East Coast Lightning Equipment, Inc. (ECLE) has been providing the lightning protection and professional design industries with high-quality lightning protection system components since 1984. Through the continued support of our customers, we have become recognized within the lightning protection and design communities as a product manufacturer that delivers quality products, competitive pricing, and excellent customer service.

We are a full-service manufacturer of lightning protection system components with the ability to fill all of your lightning protection equipment needs. Our production facility, located in Winsted, Connecticut, includes a state-of-the-art, non-ferrous foundry, a custom cable braiding department, a metal machining and assembly department, and a stamping room. Our extensive production capacity enables our skilled staff to provide all of our customers with lightning fast service and high quality products. Nearly all of the orders we receive are shipped the very same day.

This catalog features many additions to our product line, including new products for bonding and grounding connections, and a new line of standing seam metal roof fasteners and bases.

Our business has been built by responding to the needs of our customers. We stand ready to answer your questions and to provide you with the equipment you need for all of your lightning protection projects.

All of us at ECLE work hard every day to earn our reputation as the manufacturer that works for you.

Mark P. Morgan
President

Jennifer A. Morgan
Secretary/Treasurer

THANK YOU for your interest in lightning protection
EAST COAST LIGHTNING EQUIPMENT

Get grounded.
TECHNICAL INFORMATION

THE LIGHTNING PROTECTION SYSTEM
A lightning protection system performs a simple task. It provides a specified path on which lightning can travel. When a building is equipped with a lightning protection system, the destructive power of the lightning strike is directed safely into the ground, leaving the structure, personnel, and contents unharmed.

THE PRIMARY COMPONENTS
A lightning protection system should include all of the following elements, which work together to prevent lightning damage:

• Air terminals (rods)
• Conductors (cable)
• Bonds with metallic bodies
• Ground terminations
• Surge suppression

ELECTRONIC PROTECTION
Modern facilities are especially vulnerable to the havoc that lightning can wreak on sensitive electronic equipment. To assure the highest level of protection, UL-listed lightning surge protection devices should be installed on all incoming utility lines, including electricity, telephone, satellite feed, television, etc.

Surge protection devices (SPDs) are the first line of defense against harmful electrical surges that can enter a structure through power lines. By filtering and dissipating the harmful surges, SPDs prevent electrical fires and protect against transients that can damage a building’s electrical system. For additional electronic protection, UL-listed transient voltage surge suppressors can be installed to protect specific electronic components. A qualified lightning protection specialist can make recommendations for surge protection that is tailored to the needs of a specific facility.

DESIGN ASSISTANCE
Our skilled staff stands ready to get you the answers you need whenever you have questions on system design or application. Our entire print catalog is available in AutoCAD 14 and PDF formats for incorporation into your electronic design system.

We also maintain a nationwide network of representatives that can provide design, specification and consultation services to assist with specific project needs. Our representatives are specialists in both lightning protection design and installation. They routinely work closely with design professionals and other construction trade contractors to coordinate system design and installation that is appropriate for specific projects.

Whenever questions arise about lightning protection, remember ECLE as your resource for quality products and accurate, up-to-date information.
TECHNICAL INFORMATION

COMPLIANCE COUNTS

Lightning protection components and installed systems should meet or exceed the requirements for lightning protection established by:

**Underwriters Laboratories**
- UL 96 - Standard for Lightning Protection Components
- UL 96A - Standard for Lightning Protection System Installation

**National Fire Protection Association**
- NFPA 780 - Standard for Lightning Protection System Installation

**Lightning Protection Institute**
- LPI 175 - Standard of Practice

ECLE recommends that project planners base lightning protection system designs on the requirements contained in those standards.

Adherence to national safety standards helps ensure that lightning protection systems are installed in a manner that is both attractive and effective.

ENSURE A QUALITY INSTALLATION

It is essential that trained, qualified lightning protection specialists install lightning protection systems. Lightning protection specifications should call for the contractors performing lightning protection work to be participants in UL’s Master Label lightning protection program.

**THE UL MASTER LABEL CERTIFICATE**

Lightning protection systems should also be subject to Underwriters Laboratories Master Label Certification Program for lightning protection. UL representatives visit our factory on a regular basis to inspect and test our products, in order to verify compliance with UL’s materials standard for lightning protection: UL 96. Our UL-listed products are intended for installation by lightning protection specialists who are listed with UL for lightning protection installation. When a system is installed by a UL-listed installer it is eligible for UL’s Master Label inspection program. This third-party quality check helps ensure that individual lightning protection systems are installed in accordance with national safety standards.

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SAMPLE SPECIFICATION

PART I. GENERAL

1.01 Objective: To provide safety for the building and occupants by preventing damage to building structure caused by lightning.

1.02 Standards: The following specifications and standards of the latest issue from a part of this specification:

1. UNDERWRITERS LABORATORIES, INC. (UL)
   UL 96A - Installation Requirements for Lightning Protection Systems

2. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
   NFPA 780 - Standard for the Installation of Lightning Protection Systems

3. UNDERWRITERS LABORATORIES (UL)
   UL 96 - Lightning Protection Components

4. LIGHTNING PROTECTION INSTITUTE LPI-175

1.03 System Design: The work covered by this section of the specifications consists of furnishing all labor, materials, and items of service required for the completion of a functional and unobtrusive lightning protection system approved by architect, engineer, and in strict accordance with this section of the specifications and the applicable contract drawings.

If any departure from the contract drawings or submittal drawings covered below are deemed necessary by the contractor, details of such departures and reasons therefore shall be submitted as soon as practical to the architect and engineer for approval.

1.04 Submittals: Complete design drawings showing the type, size, and locations of all grounding, down conductors, through-roof/through-wall assemblies, roof conductors, and air terminals shall be submitted to the architect and engineer for approval.

1.05 Quality Assurance: The lightning protection system shall conform to the requirements and standards for lightning protection systems of UL and NFPA. Upon completion, application shall be made to the Underwriters Laboratories, Inc. for inspection and issuance of the UL Master Label Certificate.

PART II. PRODUCTS

Standard: The system to be furnished under this specification shall be the standard product of a manufacturer regularly engaged in the production of lightning protection equipment and shall be the manufacturer’s latest approved design. The equipment shall be UL listed and properly UL labeled.

All equipment shall be new, and of a design and construction to suit the application where it is used in accordance with accepted industry standards and UL and NFPA requirements.

Manufacturer: East Coast Lightning Equipment, Inc., Winsted, CT.
SAMPLE SPECIFICATION

PART II. PRODUCTS (CONT.)

2.02 Equipment: Provide and install a complete lighting protection system in compliance with the specifications and standards of the most current editions of the National Fire Protection Association Lightning Protection Standard NFPA 780, and the Underwriters Laboratories Lightning Protection Standard UL 96A. The system shall be installed by a lightning protection contractor who is listed by Underwriters Laboratories, Inc.

2.03 Materials: All lightning protection materials and components shall comply in weight, size, and composition with UL 96 and NFPA 780 lightning protection material requirements for this type of structure.

All materials shall be copper, bronze, or stainless steel. Aluminum components shall be used in locations where system components are mounted to aluminum surfaces, to avoid galvanic corrosion of dissimilar metals. Class I materials shall be used on structures not more than 75 feet in height. Class II materials shall be used on structures over 75 feet in height.

PART III. EXECUTION

3.01 Installation: The installation shall be accomplished by an experienced installation company that is listed with Underwriters Laboratories for lightning protection installation.

All equipment shall be installed in a neat, workmanlike manner. The system shall consist of a complete conductor network at the roof and include air terminals, connectors, splicers, bonds, down leads, and proper ground terminals.

3.02 Coordination: The lightning protection installer will work with other trades to ensure a correct, neat, and unobtrusive installation. The roofing contractor will be responsible for sealing and flashing all lightning protection roof penetrations, as per the roof manufacturer’s recommendations.

Note: Lightning protection penetrations and/or attachment procedures should be addressed in the roofing section of the specifications. It shall be the responsibility of the lightning protection installer to assure a sound bond to the main water service and to assure interconnection with other ground systems.

3.03 Inspection and Certification: Upon completion of the installation, the contractor shall furnish the Master Label Certificate issued by Underwriters Laboratories, Inc. for the system. If the protected structure is an addition to or is attached to an existing structure that does not have a lightning protection system, the contractor shall advise the owner of installation requirements on the existing structure to obtain the Master Label. If the existing structure does have a lightning protection system, the contractor shall advise the owner of any additional work required on the existing system to achieve compliance with current UL Master Label Certificate requirements.

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Typical Commercial Lightning Protection System
CUSTOMER INFORMATION

WE WORK FOR YOU
We want you to think of us as the manufacturer that works for you. We are a full-service manufacturer with the ability to meet all of your lightning protection component needs. We have made our mark in the lightning protection industry by providing quality parts, competitive pricing, and unparalleled customer service.

OUR GUARANTEE
Thoughtful design, continuous product testing, and stringent quality control procedures allow us to provide you with quality products at a reasonable price. All products listed in this catalog are guaranteed against defects in materials or workmanship for one year. If you receive an item that you are not completely satisfied with, we will replace it, refund your money, or credit your account. We are proud of the quality products we produce. If you are not satisfied with one of our products, we want to know about it.

PURCHASING INFORMATION
As an equipment manufacturer it is our policy to sell products exclusively to lightning protection installation firms that are listed to perform this work with Underwriters Laboratories. Our representatives are typically firms that specialize in both lightning protection system design and installation. If you want to purchase lightning protection products, call us and we can either help you to find a representative in your area to assist you, or we can help you join our network of representatives.

BECOME AN ECLE REPRESENTATIVE
In certain parts of the country, we are actively seeking additional qualified, dedicated firms to represent our products. If you are a contracting firm that is listed with Underwriters Laboratories for lightning protection, or interested in becoming one, please feel free to contact us.
THE UL MASTER LABEL CERTIFICATE

All of our lightning protection components are listed by Underwriters Laboratories for use in UL’s Master Label Certification Program for lightning protection. UL representatives visit our factory on a regular basis to inspect and test our products, in order to verify compliance with UL’s materials standard for lightning protection: Standard UL 96. Our products are intended for installation by lightning protection specialist contractors who are listed with UL for lightning protection installation. When a system is installed by a UL-listed installer it is eligible for UL’s Master Label inspection program. This program brings UL inspectors on-site to inspect the actual system installation. This third-party quality check helps ensure that individual lightning protection systems are installed in accordance with national safety standards. Adherence to national safety standards is just one way that we fulfill our commitment to quality. Our products are designed and produced to ensure that lightning protection systems are installed in a manner that is both attractive and effective.

QUALITY AND COMPLIANCE ASSURANCE

Our products meet or exceed the requirements for lightning protection components established by the following national safety standards:

National Fire Protection Association
NFPA 780 - Standard for the Installation of Lightning Protection Systems

Underwriters Laboratories
UL 96 - Standard for Lightning Protection Components
UL 96A - Standard for Lightning Protection System Installation

Lightning Protection Institute
LPI 175 - Standard of Practice
CUSTOMER INFORMATION

FAST SERVICE
We know how important it is for you to have your materials quickly. We make every effort to ship your orders the very same day that we receive them. Whenever you place an order, it is our policy to call you immediately if any of your materials will not ship the same day or will be backordered. We make every effort not to backorder materials.

Our skilled staff and wide variety of metalworking machinery enable us to provide you with fast service and quality products. Our on-site foundry gives us enormous flexibility. Not only does it allow us to develop and produce custom items, but it also gives us the ability to turn your orders around quickly. It is not unusual for us to ship finished items in the same day they were cast in the foundry. When you are in a hurry, we can work with you to meet your needs.

