	ea	TSA60G	$	44.60	VFC
Part	TSA72G	Tripod, Adhesive Mount, 72"	ea	TSA72G	$	48.20	VFC
Part	TSA84G	Tripod, Adhesive Mount, 84"	ea	TSA84G	$	50.70	VFC
Part	TW12A	Through Wall, 12" Al	ea	TW12A	$	64.10	VFC
Part	TW12B	Through Wall, 12" Bimetal	ea	TW12B	$	90.95	VFC
Part	TW12C	Through Wall, 12" Cu	ea	TW12C	$	107.48	VFC
Part	TW18A	Through Wall, 18" Al	ea	TW18A	$	37.03	VFC
Part	TW18B	Through Wall, 18" Bimetal	ea	TW18B	$	92.30	VFC
Part	TW18C	Through Wall, 18" Cu	ea	TW18C	$	97.09	VFC

Part	TW24A		ea	TW24A	$	36.60	VFC
Part	TW24B		ea	TW24B	$	44.58	VFC
Part	TW24C	Through Wall, 24" Cu	ea	TW24C	$	49.50	VFC
Part	UB12A	Universal Base, Al, 1/2"	ea	UB12A	$	9.53	VFC
Part	UB12C	Universal Base, Cu, 1/2"	ea	UB12C	$	22.51	VFC
Part	UB12T	Universal Base, Tinned, 1/2"	ea	UB12T	$	37.60	VFC
Part	UB38C	Universal Base, Cu, 3/8"	ea	UB38C	$	28.55	VFC
Part	UB38T	Universal Base, Tinned, 3/8"	ea	UB38T	$	37.60	VFC
Part	UB58A	Universal Base, Al, 5/8"	ea	UB58A	$	13.55	VFC
Part	UB58C	Universal Base, Cu,5/8"	ea	UB58C	$	39.00	VFC
Part	UBS12A	Al. Swivel Base, 1/2" Thread	ea	UBS12A	$	15.07	VFC
Part	UBS12C	Cu Swivel Base, 1/2" Thread	ea	UBS12C	$	27.11	VFC
Part	UBS38C	Cu Swivel Base, 3/8" Thread	ea	UBS38C	$	27.11	VFC
Part	UBS58A	Al. Swivel Base, 5/8" Thread	ea	UBS58A	$	15.07	VFC
Part	UBS58C		ea	UBS58C	$	27.11	VFC
Part	VB12A	Vertical Base, 1/2" Al	ea	VB12A	$	8.83	VFC
Part	VB12C	Vertical Base, 1/2" Cu	ea	VB12C	$	15.77	VFC
Part	VB38C	Vertical Base, 3/8" Cu	ea	VB38C	$	17.13	VFC
Part	VB58A	Vertical Base, 5/8" Al	ea	VB58A	$	11.30	VFC
Part	VB58C	Air Terminal In-Line Base	ea	VB58C	$	17.13	VFC
Part	VBPA	Vertical Base Plate, Al	ea	VBPA	$	21.77	VFC
Part	VBPC	Vertical Base Plate, Cu.	ea	VBPC	$	27.95	VFC
Part	VBS12C		ea	VBS12C	$	14.71	VFC
Part	VSA4/0		ea	VSA4/0	$	134.33	VFC
Part	VSD#2	Mold, #2 Cable to Flat	ea	VSD#2	$	149.00	VFC
Part	VSD1/0	Mold, Vert to Steel 1/0 or 29	ea	VSD1/0	$	149.00	VFC
Part	VSD1C		ea	VSD1C	$	149.00	VFC
Part	VSD2/0	Mold, Vertical to Steel 2/0	ea	VSD2/0	$	149.00	VFC
Part	VSD32	Mold, 32 to Vertical Steel, Down	ea	VSD32	$	149.00	VFC
Part	VSD4/0	Mold, Vert to Steel 4/0 or 28	ea	VSD4/0	$	149.00	VFC
Part	W12N	Washer 1/2" ID 1-3/8" OD Neopr	ea	W12N	$	0.41	VFC
Part	W12S	Washer 1/2" ID 1-1/4" OD SS	ea	W12S	$	0.19	VFC
Part	W14S	Washer 1/4" SS	ea	W14S	$	0.08	VFC