CUSTOM WORK IS OUR SPECIALTY
Valuable installation time should not be wasted in on-site modifications of standardized equipment. Whenever you need a special item or custom part, we can help you. We stand ready to turn your specifications into equipment that will make the job easier. Custom items are one of our specialties. Call us with the special application and we will work with you to find a solution.

WE CAN MAKE MODIFICATIONS
The fittings described in our catalog are in their standard form. Alternate sizes of anchor holes or different length cap screws are examples of just some of the modifications that can be made to accommodate your installation preferences. When you have ideas about modifying an existing part to make it better, we want to hear about it. It is by listening to the ideas of the people who work with our products in the field every day that we are able to consistently grow and improve our product line.
CUSTOMER INFORMATION

DESIGN TOOLS AND ASSISTANCE

Our skilled staff stands ready to provide the answers you need whenever you have questions on system design or applications. Interpreting the national lightning protection standards is one of our specialties. Our staff is involved with the development and review of the nationally recognized standards for lightning protection maintained by Underwriters Laboratories, Lightning Protection Institute, and National Fire Protection Association.

See the “For Designers” section of this catalog for more information on lightning protection system design, including sample specifications. Please note that this entire catalog is also available in AutoCAD 14 and PDF formats for incorporation into your computer-assisted design system programs.

CUSTOMER SUPPORT

There is much more to being an ECLE customer than having a great place to purchase materials. In addition to our daily commitment to providing competitive prices, quality products and speedy service, ECLE strives to be its customers best resource for information relevant to running a successful lightning protection company. Through monthly newsletters, frequent mailings, telephone conversations and regular industry meetings, we make sure that news and ideas relevant to your business are always at your fingertips. We monitor national and international standards development and pass along information about new trends as soon as we get it.

When questions arise about lightning protection, it is important to remember that ECLE is the leading resource for quality products and accurate, up-to-date information.

SHIPPING INFORMATION

Our staff will find the method of shipment that is least expensive and most convenient for you. Orders can be shipped by any means you specify. We have negotiated deep discounts with a number of over-the-road trucking firms, in addition to United Parcel Service (UPS). Whatever the shipping method, all orders are tracked for you—from our door to yours.

IF THERE IS A PROBLEM

If you find a shipping error, please report it promptly for settlement. We take pride in our packaging methods. If a delivery ever arrives short or is damaged, it is important for you to make sure that the transporter notes the problem or damage directly on their delivery receipt. Claims for shortage or damage occurring during transit must be filed directly with the transporter, as they are not the responsibility of ECLE.
EAST COAST LIGHTNING EQUIPMENT®

Get grounded.
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Looking for something not listed? Give us a call!
Aluminum Conductor

A11
11 strands of 14 gauge (1.63mm) secondary bonding aluminum cable.
45 pounds per thousand feet (67 grams/meter).
45,107 circular mils (23mm²) of conductivity.

A24
24 strands of 14 gauge (1.63mm) basket weave aluminum cable.
102 pounds per thousand feet (152 grams/meter).
98,640 circular mils (50mm²) of conductivity.
Exceeds Class I requirements.

A28
28 strands of 14 gauge (1.63mm) basket weave aluminum cable.
115 pounds per thousand feet (172 grams/meter).
115,047 circular mils (58mm²) of conductivity.
Exceeds Class I requirements.

A37
37 strands of 12-1/2 gauge (1.92mm) concentric wind aluminum cable.
200 pounds per thousand feet (298 grams/meter).
211,475 circular mils (107mm²) of conductivity.
Exceeds Class II requirements (4/0).

Aluminum Strip

A5/8
Aluminum Strip for secondary bonding.
5/8” x .064 (15.9mm x 1.63mm).

A1
Aluminum Strip for primary bonding.
1” x .064 (25.4mm x 1.63mm).
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>C14</td>
<td>Bare, Tinned and Leaded Copper Conductor</td>
<td>14 strands of 17 gauge (1.15mm) secondary bonding copper cable.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>92 pounds per thousand feet (137 grams/meter).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>28,729 circular mils (14.5mm$^2$) of conductivity.</td>
</tr>
<tr>
<td></td>
<td>C14T</td>
<td>As above with tinned copper strands.</td>
</tr>
<tr>
<td>C29</td>
<td></td>
<td>29 strands of 17 gauge (1.15mm) basket weave copper cable.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>192 pounds per thousand feet (286 grams/meter).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>59,450 circular mils (30mm$^2$) of conductivity.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exceeds Class I requirements.</td>
</tr>
<tr>
<td>C29L</td>
<td></td>
<td>As above with leaded copper strands.</td>
</tr>
<tr>
<td>C29T</td>
<td></td>
<td>As above with tinned copper strands.</td>
</tr>
<tr>
<td>C32</td>
<td></td>
<td>32 strands of 17 (1.15mm) gauge basket weave copper cable.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>217 pounds per thousand feet (323 grams/meter).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>65,667 circular mils (33mm$^2$) of conductivity.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exceeds Class I requirements.</td>
</tr>
<tr>
<td>C32L</td>
<td></td>
<td>As above with leaded copper strands.</td>
</tr>
<tr>
<td>C32T</td>
<td></td>
<td>As above with tinned copper strands.</td>
</tr>
<tr>
<td>C36</td>
<td></td>
<td>36 strands of 17 gauge (1.15mm) basket weave copper cable.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>240 pounds per thousand feet (358 grams/meter).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>73,800 circular mils (37mm$^2$) of conductivity.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exceeds Class I requirements.</td>
</tr>
<tr>
<td>C320</td>
<td></td>
<td>28 strands of 16 gauge (1.29mm) rope lay copper cable.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>230 pounds per thousand feet (343 grams/meter).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>72,258 circular mils (36.5mm$^2$) of conductivity.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exceeds Class I requirements.</td>
</tr>
<tr>
<td>C320</td>
<td></td>
<td>24 strands of 14 gauge (1.63mm) basket weave copper cable.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>320 pounds per thousand feet (476 grams/meter).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>98,304 circular mils (50mm$^2$) of conductivity.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exceeds Class I requirements. (1/0)</td>
</tr>
</tbody>
</table>

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# Copper and Tinned Conductor

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>C385</td>
<td>28 strands of .066 gauge (1.68mm) rope lay copper cable.</td>
<td>385 pounds per thousand feet (573 gram/meter). 121,968 circular mils (61.5mm²) of conductivity. Exceeds Class II requirements.</td>
</tr>
<tr>
<td>C385T</td>
<td>As above with tinned copper strands.</td>
<td></td>
</tr>
<tr>
<td>C420</td>
<td>28 strands of .069 gauge (1.75mm) rope lay copper cable.</td>
<td>420 pounds per thousand feet (625 grams/meter). 133,308 circular mils (67mm²) of conductivity. Exceeds Class II requirements.</td>
</tr>
<tr>
<td>C420T</td>
<td>As above with tinned copper strands.</td>
<td></td>
</tr>
<tr>
<td>C2/0-19</td>
<td>19 strands of .0837 gauge (2.13mm) concentric lay copper cable.</td>
<td>411 pounds per thousand feet (612 grams/meter). 133,108 circular mils (67mm²) of conductivity. Exceeds Class II requirements.</td>
</tr>
<tr>
<td>C4/0-19</td>
<td>19 strands of .1055 gauge (2.68mm) concentric lay copper cable.</td>
<td>653 pounds per thousand feet (972 grams/meter). 211,475 circular mils (107mm²) of conductivity. Exceeds Class II requirements.</td>
</tr>
</tbody>
</table>

# Copper Strip

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>C5/8</td>
<td>Copper Strip for secondary bonding.</td>
<td>5/8&quot; x .0508 (15.9mm x 1.29mm).</td>
</tr>
<tr>
<td>C1</td>
<td>Copper Strip for primary bonding.</td>
<td>1&quot; x .0508 (25.4mm x 1.29mm).</td>
</tr>
<tr>
<td>C1T</td>
<td>Tinned Copper Strip for primary bonding.</td>
<td>1&quot; x .0508 (25.4mm x 1.29mm).</td>
</tr>
<tr>
<td>T2</td>
<td>Tinned Copper Strip for primary bonding.</td>
<td>2&quot; x .064 (50.8mm x 1.63mm).</td>
</tr>
<tr>
<td>T2 Perforated</td>
<td>Same as T2 punched with 3/8&quot; (9.5mm) diameter round perforations at 1-1/2&quot; (38.1mm) intervals.</td>
<td></td>
</tr>
</tbody>
</table>

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EAST COAST LIGHTNING EQUIPMENT®
Threaded Rod - TR

<table>
<thead>
<tr>
<th>Code</th>
<th>Material</th>
<th>Diameter</th>
<th>Thread Pitch</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>TR1B</td>
<td>3/8 Brass</td>
<td>3/8&quot;</td>
<td>16 x 6'</td>
<td>(183 cm)</td>
</tr>
<tr>
<td>TR2B</td>
<td>1/2 Brass</td>
<td>1/2&quot;</td>
<td>13 x 6'</td>
<td>(183 cm)</td>
</tr>
<tr>
<td>TR2A</td>
<td>1/2 Aluminum</td>
<td>1/2&quot;</td>
<td>13 x 6'</td>
<td>(183 cm)</td>
</tr>
<tr>
<td>TR2S</td>
<td>1/2 Stainless steel</td>
<td>1/2&quot;</td>
<td>13 x 6'</td>
<td>(183 cm)</td>
</tr>
<tr>
<td>TR3A</td>
<td>5/8 Aluminum</td>
<td>5/8&quot;</td>
<td>11 x 6'</td>
<td>(183 cm)</td>
</tr>
</tbody>
</table>

Threaded rod is available cut to any length that you require.

Solid Rod Sections

Solid rod sections are available in any length up to 12 feet. Threaded at both ends, these rods can be used to extend air terminals or as main conductor in situations where a rigid conductor is desirable.

<table>
<thead>
<tr>
<th>Material</th>
<th>Diameter</th>
<th>Thread Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>COPPER</td>
<td>CR3/8</td>
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</tr>
<tr>
<td></td>
<td>AR5/8</td>
<td>5/8&quot; (15.9mm)</td>
</tr>
</tbody>
</table>

Specify desired length.

Solid rod is also available with just one end threaded.

Custom Threaded Rods - CTR

Solid rod sections with standard threads on one end and up to 8 inches of threads on the other. For use in a variety of thru-roof applications. Maximum rod length 48".

<table>
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<tr>
<th>Material</th>
<th>Diameter</th>
<th>Thread Diameter</th>
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<tr>
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<td>CTRA5/8</td>
<td>5/8&quot; (15.9mm)</td>
</tr>
</tbody>
</table>

Specify desired overall length of rod and inches of thread (in 1/2" increments) required when ordering.