Part	W38N	Washer 3/8" ID 1-3/8" OD Neopr	ea	W38N	$	0.75	VFC
Part	W38S	Washer 3/8" ID 1" OD SS	ea	W38S	$	0.19	VFC
Part	W516S	Washer 5/16" ID 3/4" OD SS	ea	W516S	$	0.12	VFC
Part	WM115	115 Weld Metal	ea	WM115	$	9.75	VFC
Part	WM150	150 Weld Metal	ea	WM150	$	12.44	VFC
Part	WM200	200 Weld Metal	ea	WM200	$	16.33	VFC
Part	WM250	250 Weld Metal	ea	WM250	$	20.74	VFC
Part	WM32	32 Weld Metal	ea	WM32	$	3.57	VFC
Part	WM45	45 Weld Metal	ea	WM45	$	4.63	VFC
Part	WM65	65 Weld Metal	ea	WM65	$	6.33	VFC
Part	WM90	90 Weld Metal	ea	WM90	$	7.81	VFC
Part	XB-36F-BODY	FL9B Fibrelyte Box (XB-36F)	ea	XB-36F-BODY	$	119.02	VFC
Part	XB36FTTW	True Test Well w/LGB-12C	ea	XB36FTTW	$	785.40	VFC
Part	XB-3F-LID		ea	XB-3F-LID	$	91.16	VFC
Part	XIT24/0	Mold, 4/0 to 2" Chem Rod	ea	XIT24/0	$	149.00	VFC
Part	XXB-12F	Fibrelyte Protective Box Cover	ea	XXB-12F	$	255.28	VFC
Part	ZP3412	ZPen, 1 Stud for Cable Clip	ea	ZP3412	$	2.28	VFC
Part	ZP9432	Tape Primer 94, 32oz 3M 223929	ea	ZP9432	$	114.52	VFC
Part	ZP948	Tape Primer 94, 8oz 3M	ea	ZP948	$	28.63	VFC
Part	ZPTKU BASE	ZPen, 4 Stud for TKU Base	ea	ZPTKU BASE	$	9.74	VFC
Part	TKUB12A-VS		ea	TKUB12A-VS	$	10.78	VFC
Part	TKUB58A-VS		ea	TKUB58A-VS	$	15.48	VFC
Part	ZP1A-VS		ea	ZP1A-VS	$	1.43	VFC
Part	K2.5-10CS		ea	K2.5-10CS	$	760.40	VFC
Part	K2-10CS		ea	K2-10CS	$	1,033.78	VFC
Part	K2-12CS		ea	K2-12CS	$	1,057.79	VFC
Part	K2-20CS		ea	K2-20CS	$	1,544.44	VFC
Part	K2-2-30CS		ea	K2-2-30CS	$	1,734.54	VFC
Part	K2-2-40CS		ea	K2-2-40CS	$	3,346.18	VFC
Part	K2-4-40CS		ea	K2-4-40CS	$	2,965.98	VFC
Part	K2-8CS		ea	K2-8CS	$	913.71	VFC
Part	K2L-12CS		ea	K2L-12CS	$	1,355.82	VFC
Part	K2L-20CS		ea	K2L-20CS	$	1,901.71	VFC
Part	K2L-2-20CS		ea	K2L-2-20CS	$	2,111.82	VFC
Part	K3-3-30CS		ea	K3-3-30CS	$	2,735.86	VFC
Part	K4-11PG&E		ea	K4-11PG&E	$	2,371.31	VFC
Part	HBP-STD-A	Horiz Base Plate Frg+Stud, Al	ea	20-BOLEI	$	8.28	VFC
Part	HBP-STD-C	Horiz Base Plate Frg+Stud, Cu	ea	20-BOLEI	$	32.05	VFC
Part	IST	Inline Cable Splice, Tinned Cu	ea		$	20.61	VFC

Part	PSB-INSERT	Insert for PSB, 304 Stainless	ea	20-BOLEI	$	1.58	VFC
Part	SSC2S	Standing Seam Clamp W/Single Swvl	ea	20-BOLEI	$	7.64	VFC
Part	SWVLAD12A	SWIVEL BOT, 1/2" AL	ea	20-BOLEI	$	1.96	VFC
Part	SWVLBOT12A	SWIVEL TOP, 1/2" AL	ea	20-BOLEI	$	4.55	VFC
Part	SWVLTOP12C	SWIVEL TOP, 1/2" CU	ea	20-BOLEI	$	10.09	VFC
Part	SWVLTOP12T	SWIVEL TOP, 1/2" T	ea	20-BOLEI	$	11.01	VFC