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24 Lanson Drive | Winsted, CT 06098  T 860.379.9072  F 860.379.2046  EM info@ecle.biz  WEB www.ecle.biz
### Blunt Air Terminals – AT

#### CLASS I

<table>
<thead>
<tr>
<th>ALUMINUM</th>
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<td>AT15AB</td>
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<td>AT36AB</td>
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#### CLASS II

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All air terminals are available in any length to twelve feet (365.75cm).
## Blunt Air Terminals – AT

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<td>AT115CB 1/2&quot; x 15&quot; (12.7mm x 381mm)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AT118CB 1/2&quot; x 18&quot; (12.7mm x 458mm)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AT124CB 1/2&quot; x 24&quot; (12.7mm x 610mm)</td>
</tr>
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<td></td>
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<td>AT136CB 1/2&quot; x 36&quot; (12.7mm x 915mm)</td>
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<td></td>
<td>AT148CB 1/2&quot; x 48&quot; (12.7mm x 1220mm)</td>
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<td>AT215CB 5/8&quot; x 15&quot; (15.9mm x 381mm)</td>
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All air terminals are available in any length to twelve feet (365.75cm).
### Tapered Air Terminals – AT

#### CLASS I

**ALUMINUM**

<table>
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<th>Size</th>
<th>Description</th>
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<td>AT36A</td>
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**COPPER**

<table>
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**PLATED COPPER**

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<tr>
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#### CLASS II

**ALUMINUM**

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<td>AT110A</td>
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<td>AT124A</td>
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<td>5/8&quot; x 36&quot; (15.9mm x 915mm)</td>
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<tr>
<td>AT148A</td>
<td>5/8&quot; x 48&quot; (15.9mm x 1220mm)</td>
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</tbody>
</table>

All air terminals are available in any length to twelve feet (365.75cm).
### Tapered Air Terminals – AT

**CLASS II**  
**UL LISTED**

#### COPPER
- **1/2" (12.7mm) diameter, threaded base**
- **3-1/2" (88.9mm) taper**

| AT110C  | 1/2" x 10" | (12.7mm x 254mm) |
| AT112C  | 1/2" x 12" | (12.7mm x 305mm) |
| AT115C  | 1/2" x 15" | (12.7mm x 381mm) |
| AT118C  | 1/2" x 18" | (12.7mm x 458mm) |
| AT124C  | 1/2" x 24" | (12.7mm x 610mm) |
| AT136C  | 1/2" x 36" | (12.7mm x 915mm) |
| AT148C  | 1/2" x 48" | (12.7mm x 1220mm) |

#### PLATED COPPER
- **1/2" (12.7mm) diameter, threaded base**
- **3-1/2" (88.9mm) taper**

| TINNED  | AT112T  | 1/2" x 12" | (12.7mm x 254mm) |
| AT115T  | 1/2" x 15" | (12.7mm x 305mm) |
| AT118T  | 1/2" x 18" | (12.7mm x 381mm) |
| AT124T  | 1/2" x 24" | (12.7mm x 458mm) |
| LEADED  | AT136L  | 1/2" x 36" | (12.7mm x 915mm) |
| AT148L  | 1/2" x 48" | (12.7mm x 1220mm) |
| FULL NICKEL | AT112N | 1/2" x 12" | (12.7mm x 305mm) |
| AT115N  | 1/2" x 15" | (12.7mm x 381mm) |
| AT118N  | 1/2" x 18" | (12.7mm x 458mm) |
| AT124N  | 1/2" x 24" | (12.7mm x 610mm) |
| AT136N  | 1/2" x 36" | (12.7mm x 915mm) |
| AT148N  | 1/2" x 48" | (12.7mm x 1220mm) |

#### COPPER
- **5/8" (15.9mm) diameter, threaded base**
- **3-1/2" (88.9mm) taper**

| AT210C  | 5/8" x 10" | (15.9mm x 254mm) |
| AT212C  | 5/8" x 12" | (15.9mm x 305mm) |
| AT215C  | 5/8" x 15" | (15.9mm x 381mm) |
| AT218C  | 5/8" x 18" | (15.9mm x 458mm) |
| AT224C  | 5/8" x 24" | (15.9mm x 610mm) |
| AT236C  | 5/8" x 36" | (15.9mm x 915mm) |
| AT248C  | 5/8" x 48" | (15.9mm x 1220mm) |

#### PLATED COPPER
- **5/8" (15.9mm) diameter, threaded base**
- **3-1/2" (88.9mm) taper**

| TINNED  | AT212T  | 5/8" x 12" | (15.9mm x 305mm) |
| AT215T  | 5/8" x 15" | (15.9mm x 381mm) |
| AT218T  | 5/8" x 18" | (15.9mm x 458mm) |
| AT224T  | 5/8" x 24" | (15.9mm x 610mm) |
| LEADED  | AT236L  | 5/8" x 36" | (15.9mm x 915mm) |
| AT248L  | 5/8" x 48" | (15.9mm x 1220mm) |
| FULL NICKEL | AT212N | 5/8" x 12" | (15.9mm x 305mm) |
| AT215N  | 5/8" x 15" | (15.9mm x 381mm) |
| AT218N  | 5/8" x 18" | (15.9mm x 458mm) |
| AT224N  | 5/8" x 24" | (15.9mm x 610mm) |
| AT236N  | 5/8" x 36" | (15.9mm x 915mm) |
| AT248N  | 5/8" x 48" | (15.9mm x 1220mm) |

All air terminals are available in any length to twelve feet (365.75cm).
**Terminal Braces**

**GALVANIZED BRACE**

Galvanized steel tripod braces for use with air terminals up to 5/8" (15.9mm) in diameter.

- TB18 18” (45.7cm)
- TB24 24” (61cm)
- TB36 36” (91.4cm)
- TB48 48” (122cm)

As above with cast aluminum or bronze feet for adhesive applications.

**BRACE WITH ALUMINUM FEET**

- TB18A 18” (45.7cm)
- TB24A 24” (61cm)
- TB36A 36” (91.4cm)
- TB48A 48” (122cm)

**BRACE WITH BRONZE FEET**

- TB18B 18” (45.7cm)
- TB24B 24” (61cm)
- TB36B 36” (91.4cm)
- TB48B 48” (122cm)

---

**Rod Coupling - RC**

For threaded rod to threaded rod or air terminal connection. Fabricated from 3/4” (19mm) aluminum or brass hex stock. Available with 3/8” (9.5mm), 1/2” (12.7mm) or 5/8” (15.9mm) internal threads, in combinations to meet your requirements. Approximately 1-1/4” x 3/4” (32mm x 19mm).

<table>
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<th>BRASS</th>
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<tbody>
<tr>
<td>RC3/8B</td>
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<tr>
<td>RC1/2B</td>
<td>RC5/8A</td>
</tr>
<tr>
<td>RC1/2-3/8B</td>
<td>RC1/2-5/8A</td>
</tr>
<tr>
<td>RC5/8B</td>
<td>RC5/8G-1/2A</td>
</tr>
<tr>
<td>RC5/8G-3/8B</td>
<td></td>
</tr>
</tbody>
</table>

Rod Couplings are also available in tinned brass and stainless steel. Call factory with your specific needs.
Spring Adapter - SA

Use Spring Adapters when safety requirements preclude the use of rigid air terminals. Stainless steel spring is 3.5" (89mm) long. Ends are fabricated from 3/4" (19mm) round aluminum or brass rod stock. Top end is threaded female and has a 12" (30.5cm) stainless steel safety cable. Bottom end is threaded male.

ALUMINUM

SA1/2-1/2A  1/2" female to 1/2" male
SA1/2-5/8A  1/2" female to 5/8" male
SA5/8-1/2A  5/8" female to 1/2" male
SA5/8-5/8A  5/8" female to 5/8" male

BRONZE

SA3/8-3/8B  3/8" female to 3/8" male
SA3/8-1/2B  3/8" female to 1/2" male
SA1/2-3/8B  1/2" female to 3/8" male
SA1/2-1/2B  1/2" female to 1/2" male

When ordering air terminals for use with spring adapters, keep in mind that air terminal length should not exceed 18 (45.7cm) inches. Spring adapters are not recommended for use with 5/8" diameter copper air terminals.
Cast Swivel Couplings - SC

For male to female or female to female connections. Cast bronze or aluminum with stainless steel fasteners. Available with 3/8" (9.5mm), 1/2" (12.7mm) or 5/8" (15.9mm) threads, in combinations to meet your requirements.
Female to female 3" x 3/4" (76mm x 19mm).
Female to male 4" x 3/4" (102mm x 19mm).

<table>
<thead>
<tr>
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<tbody>
<tr>
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<tr>
<td>SC3/8F-3/8MB</td>
<td>SC1/2F-5/8MB</td>
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<tr>
<td>SC3/8F-1/2FB</td>
<td>SC5/8F-1/2MB</td>
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<tr>
<td>SC3/8F-1/2MB</td>
<td>SC5/8F-5/8FB</td>
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<tr>
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<tr>
<td>SC1/2F-1/2FB</td>
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<tr>
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<td>SC5/8F-1/2MA</td>
</tr>
</tbody>
</table>

NOTE: Cast Swivel Couplings are also available tinned.

Air Terminal Bushing

AD1B  Brass thread size reducer bushing.
Converting 1/2" to 3/8".
Approximately 1/2" (1.127cm) diameter x 3/4" (1.9cm).
Approximately .31 oz.

Air Terminal Adapter

AD2A  Aluminum 1/2" male to 5/8" female adapter for base to air terminal or threaded rod connections.
1-3/4" x 3/4" (45mm x 19mm).
Approximately 1.4 oz. (40 grams).

AD2B  As above in brass.
1-3/4" x 3/4" (45mm x 19mm).
Approximately 4.2 oz. (119 grams).

Air Terminal Coupling

ATC3/8B Slender, cylindrical brass coupling for connecting 3/8" air terminal to 3/8" threaded rod or solid rod section.
1-1/2" x 1/2" (38.1mm x 12.7mm).

ATC1/2B  As above for 1/2" air terminal to 1/2" threaded rod.
1-1/2" x 5/8" (38.1mm x 15.8mm).
## Air Terminal Safety Tips

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Brass Ball</strong></td>
<td>Brass air terminal safety tip. 1 inch (25.4mm) diameter sphere. Internally threaded for attachment to rod extension pieces. Approximately 4 oz. (113 grams). Specify 3/8, 1/2, or 5/8 thread size.</td>
</tr>
<tr>
<td><strong>Aluminum Ball</strong></td>
<td>Approximately 1.6 oz. (45 grams). Specify 1/2 or 5/8 thread size.</td>
</tr>
<tr>
<td><strong>Brass Bullet</strong></td>
<td>Hex brass air terminal safety tip. Slips over existing air terminal tip and is held in place with a stainless steel set screw 4&quot; x 3/4&quot; (101.6mm x 19.05mm). Approximately 10.7 oz. (303 grams).</td>
</tr>
<tr>
<td><strong>Aluminum Bullet</strong></td>
<td>Approximately 4.3 oz. (122 grams).</td>
</tr>
</tbody>
</table>

**NOTE:** Disk type air terminal tops are also available.

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Decorative Finials - DF

DF1B  27" Bronze Decorative Finial
Cast bronze finial with internally threaded base for 1/2" (12.7mm) threaded rod. 27" (68.6cm) tall, largest section 4-1/2" (11.4cm) diameter. 
Supplied with 2’ (60.9cm) of 1/2” stainless steel threaded rod, 1/2” nut and 1/2” washer. 
Approximately 19.77 pounds (8.94kg).

DF1A  Aluminum
Approximately 9 pounds (4.1kg).

DF48B  48" Bronze Decorative Finial
Cast bronze finial with 1” (25.4mm) diameter mounting rod. Each finial is individually numbered and recorded as a factory original. 
48” (1.22m) tall, 9” (22.9cm) diameter at largest section. 
Approximately 55 pounds (24.9kg). 
Specify mounting rod length required when ordering.

DF48A  Aluminum
Approximately 19 pounds (8.6kg).

DF72B  72" Bronze Decorative Finial
Cast bronze finial with 1” (25.4mm) diameter stainless steel mounting rod. Each finial is individually numbered and recorded as a factory original. 
72” (1.8m) tall, 13 1/2” (34.35cm) diameter at largest section. 
Approximately 175 pounds (79.5kg).

DF72A  Aluminum
Approximately 70 pounds (31.8kg).

DF96B  96" Bronze Decorative Finial
Cast bronze finial with 1” (25.4mm) diameter stainless steel mounting rod. Each finial is individually numbered and recorded as a factory original. 
96” (2.44m) tall, 18” (45.8cm) diameter at largest section. 
Approximately 275 pounds (125kg).

DF96A  Aluminum
Approximately 110 pounds (50kg).

NOTE: Bronze decorative finials and terminals are also available tin plated.
**Decorative Finials - DF**

**DF2B** 30” Bronze Decorative Finial
Cast bronze decorative finial. Overall height 30 inches (76.2cm) 4-1/2” (11.4cm) at widest section. 1/2” diameter stainless steel threaded mounting rod extends from bottom. Supplied with stainless steel nut and washer. Approximately 12 lbs (5.4kg).

**DF2A** Aluminum
Approximately 4 pounds (1.8kg).

**Decorative Terminal - DT**

**DT16B** Cast bronze decorative finial with 3/8” (9.5mm) threaded stub.
16” (40.6cm) tall, largest section diameter 2-1/4” (57.2mm). Approximately 3 pounds (1.36kg).

**DT116B** Cast bronze decorative finial. Same as DT16B but with 1/2” (12.7mm) threaded stub.

**DT16A** Cast Aluminum.
1/2” (12.7mm) threaded stub. Approximately 1 pound (.45kg).

Bronze also available with 1/2” or 3/8” internal threads.

**NOTE:** Bronze decorative finials and terminals are also available tin plated.
Decorative Glass Balls

4-1/2 inch diameter decorative glass balls. Glass balls are reproduction antiques made using original molds. Ball surfaces are smooth and are imprinted with the year of manufacture. (No logos or other markings). Balls are fitted with 5/8” diameter copper end caps. Aluminum end caps also available. Mount on rod using ball bushings.

Available colors:
- MILK WHITE
- RUBY RED
- COBALT BLUE
- EMERALD GREEN

Other colors and sizes of the Decorative Glass Balls are available as special order items.

Glass Ball Bushings

Brass Bushing
Brass hex shoulder bushing for mounting glass balls.
Stainless steel set screw.
Specify rod diameter when ordering.
3/4” x 3/4” (19.05mm x 19.05mm).
Approximately 1.8 oz (51 grams).

Aluminum Bushing
Approximately .6 oz. (17 grams).
Bolt Bases - BB

**BB1B** Ridge Saddle
A cast bronze malleable base which easily forms to ridges and other contoured surfaces. Has a 1-way bolt pressure cable holder. 5/16-18 stainless steel bolt and washer. 8” x 2” (20.3cm x 5.1cm); approximately 12 oz. (340 grams). Use suffix 3/8, 1/2 or 5/8 to denote air thread size.

**BB1A** Aluminum
Approximately 4 oz. (113 grams). Use suffix 1/2 or 5/8 to denote air terminal thread size.

**BB100B** Strap Type Ridge Saddle
12” copper strap with hex stock boss for air terminal attachment and adjustable one-way cast bronze cable holder. 12” x 2” (30.5cm x 5.1cm); approximately 1 lb. 1 oz. (482 grams). Use suffix 3/8, 1/2 or 5/8 to denote air terminal thread size.

**BB100A** Aluminum
Approximately 9.3 oz. (264 grams). Use suffix 1/2 or 5/8 to denote air terminal thread size.

**Odd Sized Ridge Cap? No Problem**

**BB100X** Strap type saddle manufactured in the custom length you specify. Call with ridge dimensions for pricing. Also useful for skylights, atriums, under tiles, etc., where a longer strap is desirable.

**BB2B** Malleable Top Mount
A cast bronze malleable base for use on sloped parapets and other pitched surfaces. Can be formed to contours. Has a 1-way bolt pressure cable holder. 5/16-18 stainless steel bolt and washer. 5-1/4” x 2” (13.3cm x 5.1cm); approximately 13 oz. (369 grams). Use suffix 3/8 or 1/2 or 5/8 to denote air terminal thread size.

**BB2A** Aluminum
Approximately 5 oz. (142 grams). Use suffix 1/2 or 5/8 to denote air terminal thread size.

**NOTE:** Copper and bronze fittings are also available tinned.

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Bolt Bases - BB

**BB3B Adhesive Base**
A cast bronze base with 2-way bolt pressure cable holder. Cap can be rotated 90 degrees. Suitable for use on built-up, single membrane, or other roof surfaces where mechanical penetrations must be avoided. For use with adhesives compatible to roof surface. 5/16-18 stainless steel bolt and washer. 4-1/4" x 4" (10.8cm x 10.2cm); approximately 16 oz. (454 grams). Use suffix 3/8, 1/2 or 5/8 to denote air terminal thread size.

**BB3A Aluminum**
Approximately 6 oz. (170 grams). Use suffix 1/2 or 5/8 to denote air terminal thread size.

**BB4B Top Mount**
A cast bronze base with 2-way bolt pressure cable holder. Is suitable for parapets, flat machinery and other surfaces where mechanical mounting is possible. 5/16-18 stainless steel bolt and washer. 2-13/16" x 2-15/16" (71.44mm x 74.61mm); approximately 9.3 oz. (263 grams). Use suffix 3/8, 1/2 or 5/8 to denote air terminal thread size.

**BB4A Aluminum**
Approximately 4 oz. (113 grams). Use suffix 1/2 or 5/8 to denote air terminal size.

**BB6B Side Mount**
A cast bronze base with a 2-way bolt pressure cable holder. 5/16-18 stainless steel bolt and washer. 2-3/8" x 2-3/4" x 2" (6cm x 7cm x 5.1cm); approximately 13 oz. (369 grams). Use suffix 3/8, 1/2 or 5/8 to denote air terminal thread size.

**BB6A Aluminum**
Approximately 4 oz. (133 grams). Use suffix 1/2 or 5/8 to denote air terminal thread size.

**BB7B Off-Set Side Mount**
A cast bronze base with a 1-way bolt pressure cable holder. 1-1/2" offset. 5/16-18 stainless steel bolt and washer. 2-3/8" x 2-3/4" x 2" (6cm x 7cm x 5.1cm); approximately 13 oz. (369 grams). Use suffix 3/8, 1/2 or 5/8 to denote air terminal thread size.

**BB7A Aluminum**
Approximately 5 oz. (142 grams). Use suffix 1/2 or 5/8 to denote air terminal thread size.

**NOTE:** Copper & bronze fittings are also available tinned.
**Bolt Bases - BB**

**BB700B**  
2-1/2" Off-Set Side Mount  
Cast bronze base with a 1-way bolt pressure cable holder. 2-1/2" offset. 5/16-18 stainless steel washer. 2-3/8" x 3" x 3-1/8" (6cm x 7.6cm x 7.9cm). Approximately 1 lb 7.2 oz. (658 grams).  
Use suffix 3/8, 1/2 or 5/8 to denote air terminal thread size.

**BB700A**  
Aluminum  
Approximately 9.22 oz. (233 grams).  
Use suffix 1/2 and 5/8 to denote air terminal thread size.

**BB8B**  
Cable To Threaded Rod  
Hex brass 2-bolt splicer for cable to threaded rod or air terminal. 5/16-18 stainless steel bolt. 2-7/8" x 3/4" hex (7.3cm x 2.15cm); approximately 5 oz. (142 grams). Use suffix 3/8, 1/2 or 5/8 to denote air terminal thread size.

**BB8A**  
Aluminum  
Approximately 2 oz. (57 grams). 1/2" or 5/8" thread size. Also available with socket head set screws.

**BB9B**  
Dual Thread  
A cast bronze base with a 2-way cable holder. Threaded for top or side mounting. 5/16-18 stainless steel bolt and washer. 2-13/16" x 2-15/16" (71.44mm x 74.61mm). Approximately 9.3 oz. (263 grams). Use suffix 3/8 or 1/2 to denote air terminal thread size.

**BB9A**  
Aluminum  
Approximately 4 oz. (113 grams). Only available with 1/2" thread size.  
Use suffix “S” to request optional stainless steel set screw.

**BB900B**  
Extended Dual Thread  
Cast bronze base with 2-way cable holder. Threaded for top or side mounting. Features a wide mounting surface for a variety of mounting applications. 15/16-18 stainless steel bolt and washer. Use suffix 3/8 or 1/2 to denote air terminal thread. 3-1/8" x 3-5/8" (79.4mm x 92mm). Approximately 13.6 oz. (386 grams).

**BB900A**  
Aluminum  
Approximately 4.8 oz. (136 grams). Only available with 1/2" or 5/8" thread size.

**NOTE:** Copper & bronze fittings are also available tinned.
**Bolt Bases - BB**

**BB10B**  
**Standing Seam Base**  
A cast bronze base with two way bolt pressure cable connector. One-way bolt pressure clamp on backside joins the unit to a standing seam without penetration. Creates a strong and rigid base for parallel runs of cable. Stainless steel bolt, nut and washer. 2-13/16" x 2-15/16" (71.44mm x 76.61mm); approximately 9.3 oz. (263 grams). Use suffix 3/8, 1/2 or 5/8 to denote air terminal thread size.

**BB10A**  
**Aluminum**  
Approximately 5 oz. (142 grams). Use suffix 1/2 or 5/8 to denote air terminal thread size.

**BB11T**  
**Flue Tile**  
Tinned cast bronze base for mounting air terminals to flue tiles. Has two stainless steel bolts for anchoring. 2-1/2" x 2-3/4" (6.4cm x 7cm); approximately 11 oz. (312 grams). Use suffix 3/8 or 1/2 to denote air terminal thread size.

**BB11A**  
**Aluminum**  
Approximately 4 oz. (113 grams). Use with 1/2” diameter air terminal.

**BB12B**  
**Horizontal Pipe Mount**  
A cast bronze base for horizontal mounting of air terminals on pipes up to 2” (5.1cm) in diameter. 2-way bolt pressure cable holder fits cables through 4/0. Stainless steel bolts, nuts and washers. 3-1/2" x 2" (8.9cm x 5.1cm); approximately 12 oz. (340 grams). Use suffix 3/8, 1/2 or 5/8 to denote air terminal thread size.

**BB12A**  
**Aluminum**  
Approximately 4 oz. (113 grams). Use suffix 1/2 or 5/8 to denote air terminal thread size.

**BB13B**  
**Vertical Pipe Mount**  
A cast bronze base for vertical mounting of air terminals on pipes up to 2" (5.1cm) in diameter. 2-way bolt pressure cable holder fits cables through 4/0. Can be used with or without cable. Stainless steel U-bolt, nuts and washers. 3-1/2" x 2" (8.9cm x 5.1cm); approximately 12 oz. (340 grams).

**BB13A**  
**Aluminum**  
Approximately 4 oz. (113 grams).

**NOTE:** Copper & bronze fittings are also available tinned.
**Bolt Bases - BB**

**BB14B**  
**Horizontal Air Terminal Mount**  
A cast bronze base for horizontal air terminal mounting only. Fits pipes up to 2” (5.1cm) in diameter. Stainless steel U-bolt, nuts and washers. 3-1/2” x 2” (8.9cm x 5.1cm); approximately 11 oz. (312 grams). Use suffix 3/8, 1/2 or 5/8 to denote air terminal thread size.