Part	SWVLTOP38C	SWIVEL TOP, 3/8" CU	ea	20-BOLEI	$	6.32	VFC
Part	SWVLTOP38T	SWIVEL TOP, 3/8" T	ea	20-BOLEI	$	11.56	VFC
Part	BS28	Mold, Butt Splice 28 to 28	ea	BS28	$	149.00	VFC
Part	BS29	Mold, Butt Splice 29 to 29	ea	BS29	$	149.00	VFC
Part	GR3428		ea	GR3428	$	191.57	VFC
Part	GR3429		ea	GR3429	$	191.57	VFC
Part	GT3429	Mold, 3/4" Rod to 29, Thru	ea	GR3429	$	191.57	VFC
Part	P2/01/0	Mold, Parallel 2/0 to 1/0	ea	P2/01/0	$	149.00	VFC
Part	P2828		ea	P2828	$	149.00	VFC
Part	P3/03/0	Mold, Parallel 3/0 to 3/0	ea	P3/03/0	$	149.00	VFC
Part	P4/028		ea	P4/028	$	149.00	VFC
Part	RB428		ea	RB428	$	149.00	VFC
Part	RB828		ea	RB828	$	149.00	VFC
Part	T2/028	Mold, 2/0 Run to 28 Tap, T	ea	T2/028	$	149.00	VFC
Part	T2/029	Mold, 2/0 Run to 29 Tap, T	ea	T2/029	$	149.00	VFC
Part	T2828	Mold, 2/0 Run to 29 Tap, T	ea	T2828	$	149.00	VFC
Part	T2829	Mold, 28 Run to 29 Tap, T	ea	T2829	$	149.00	VFC
Part	T2929	Mold, 29 Run to 29 Tap, T	ea	T2929	$	149.00	VFC
Part	T4/028	Mold, 4/0 Run to 28 Tap, T	ea	T4/028	$	149.00	VFC
Part	T4/029	Mold, 4/0 Run to 29 Tap, T	ea	T4/029	$	149.00	VFC
Part	VSD28	Mold, Vertical to Steel 28	ea	VSD28	$	149.00	VFC
Part	VSD29	Mold, Vertical to Steel 29	ea	VSD29	$	149.00	VFC
Part	ALLT1212S	Threaded Rod 1/2 x 12" 18/8SS	ea	ALL1212S	$	7.03	VFC
Part	ALLT1218S	Threaded rob 1/2 x 18" 18/8SS	ea	ALLT1218S	$	10.21	VFC
Part	ALLT1224S	Threaded Rod 1/2 x 24" 18/8SS	ea	ALLT1224S	$	13.41	VFC
Part	ALLT12312S	Threaded Rod 1/2 x 3 1/2" 18/8SS	ea	ALLT12312S	$	2.60	VFC
Part	CCB58A	Concealed Coping Base, 1/2" AL	ea	CCB58A	$	54.07	VFC
Part	CCB-BKT	Concealed Coping Base, 5/8" AL	ea	CCB-BKT	$	54.07	VFC
Part	FM-TUBE-2	Fiberglass Mast, 20' + 2' AT	ea	FM-TUBE-2	$	2,772.17	VFC
Part	RB12C	Copper Ridge Mount Base	ea	RB12C	$	114.97	VFC
Part	CG1P-Schedule 80	Cond Guard Schedule 80 1" X 10' PVC with Clips	ea	CG1P	$	53.36	VFC
Part	San Earth 7 M5C	50# Sankosha San Earth 7 M5C	ea	San Earth 7 M5C	$	133.40	VFC
Part	600GRN	600MCM 61 Strand Cu GREEN INSULATED	ft	600GRN	$	34.65	VFC
Part	300C	300MCM 37 Strand Cu	ft	300C	$	20.10	VFC
Part	CLUG600P	Lug, 2 Hole Long Brl 3/8, 600	ea	CLUG600P	$	30.08	VFC
Part	FAA ATCT Special Order 4'	St George ATCT	none		$	3,156.00	VFC

**** Please note prices subject to change without notice based on raw material cost and tariff increases.***