**BB14A**  
**Aluminum**  
Approximately 3.5 oz. (99 grams). Use suffix 1/2 or 5/8 to denote air terminal thread size.

**BB16B**  
**Across Standing Seam**  
A malleable cast bronze base with a 1-way bolt pressure cable holder and two non-penetrating bolt pressure fasteners. For use when cable is run across standing roof seam. Stainless steel bolts. 5-1/2” x 2” (14cm x 5.1cm); approximately 20 oz. (567 grams). Use suffix 3/8, 1/2 or 5/8 to denote air terminal thread size.

**BB16A**  
**Aluminum**  
Approximately 7 oz. (198 grams). Use suffix 1/2 or 5/8 to denote air terminal thread size.

**BB19B**  
**Standing Seam Base**  
Cast bronze base with 2-way bolt pressure cable holder. Cap can be rotated for use with horizontal or vertical conductor runs. Can be used with or without swivel point adapter. Stainless steel bolts. 2.7” x 1.7” x 1.8” (6.8cm x 4.3cm x 4.5cm). Approximately 17.1 oz. (484 grams). Use suffix 3/8, 1/2 or 5/8 to denote air terminal thread size.

**BB20A**  
**Aluminum**  
Approximately 5.7 oz. (161 grams). Use suffix 1/2 or 5/8 to denote air terminal thread size.

**BB20B**  
**Concealed Ridge Saddle**  
A cast bronze malleable base which can be concealed under the ridge cap. Base easily forms to ridges and other contoured surfaces. Comes with 1/2” threaded rod, lock-nut and air terminal coupling. 8” x 2” (20.3cm x 5.1cm); approximately 19.5 oz. (553 grams). Use suffix 3/8, 1/2 or 5/8 to denote air terminal thread size.

**BB20A**  
**Aluminum**  
Approximately 9.6 oz. (272 grams). Use suffix 1/2 or 5/8 to denote air terminal thread size.

**NOTE:** Copper & bronze fittings are also available tinned.
**Bolt Bases - BB**

**BB21B Two-Way Top Mount Base**
- Cast bronze base for mounting to flat surfaces.
- Comes with a two-way bolt pressure cable holder.
- Versatile, narrow design works well in many situations.
- 5/16-18 stainless steel bolt and washer.
- 5” x 2-1/2” (12.7cm x 6.35cm); approximately 14.5 oz. (413 grams). Use suffix 3/8, 1/2 or 5/8 to denote air terminal thread size.

**BB21A Aluminum**
- Approximately 5.2 oz. (148 grams).
- Use suffix 1/2 or 5/8 to denote air terminal thread size.

**BB22B Narrow Top Mount**
- Cast bronze base for mounting to narrow flat surfaces; comes with a two-way bolt pressure cable holder. Versatile narrow design works well in many situations. Stainless steel bolt and washer. Use suffix 3/8, 1/2 or 5/8 to denote air terminal thread size. 1-5/8” x 4-1/2” (41.28mm x 114.3mm); approximately 14.9 oz. (422 grams).

**BB22A Aluminum**
- Approximately 5 oz. (142 grams).
- Use suffix 1/2 or 5/8 to denote air terminal thread size.

**BB23B Narrow Horizontal Side Mount**
- Cast bronze base for side mounting to narrow horizontal surfaces. Two-way bolt pressure cable holder. Stainless steel bolt and washer. Use suffix 3/8, 1/2 or 5/8 to denote air terminal thread size. 1-5/8” x 4-1/2” (41.28mm x 114.3); approximately 14.9 oz. (422 grams).

**BB23A Aluminum**
- Approximately 5 oz. (142 grams).
- Use suffix 1/2 or 5/8 to denote air terminal thread size.

**BB24B Narrow Vertical Side Mount**
- Cast bronze base for side mounting to narrow vertical surfaces. Two-way bolt pressure cable holder. Stainless steel bolt and washer. Use suffix 3/8, 1/2 or 5/8 to denote air terminal thread size. 1-5/8” x 4-1/2” (41.28mm x 114.3mm); approximately 14.9 oz. (422 grams).

**BB24A Aluminum**
- Approximately 5 oz. (142 grams).
- Use suffix 1/2 or 5/8 to denote air terminal thread size.

**NOTE:** Copper & bronze fittings are also available tinned.
**Bolt Bases - BB**

**BB25B**  
Adjustable Base  
Copper/bronze base easily conforms to flat or pitched surfaces. Pressed copper bottom measures 2” x 4” (5.1cm x 10.2cm). Cast bronze two-way cable holder with brass hex air terminal receptacle. Stainless steel fasteners. Use suffix 3/8, 1/2 or 5/8 to denote air terminal thread size.  
Approximately 12.4 oz. (349 grams).

**BB25A**  
Aluminum  
Approximately 6.5 oz. (183 grams).  
Use suffix 1/2 or 5/8 to denote air terminal thread size.

**BB26B**  
Horizontal Pipe Top Mount  
Cast bronze base with stainless steel U-bolt, nuts and washers. Fits pipes up to 3” OD. For mounting air terminals to the top of horizontal pipes or railings where conductor is not required. 4.25” x 1.5” (10.8 cm x 3.8 cm) Approximately 17.6 oz. (498 grams)  
Use suffix 3/8, 1/2 or 5/8 to denote air terminal thread size.

**BB26A**  
Aluminum  
Approximately 7.5 oz. (212 grams).  
Use suffix 1/2 or 5/8 to denote air terminal thread size.

**BB27B**  
Horizontal Pipe Side Mount  
Cast bronze base with stainless steel U-bolt, nuts and washers. Fits pipes up to 3” OD. For mounting air terminals to the side of horizontal pipes or railings where conductor is not required. 4.25” x 1.5” (10.8 cm x 3.8 cm) Approximately 17.6 oz. (498 grams)  
Use suffix 3/8 or 1/2 to denote air terminal thread size.

**BB27A**  
Aluminum  
Approximately 7.5 oz. (212 grams).  
Use suffix 1/2 to denote air terminal thread size.

**BB28B**  
Vertical Pipe Mount  
Cast bronze base with stainless steel U-bolt, nuts and washers. Fits pipes up to 3” OD. For mounting air terminals to vertical pipes or railings where conductor is not required. 4.25” x 1.5” (10.8 cm x 3.8 cm) Approximately 17.6 oz. (498 grams) Use suffix 3/8, 1/2 or 5/8 to denote air terminal thread size.

**BB28A**  
Aluminum  
Approximately 7.5 oz. (212 grams).  
Use suffix 1/2 or 5/8 to denote air terminal thread size
Bolt Bases - BB

**BB29B**  
Vertical Pipe Mount with Set Screw  
Cast bronze base with stainless steel U-bolt, nuts and washers. Fits pipes up to 3” OD. For mounting air terminals to vertical pipes or railings where conductor is not required. Threaded to accept set screw for locking air terminals in place. 4.25” x 1.5” (10.8 cm x 3.8 cm) Approximately 17.6 oz. (498 grams)  
Use suffix 3/8, 1/2 or 5/8 to denote air terminal thread size.

**BB29A**  
Aluminum  
Approximately 7.5 oz. (212 grams).  
Use suffix 1/2 or 5/8 to denote air terminal thread size.

**BB30B**  
Horizontal Pipe - Top Mount with Cable Holder  
Cast bronze base for mounting air terminals to the top of horizontal pipes or railings up to 3” OD. 2-way bolt pressure cable holder fits cables up to 4/0. 4” (10.2 cm) stainless steel bolts, nuts, washers. 4.5” x 1.5” (11.4 cm x 3.8 cm) (Approximately 855 grams) Use suffix 3/8, 1/2 or 5/8 to denote air terminal thread size.

**BB30A**  
Aluminum  
Approximately 11.5 oz. (325 grams).  
Use suffix 1/2 or 5/8 to denote air terminal thread size.

**BB31B**  
Horizontal Pipe - Side Mount with Cable Holder  
Cast bronze base for mounting air terminals to the side of horizontal pipes or railings up to 3” OD. 2-way bolt pressure cable holder fits cables up to 4/0. 4” (10.2 cm) stainless steel bolts, nuts, washers. 4.5” x 1.5” (11.4 cm x 3.8 cm) (Approximately 855 grams) Use suffix 3/8, 1/2 or 5/8 to denote air terminal thread size.

**BB31A**  
Aluminum  
Approximately 11.5 oz. (325 grams).  
Use suffix 1/2 or 5/8 to denote air terminal thread size.

**BB32B**  
Vertical Pipe Mount with Cable Holder  
Cast bronze base for mounting air terminals to vertical pipes or railings up to 3” OD. 2-way bolt pressure cable holder fits cables up to 4/0. 4” (10.2 cm) stainless steel bolts, nuts, washers. 4.5” x 1.5” (11.4 cm x 3.8 cm) (Approximately 855 grams) Use suffix 3/8, 1/2 or 5/8 to denote air terminal thread size.

**BB32A**  
Aluminum  
Approximately 11.5 oz. (212 grams).  
Use suffix 1/2 or 5/8 to denote air terminal thread size.

NOTE: Copper & bronze fittings are also available tinned.
Bolt Bases - BB

**BB33B**  **Vertical Pipe Mount with Set Screw**
Cast bronze base for mounting air terminals to the top of vertical pipes up to 3" OD. 2-way bolt pressure cable holder fits cables up to 4/0. 4" (10.2 cm) stainless steel bolts, nuts, washers. 4.5” x 1.5” (11.4 cm x 3.8 cm) (Approximately 855 grams) Use suffix 3/8, 1/2 or 5/8 to denote air terminal thread size.

**BB33A**  **Aluminum**
Approximately 11.5 oz. (212 grams).
Use suffix 1/2 or 5/8 to denote air terminal thread size.
Point Mounts - PM

**PM1B**  
**Round**  
A cast bronze base with no cable holder. 8 square inches of contact. For direct mounting of air terminals on horizontal steel surfaces or vents. 3-1/4” (8.26cm) diameter; approximately 6.75 oz. (191 grams). Use suffix 3/8, 1/2 or 5/8 to denote air terminal thread size.

**PM1A**  
**Aluminum**  
Approximately 2.25 oz. (64 grams). Use suffix 1/2 or 5/8 to denote air terminal thread size.

**PM2B**  
**Bump Back**  
A cast malleable bronze base with no cable holder. For use on contoured or sloped surfaces. 1-1/2” x 4-1/4” (3.8cm x 10.8cm); approximately 5 oz. (142 grams). Use suffix 3/8, 1/2 or 5/8 to denote air terminal thread size.

**PM2A**  
**Aluminum**  
Approximately 1.6 oz. (45 grams). Use suffix 1/2 or 5/8 to denote air terminal thread size.

**PM3B**  
**Flat Back**  
A cast malleable bronze base with no cable holder. For use on flat or contoured surfaces. 2” x 4” (5.1cm x 10.2cm); approximately 5 oz. (142 grams). Use suffix 3/8, 1/2 or 5/8 to denote air terminal thread size.

**PM3A**  
**Aluminum**  
Approximately 2 oz. (57 grams). Use suffix 1/2 or 5/8 to denote air terminal thread size.

**PM5B**  
**Side Mount**  
A cast bronze base with no cable holder.  
2-15/16” x 2-15/16” (7.5cm x 7.5cm); approximately 7.5 oz. (213 grams). Use suffix 3/8, 1/2 or 5/8 to denote air terminal thread size.

**PM5A**  
**Aluminum**  
Approximately 2.5 oz. (71 grams). Use suffix 1/2 or 5/8 to denote air terminal thread size.

**PM7B**  
**Offset Side Mount**  
Cast bronze base with no cable holder. For direct mounting of air terminals on vertical surfaces where an off-set is necessary. Offset is 1-1/2” (38.1mm). 2-1/8” x 2” (53.98mm x 50.8mm); approximately 9.6 oz. (272 grams).

**PM7A**  
**Aluminum**  
Approximately 3.2 oz. (91 grams).
Crimp Bases - CB (for Class I installations)

CB1B Ridge Saddle
Cast bronze malleable ridge saddle with crimp cable holder. 3/8” thread only.
4” x 8-1/2” (10.2cm x 21.6cm); approximately 7.5 oz. (213 grams).

CB1A Aluminum
1/2” thread only.
4-1/2” x 10-3/4” (11.4cm x 27.3cm); approximately 5 oz. (142 grams).

CB2B Flat Top
Cast bronze malleable masonry or parapet base with crimp cable holder. Available with 3/8” or 1/2” thread. 2” x 5-1/4” (5.1cm x 13.3cm); approximately 10.5 oz. (213 grams).

CB2A Aluminum
1/2” thread only.
Approximately 3.5 oz. (142 grams).

CB2BM Masonry Base
Cast bronze malleable masonry base. 3/8” thread only.
1-1/2” x 4-7/8” (3.8cm x 12.4cm); approximately 6.2 oz. (176 grams).

CB2TM Tinned
Approximately 6.2 oz. (176 grams).

CB4B Top Mount
Cast bronze malleable top mount base with crimp cable holder. 1-7/8” x 3-1/8” (4.75cm x 7.9cm); (3/8” thread only) approximately 5.5 oz. (156 grams).

CB4A Aluminum
1/2” thread only.
Approximately 2.0 oz. (57 grams).

NOTE: Copper & bronze fittings are also available tinned.
Crimp Bases - CB

CB5B  Side Mount
Cast bronze malleable side mount base with crimp cable holder.
1-7/8" x 3-1/8" (4.75cm x 8.3cm); approximately 5.5 oz. (156 grams).
3/8" thread shown. Also available for 1/2" thread.

CB5A  Aluminum
2" x 4" (5.1cm x 10.2cm); approximately 2.4 oz. (68 grams).
1/2" thread only.

CB7B  Off-Set
Cast bronze malleable side mount base with 1-3/8" (3.5cm) offset and crimp cable holder.
1-7/8" x 1-1/8" (4.75cm x 8.25cm); approximately 7.5 oz. (213 grams).
3/8" thread only.

CB8B  Cable-3/8"
Cast bronze malleable cable to 3/8” threaded rod or air terminal base. Crimp cable holder.
5/8" x 4-1/2" (1.6cm x 11.4cm); approximately 4 oz. (113 grams).
3/8" thread only.

CB8T  Tinned
Approximately 4 oz. (113 grams).

CB9B  Dual Threaded
Cast bronze malleable dual 3/8” threaded base for side or top mounting. Crimp cable holder.
1-7/8" x 3-1/8" (4.75cm x 3.13cm); approximately 5.5 oz. (156 grams).
Use suffix “S” to request optional set screw.

NOTE: Copper & bronze fittings are also available tinned.
Crimp Fittings - CF  

TWINS  
CF1B  Cast Soft Bronze, crimp parallel cable splicer.  
2" x 1-3/16" (5.1cm x 3cm); approximately 2.5 oz. (71 grams).  
CF1T  Tinned  
PF1C  Stamped Copper, crimp parallel cable splicer.  
PF1A  Stamped Aluminum  

TEES  
PF2C  Stamped Copper, crimp perpendicularly dissecting cable splicer.  
PF2T  Tinned  
PF2A  Stamped Aluminum  

STRAIGHTS  
PF3C  Stamped Copper, crimp in-line abutting cable splicer.  
PF3T  Tinned  
PF3A  Stamped Aluminum  

BONDING LUGS  
CF4B  Cast Soft Bronze, crimp splicer for cable to metallic body connections.  
Use for inter-connections to door tracks, eave troughs, etc.  
Approximately 5/8" x 3-1/2" (1.59cm x 8.9cm); 2.3 oz. (65 grams).  
CF4T  Tinned  
CF4A  Cast Aluminum  
Approximately 1.5 oz. (43 grams).  

BONDING PLATES  
CF6B  Cast Soft Bronze, crimp cable to metallic surface fitting.  
Approximately 1-13/16" x 2-3/8" (4.6cm x 6cm); 3.5 oz. (99 grams).  
CF6T  Tinned  
CF6A  Cast Aluminum  
Approximately 2-1/8" x 2-3/4" (5.4cm x 7cm); 2 oz. (57 grams).
Thru-Structure Assemblies - TS

**TS1** Thru-Roof Assembly
Supplied with 12” (30.5cm) threaded rod, stainless steel locking set screws, EPDM washer, stainless steel washer and nut, rod to air terminal coupling and 12” (30.5cm) air terminal.

**TS2** Thru-Roof or Wall Assembly
Supplied with 12” (30.5cm) threaded rod, stainless steel locking set screws and bolt pressure cable holder. The fittings are available in aluminum, bronze or one of each.

**TS3** Thru-Roof or Wall Assembly
For right angle to straight tap. Supplied with 12” (30.5cm) threaded rod, nut and EPDM washer. The fittings are available in aluminum, bronze or one of each.

**TS4** Thru-Roof or Wall Assembly
For right angle to straight tap. Supplied with 12” (30.5cm) threaded rod, 2 stainless steel fender washers, 2 EPDM washers, 2 nuts and a fully adjustable bolt pressure cable holder. The fittings are available in aluminum, bronze or one of each.

** When ordering Thru-Structure Assemblies – specify material, threaded rod length and diameter. Many lengths and connectors are available for special connections. Call the factory with your specific needs.
Thru-Structure Assemblies - TS

** TS6 Thru-Roof or Wall Assembly
For right angle connections. Supplied with 12” (30.5cm) threaded rod, 2 stainless steel fender washers, 2 EPDM washers, 2 nuts and fully adjustable cable holders. The fittings are available in aluminum, bronze or one of each.

** TS6 Thru-Roof or Wall Assembly
Connector end has mounting holes for direct attachment to concrete or other surfaces. Supplied with 12” (30.5cm) threaded rod. The fittings are available in aluminum, bronze or one of each.

Thru-Structure Assemblies with 1-1/2” Diameter PVC - TS

** TS7 Rectangle Mount - Air Terminal To Horizontal Cable Assembly
Supplied with 18” (45.7cm) of 1/2-13 threaded rod, 12” (30.5cm) of Schedule 40 PVC tubing, fully adjustable bolt pressure cable holder, EPDM washer, stainless steel hardware, rod to air terminal coupling, 12” (30.5cm) air terminal and 2” x 4” (5.1cm x 10.2cm) mount to fit corrugated steel decking or for fastening to any flat surface.

** TS8 Round Mount - Air Terminal To Horizontal Cable Assembly
Supplied with 18” (45.7cm) of 1/2-13 threaded rod, 12” (30.5cm) of Schedule 40 PVC tubing, fully adjustable bolt pressure cable holder, EPDM washer, stainless steel hardware, rod to air terminal coupling, 12” (30.5cm) air terminal and 3-1/4” (8.3cm) diameter mount for fastening to flat decking.

** When ordering Thru-Structure Assemblies – specify material, threaded rod length and diameter. Many lengths and connectors are available for special connections. Call the factory with your specific needs.
Thru-Structure Assemblies with 1-1/2” Diameter PVC - TS

** TS9 **
Rectangle Mount - Air Terminal To Vertical Cable Assembly
Supplied with 18” (45.7cm) of 1/2-13 threaded rod, 12” (30.5cm) of Schedule 40 PVC tubing, EPDM washer, stainless steel hardware, rod to air terminal coupling, 12” (30.5cm) air terminal and 2” x 4” (5.1cm x 10.2cm) mount to fit corrugated steel decking or for fastening to any flat decking.

** TS10 **
Round Mount - Air Terminal To Vertical Cable Assembly
Supplied with 18” (45.7cm) of 1/2-13 threaded rod, 12” (30.5cm) of Schedule 40 PVC tubing, EPDM washer, stainless steel hardware, rod to air terminal coupling, 12” (30.5cm) air terminal and 3-1/4” (8.3cm) diameter mount for fastening to flat decking.

** TS11 **
Rectangle Mount - Cable To Horizontal Cable Assembly
Supplied with 18” (45.7cm) of 1/2-13 threaded rod, 12” (30.5cm) of Schedule 40 PVC tubing, stainless steel hardware, fully adjustable bolt cable holder, and 2” x 4” (5.1cm x 10.2cm) mount to fit corrugated steel decking or for fastening to flat decking.

** TS12 **
Round Mount - Cable To Horizontal Cable Assembly
Supplied with 18” (45.7cm) of 1/2-13 threaded rod, 12” (30.5cm) of Schedule 40 PVC tubing, stainless steel hardware, fully adjustable bolt cable holder, and 3-1/4” (8.3cm) diameter mount for fastening to flat decking.

When ordering Thru-Structure Assemblies – specify material, threaded rod length and diameter. Many lengths and connectors are available for special connections. Call the factory with your specific needs.
**Thru-Structure Assemblies for 1-1/2” Diameter PVC - TS**

**TS13** Rectangle Mount - Cable To Vertical Cable Assembly

Supplied with 18” (45.7cm) of 1/2-13 threaded rod, 12” (30.5cm) of Schedule 40 PVC tubing, stainless steel hardware, and 2” x 4” (5.1cm x 10.2cm) mount to fit corrugated steel decking or for fastening to any flat decking.

**TS14** Round Mount - Cable to Vertical Cable Assembly

Supplied with 18” (45.7cm) of 1/2-13 threaded rod, 12” (30.5cm) of Schedule 40 PVC tubing, stainless steel hardware, and 3-1/4” (8.3cm) diameter mount for fastening to flat decking.

**TS15** Deckmount Assembly

Supplied with 18” (45.7cm) of 1/2-13 threaded rod, 16” (40.6cm) of Schedule 40 PVC tubing, BB21 base and CC2 top, both have fully adjustable cable holders. Stainless steel hardware. Easily mounts to flat or corrugated decking.

**TS16B** 1” PVC Capped Assembly

1” diameter PVC cap for top end of 1” PVC conduit chases. Two-way bronze cable holder, stainless steel hardware and EPDM washer. Brass hex cable holder with stainless steel set screws and nut. 3” of 1/2” diameter stainless steel threaded rod between. 5-1/4” x 2-1/2” (13.3cm x 6.35cm).

**TS16A** Aluminum

1” diameter PVC Cap with Aluminum fittings.

**TS16** Bimetal

1” diameter PVC Cap with Aluminum Top and Brass Bottom.

**Thru-Roof Protector**

Reusable Thru-Roof Protector is bright neon-green durable plastic. Fits snugly over thru-roof threaded rod stubs. Comes with waterproof warning tag in English and Spanish.
**Conduit Caps - CC**

**CC1B**  
**Air Terminal Conduit Cap**  
A cast bronze cap machined to fit snugly on Schedule 40 1-1/2” (3.8cm) PVC tubing. Threaded to accept 1/2-13 threaded rod. Comes with rod coupling to attach air terminal, 1/2” EPDM washer and 1/2” flat washer. Approximately 4.5 oz. (128 grams). Use suffix 3/8 or 1/2 to denote air terminal thread size.

**CC1A**  
**Aluminum**  
Approximately 1.3 oz. (37 grams). Use suffix 1/2 or 5/8 to denote air terminal thread size.

**CC2B**  
**Conduit Cap**  
A cast bronze cap machined to fit snugly on Schedule 40 1-1/2” (3.8cm) PVC tubing. Threaded to accept 1/2-13 threaded rod. Comes with 1/2” flat washer and 1/2” nut. Approximately 9.0 oz. (255 grams).

**CC2A**  
**Aluminum**  
Approximately 3.4 oz. (96 grams).

**CC2T**  
**Tinned**  
Approximately 9.0 oz. (255 grams).

**CC3B**  
**Conduit Cap to Threaded Rod**  
Cast bronze cap with bolt pressure cable holder machined to fit snugly over 1-1/2” Schedule 40 PVC conduit. Internally threaded brass hex stock adapter extends below. Stainless steel nut and washer. Overall height 2.8” (7cm). Approximately 12.8 oz. (363 grams). Specify 3/8 or 1/2 internal thread size when ordering.

**CC3A**  
**Aluminum**  
Approximately 4.8 oz. (136 grams). Specify 1/2 or 5/8 internal thread size when ordering.

**CC4B**  
**Conduit Cap to Cable**  
Cast bronze cap with bolt pressure cable holder machined to fit snugly over 1-1/2” Schedule 40 PVC conduit. Has brass hex stock bolt pressure cable holder extending below. Stainless steel bolts, nuts and washer. Overall height 4.2” (10.6CM). Approximately 15.2 oz. (431 grams).

**CC4A**  
**Aluminum**  
Approximately 5.6 oz. (159 grams).

**Conduit Bushing**  
A brass conduit bushing to be used with 1/2” copper pipe cable guards. Has set screw for bonding cable to copper pipe. 7/8” x 3/4” (2.22cm x 1.9cm); approximately 1.1 oz. (31.2 grams).
Roof Penetration Flashing

Rubber Boot
For single membrane roof penetrations. EPDM flashing boot is 6” tall with 10-1/2” diameter skirt. For use on rods and pipes with outside diameters 1/2” to 3”. Comes with stainless steel adjustable pipe clamp. Mount with compatible roof adhesive.

Other sizes available, call factory.

Metal/Rubber Boot
For metal roof penetrations. EPDM boot with integrated, flexible aluminum trimmed skirt. Can be molded to metal roof seams. Boot is 2” tall and 4-1/2” square. For use on rods and pipes with outside diameters of 1/4” to 2”. Mount with stainless steel fasteners.

Also available in Silicone Rubber.

Mini Boot
For small metal roof penetration up to 7/8” in diameter. Gray EPDM with flexible aluminum base ring. Boot is 3-3/4” (95.3mm) tall with a 3-5/8” (92mm) diameter. Approximately 1.4 oz. (39 grams).

Aluminum Sealing Cone
Cast aluminum sealing cone for thru-roof penetrations. Cone can be filled with sealant compatible with roof material and drawn down to provide a moisture resistant seal. Diameter of center hole is 1/2” (12.7mm). 3” x 1-1/2” (76mm x 38mm). Approximately 2.2 oz. (62 grams).

Pitch Pocket
Pitch Pockets are available in custom sizes to meet your special requirements. Standard pitch pocket is .032 x 6 x 6 inch square (.08cm x 15.2cm x 15.2cm) with a 4” (10.16cm) riser that is 3/4” (1.9cm) in diameter.

Call factory for details.
Bolt Fittings - BF

BF1B  Round-Round
Cast bronze, bolt pressure cable to cable or cable to rod clamp. 1-1/4” stainless steel hex head bolt and washer. 1-9/16” x 1-3/4” (4cm x 4.45cm); approximately 6.3 oz. (179 grams).

BF1BM  Modified Round-Round
Cast Bronze, as above with shorter 1” hex head bolt.

BF1A  Aluminum
Approximately 3 oz. (85 grams).

BF100B  Round-Round  US PATENT NO. 424, 924
Cast bronze bolt pressure cable to cable or cable to rod clamp. 1-1/2” stainless steel carriage bolt. Specifically designed for cable splices on single membrane roofs. 1-9/16” x 1-3/4” (39.7mm x 44.45mm); approximately 7.6 oz. (215 grams).

BF100A  Aluminum
Approximately 3 oz. (85 grams).

BF1BX  Round to Round “Drilled Out”
Cast bronze bottom and two-way cap for joining cable to rod. Bottom is drilled out but not threaded. Stainless steel washer and nut included. 1-9/16” x 1-3/4” (39.7mm x 44.45mm); approximately 6.8 oz. (193 grams).

BF1AX  Aluminum
Approximately 2.3 oz. (65 grams).

BF1BX1/2  Round To Round “Spin On”
Cast bronze bottom and two-way cap with 1/2” diameter threaded hole for joining cable to threaded rod. Bottom is drilled and threaded for 1/2” (12.7mm). Stainless steel nut and washer included. 1-9/16” x 1-3/4” (39.7mm x 44.45mm); approximately 6.8 oz. (193 grams).

BF1AX1/2  Aluminum
Approximately 2.3 oz. (65 grams).

BF2B  Tee
Cast bronze pressure “tee” splicer. Stainless steel bolts and washer. 2-1/4” x 2” x 5” (5.7cm x 5.1cm x 12.7cm); approximately 10 oz. (284 grams).

BF2A  Aluminum
Approximately 3.5 oz. (99 grams).

NOTE: Copper & bronze fittings are also available tinned.
Bolt Fittings - BF

BF3B  Straight
4-bolt hex brass straight splicer. Stainless steel bolts. 3-1/2" x 3/4" (8.9cm x 1.9cm) hex; approximately 6 oz. (170 grams).

BF3A  Aluminum
Approximately 2 oz. (57 grams).

BF4B  Bonding Lug
Cast bronze primary cable to metal surface bonding lug. Has over four square inches of contact. Stainless steel bolts. 2-1/4" x 2" x 5" (5.7cm x 5.1cm x 12.7cm); approximately 9 oz. (255 grams).

BF4A  Aluminum
Approximately 3 oz. (85 grams).

BF5B  Mini Bonding Lug
Cast bronze secondary cable to metal surface bonding lug. Stainless steel bolts. 3-1/2" x 9/16" (8.9cm x 1.4cm); approximately 3 oz. (85 grams).

BF5A  Aluminum
Approximately 2 oz. (57 grams).

BF7B  Round to Flat
Cast bronze bolt pressure cable to flat surface clamp. Stainless steel bolt and washer. 1-9/16" x 2-1/4" (4cm x 5.7cm); approximately 7.3 oz. (207 grams).

BF7A  Aluminum
Approximately 3 oz. (85 grams).

BF8B  2-Way Bonding Plate
Cast bronze, 8-square-inch bonding plate with 2-way bolt pressure cable holder. Stainless steel bolt and washer. 2-1/16" x 4" (52.38mm x 101.6mm). Approximately 10.3 oz. (292 grams).

BF8A  Aluminum
Approximately 3.8 oz. (108 grams).
### Bolt Fittings - BF

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Material</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>BF800B</td>
<td>16 Square Inch Bonding Plate, heavy duty cast bronze, with 2 two-way bolt pressure cable holders.</td>
<td>Aluminum</td>
<td>Approximately 9.12 oz. (260 grams).</td>
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<tr>
<td>BF800A</td>
<td>Aluminum</td>
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<tr>
<td>BF9B</td>
<td>Bonding Clamp, cast bronze, 4-square-inch bonding clamp with bolt pressure cable holder.</td>
<td>Aluminum</td>
<td>Approximately 3 oz. (85 grams).</td>
</tr>
<tr>
<td>BF9A</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>BF10B</td>
<td>2-Bolt Parallel, cast bronze clamp for splicing or connecting two rods, two cables or rod to</td>
<td>Aluminum</td>
<td>Approximately 2.5 oz. (71 grams).</td>
</tr>
<tr>
<td>BF10A</td>
<td>2-Bolt Parallel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BF11B</td>
<td>1-Bolt Parallel, cast bronze clamp for splicing or connecting two rods, two cables or rod and</td>
<td>Aluminum</td>
<td>Approximately 1.3 oz. (37 grams).</td>
</tr>
<tr>
<td>BF11A</td>
<td>1-Bolt Parallel</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** Copper & bronze fittings are also available tinned.
Bolt Fittings - BF

BF12B  Round Bonding Plate
Cast bronze 5.9 square inch bonding plate with 2-way bolt pressure cable holder. Stainless steel bolt and washer. 2-3/4” (7cm) diameter; approximately 10 oz. (284 grams).

BF12A  Aluminum
Approximately 3.5 oz. (99 grams).

BF12B1/2  Round Bonding Plate “Spin On”
Cast bronze 5.9 (149.9mm) square inch bonding plate. Bottom has 1/2” diameter threaded hole. Two-way bolt pressure cable holder. Stainless steel washer and nut included. 2-3/4” (7cm) diameter; approximately 7.8 oz. (221 grams).

BF12A1/2  Aluminum
Approximately 1.8 oz. (51 grams).

BF13B  Cross Run
Cast bronze bolt pressure cross run or cross tee clamp. Stainless steel carriage bolt, nut and washer. 1-9/16” x 1-3/4” (4cm x 4.5cm); approximately 8 oz. (227 grams).

BF13A  Aluminum
Approximately 3.5 oz. 99 grams).

BF14B  Steel-Back Bonding Plate
Cast bronze, 8 square inch bonding plate with 2-way bolt pressure cable holder and a 1/4” (.64cm) mild steel back plate. For direct welding to steel. Stainless steel bolt and washer. 4” x 2” (10.2cm x 5.1cm); approximately 23.2 oz. (658 grams).

BF14A  Aluminum
Approximately 16.8 oz. (476 grams).

NOTE: Copper & bronze fittings are also available tinned.

Get grounded.

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**Bolt Fittings - BF**

**BF15B**
*Miniature Round to Flat*
Cast bronze miniature cable to flat surface clamp for secondary bonding. Stainless steel bolt and washer. 3/4” x 2-1/4” (1.9cm x 5.7cm); approximately 3.5 oz. (99 grams).

**BF15A**
*Aluminum*
Approximately 1.5 oz. (43 grams).

**BF16B**
*3 Square Inch Bonding Plate*
Cast bronze secondary bonding plate. Two-way cable holder with stainless steel bolt and washer. 1-5/8” x 3-1/4” (4.1cm x 8.26cm); approximately 7.1 oz. (201 grams).

**BF16A**
*Aluminum*
Approximately 2.6 oz. (73.7 grams).

**BF17B**
*Malleable Bonding Lug*
Bronze bonding lug for primary conductors. 2” x 4” (5.1cm x 10.2cm) pressed copper bottom plate - .064 thick. Cast bronze two-way cap. Stainless steel fastener. Approximately 8.9 oz. (251 grams).

**BF17A**
*Aluminum*
2” x 4” (5.1cm x 10.2cm) pressed aluminum bottom plate - .1026 thick. Approximately 4.3 oz. (121 grams).

**BF18B**
*8 Square Inch Beam Clamp*
Cast bronze 8 square inch bonding plate with 2 two-way bolt pressure cable holders. For primary bonding to beams and similar flat metal protrusions. 2 stainless steel bolts and washers. 3-1/4” x 4” (82.6mm x 101.6mm); approximately 2 lbs. 2.1 oz. (967 grams).

**BF18A**
*Aluminum*
Approximately 13.3 oz. (377 grams).

**NOTE:** Copper & bronze fittings are also available tinned.
Bolt Fittings - BF

BF19B

4 Square Inch Beam Clamp
Cast bronze 4 square inch bonding plate with 1 two-way bolt pressure cable holder. For primary bonding to beams and similar flat metal protrusions. Stainless steel bolt and washer. 3-1/4” x 2” (82.6mm x 50.8mm); approximately 1 lb. 1 oz. (482 grams).

BF19A

Aluminum
Approximately 6.7 oz. (190 grams).

BF20B

Cable Splicer
Cast bronze two-way cable holder with hex brass bolt pressure cable tap. Stainless steel bolts, nut and washer. 3.8” (100mm); approximately 9.6 oz. (272 grams).

BF20A

Aluminum
Approximately 5.6 oz. (159 grams).

BF21B

Cable to Strip Connector
Cast bronze two-way cable holder with cast flat backed bottom. Can be used to join 1 or 2 inch wide strip to conductor runs. 0.125” thick x 2.6” x 1.8” (6.60cm x 4.57cm). Approximately 6.9 oz. (195 grams).

BF21A

Aluminum
Approximately 2.3 oz. (65 grams).

NOTE: Copper & bronze fittings are also available tinned.
Bimetallic Fittings - BM
For Connecting Aluminum and Copper

BM1
Bimetallic Round To Round
Cast bimetallic bolt pressure clamp for joining 2 dissimilar cables. Aluminum two-way cast top. Bronze two-way cast bottom. Stainless steel spacer plate. Stainless steel hex bolt and washer. 1-9/16” x 1-3/4” (39.69mm x 44.45mm); approximately 5.4 oz. (15.3 grams).

BM100
Bimetallic Round to Round U.S.Patent No. 424, 924
Cast bimetallic bolt pressure clamp for joining 2 dissimilar cables. Aluminum two-way cast top. Bronze two-way cast bottom. Specifically designed for cable splices on single membrane roofs. Stainless steel spacer plate. Stainless steel carriage bolt, nut and washer. 1-9/16” x 1-3/4” (39.69mm x 44.45mm); approximately 6 oz. (170 grams).

BM2A
Bimetallic Tee Splicer
Bolt pressure aluminum casting with one-way cap and hex brass tap for copper cables. Stainless steel bolts and washer. 2-1/4” x 2” x 5” (5.7cm x 5.1cm x 12.7cm); approximately 10 oz. (284 grams).

BM2B
Bimetallic Tee Splicer
Bolt pressure bronze casting with one-way cap and hex aluminum tap for aluminum cables. Stainless steel bolts and washer. 2-1/4” x 2” x 5” (5.7cm x 5.1cm x 12.7cm); approximately 10 oz. (284 grams).

BM3
Bimetallic 4-Bolt Straight Splicer
For joining aluminum and copper cables. Stainless steel bolts. 3-1/2” x 3/4” (8.9cm x 1.9cm) hex; approximately 6 oz. (170 grams).
Bimetallic Fittings - BM
For Connecting Aluminum and Copper

BM4A  Bimetallic Bonding Lug
for Primary Conductors
For bonding to aluminum from a copper cable run. Stainless steel bolts.
2-1/4" x 2" x 5" (5.7cm x 5.1cm x 12.7cm); approximately 6.3 oz. (179 grams).

BM4B  Bimetallic Bonding Lug
for Primary Conductors
For bonding copper or brass from an aluminum cable run. Stainless steel bolts.
2-1/4" x 2" x 5" (5.7cm x 5.1cm x 12.7cm); approximately 6.2 oz. (176 grams).

BM5A  Bimetallic Mini Bonding Lug
Secondary cable to flat surface bonding lug. For bonding to aluminum from copper cable run.
3-3/16" x 3/4" (80.96mm x 19.05mm); approximately 3.4 oz. (96 grams).

BM6A  Conduit Cap to Threaded Rod
Cast aluminum cap with bolt pressure cable holder machined to fit snugly over 1-1/2" Schedule 40 PVC conduit. Has internally threaded brass hex stock adapter extending below. Joined with stainless steel threaded stub and galvanic barrier. For joining aluminum cable to brass threaded rod. Stainless steel stubs, nut and washer. 2.8” overall height (7cm), 6.4 oz. (181 grams). Available with 3/8”, 1/2” or 5/8” internal threads.

BM6B  Conduit Cap to Threaded Rod
As above for joining copper roof cable to aluminum threaded rod. 11.2 oz. (318 grams). Available with 1/2” or 5/8” internal threads.

BM7A  Conduit Cap to Cable
Cast aluminum cap with bolt pressure cable holder machined to fit snugly over 1-1/2” Schedule 40 PVC conduit. Has brass hex stock cable holder extending below. Joined by stainless steel threaded stub and galvanic barrier. For joining aluminum roof cable to copper down conductor. 4-1/4” (10.8cm) overall height, 8 oz. (227 grams). Stainless steel stub, bolts, nut and washer.

BM7B  Conduit Cap to Cable
As above for joining copper roof cable to aluminum down conductor. 4 oz. (113 grams).
Bimetallic Fittings - BM
For Connecting Aluminum and Copper

BM8A  Rod to Cable Straight Splicer
For aluminum threaded rod or air terminal to copper cable connection. Fabricated from 3/4" brass and aluminum hex stock sections. Aluminum end threaded internally for connecting to aluminum threaded rod or air terminal. Brass end has two stainless steel bolts to anchor copper cable. Joined with stainless steel threaded stub and galvanic barrier. Specify 1/2" or 5/8" thread diameter for aluminum end. 3.8" (9.7cm) overall height. Approximately 4.8 oz. (136 grams).

BM8B  Rod to Cable Straight Splicer
As above for copper threaded rod or air terminal to aluminum cable. Specify 3/8", 1/2" or 5/8" thread diameter for brass end. 4 oz. (113 grams).

BM16  Bimetallic 3 Square Inch Bonding Plate
Cast bimetallic bolt pressure bonding plate for joining copper conductor to non-compatible surfaces. Features aluminum bottom and bronze two-way cable holder top. Stainless steel spacer shim, bolt and washer. 3-1/4" x 1-5/8" (8.26cm x 4.1cm). Approximately 4 oz. (113 grams).

BM17A  Bimetallic Bonding Lug
Bolt pressure bimetallic bonding lug for primary conductors. For bonding to aluminum from a copper cable run. 2" x 4" (5. cm x 10.2 cm) pressed aluminum bottom plate - .1026 thick. Cast bronze two-way top. Stainless steel separator - .024 thick x 1-3/4" x 2" (4.45 cm x 5.1 cm). Stainless steel fasteners. Approximately 6.8 oz. (192 grams).

BM17B  Bimetallic Bonding Lug
As above for bonding to bronze or copper from an aluminum cable run. Approximately 7.4 oz. (208 grams).

BM20A  Cable Splicer
For connecting aluminum cable run to copper cable tap. Cast aluminum bolt pressure two-way cable holder with hex brass cable holder below. Stainless steel threaded stub, galvanic barrier, nut and washer. 4.2" (10.7cm) overall height, 7.2 oz. (204 grams).

BM20B  Cable Splicer
As above for joining copper cable run to aluminum cable tap. 8 oz. (227 grams).
**Bimetallic Fittings - BM**
For Connecting Aluminum and Copper

**BMRC**
**Bimetallic Rod Coupling**
For threaded rod to threaded rod or air terminal connection. Fabricated from 3/4" brass and aluminum hex stock. Galvanic barrier. Specify 3/8, 1/2 or 5/8 thread diameter for each end. 2.5" (6.4cm) overall height, 3.2 oz. (91 grams).

**Pipe Clamps - PC**

**PC1T**
**Small Pipe Clamp**
Tinned cast bronze pipe clamp.
Fits up to 1-1/4" (3.2cm) O.D. pipe.
Two 5/16" x 1-1/4" stainless steel bolts.
1-5/8" x 2-5/8" (4.1cm x 6.7cm);
approximately 8 oz. (227 grams).

**PC1B**
**Bronze**
Approximately 8 oz. (227 grams).

**PC1A**
**Aluminum**
Approximately 3.3 oz. (94 grams).

**PC6T**
**Strap-Type Pipe Clamp**
Adjustable strap can be used to bond to pipes with 4" to 6" (10.2cm to 15.2cm) O.D.
Tinned strap is 2" wide with cast bronze two-way cable clamp and brass barrel nut for uniform adjustment of the strap.

**PC6A**
**Aluminum**
Strap-Type Pipe Clamps are also available for pipes with larger than 6" outside diameter. Call the factory with your specifications.
U-Bolt Pipe Clamps - PC

PC1UB  Smallest U-Bolt Clamp
Cast bronze pipe clamp. Fits rods or pipes with 1/2" to 1-1/4" (1.3cm to 3.2cm) O.D.
Has 2-way bolt pressure cable holder.
5/16-18 stainless steel U-bolt, nuts and washers.
2-1/2" x 3-1/2" (6.35cm x 8.9cm);
approximately 9 oz. (255 grams).

PC1UT  Tinned
Approximately 9 oz. (255 grams).

PC1UA  Aluminum
Approximately 5 oz. (142 grams).

PC2UB  2" U-Bolt Clamp
Cast bronze pipe clamp. Fits up to 2" (5.1cm)
O.D. pipe. Has 2-way bolt pressure cable holder with cover that can be turned 90

PC2UT  Tinned
Approximately 8.5 oz. (241 grams).

PC2UA  Aluminum
Approximately 4.2 oz. (119 grams).

PC3UB  3" U-Bolt Clamp
Cast bronze pipe clamp. Fits up to 3" (7.6cm)
O.D. pipe. Has 2-way bolt pressure cable holder with cover that can be turned 90 degrees.

PC3UT  Tinned
Approximately 13 oz. (369 grams).

PC3UA  Aluminum
Approximately 6 oz. (170 grams).

PC4UB  4" U-Bolt Clamp
Cast bronze pipe clamp. Fits up to 4-1/2" (114.3mm)
O.D. pipe. Has 2-way bolt pressure cable holder with cover that can be turned 90 degrees.

PC4UT  Tinned
Approximately 26.4 oz. (748 grams).

PC4UA  Aluminum
Approximately 11.8 oz. (335 grams).
U-Bolt Pipe Clamps - PC

PC6UB
6” U-Bolt Clamp
Cast bronze pipe clamp. Fits up to 6.75” (171.45mm) O.D. pipe. Two-way bolt pressure cable holder with cover that can be turned 90 degrees. Stainless steel U-bolt, nuts and washers. Approximately 2 lbs. 5.4 oz. (1060 grams).

PC6UT
Tinned
Approximately 2 lbs. 5.4 oz. (1060 grams).

PC6UA
Aluminum
Approximately 14 oz. (397 grams).

Sillcock Flange Connector
Tinned cast bronze water pipe bonding clamp for use behind flange of sillcock. 5-1/2” x 2-3/4” (139.7mm x 69.85mm); approximately 10.2 oz. (289 grams).
Pedestal Clamps - CP

**CP1T**
Round Computer Pedestal Grounding Clamp
Tin plated cast bronze clamp features two off-set bolt pressure cable holders to permit perpendicular conductors to be coursed without kinks and bends. For use on Round pedestal diameters ranging from 1/2” to 1-1/8”. Accommodates wire sizes from #8 to 4/0 AWG. Stainless steel U-bolt, hex bolt, nuts and washers, 4-3/8” x 1-1/4” x 1-1/2”. Approximately 12.2 oz. (346 grams).

**CP1TM**
Square Computer Pedestal Grounding Clamp
Tin plated cast bronze clamp for use on square pedestals measuring up to 1-1/8”. Accommodated wire sizes ranging from #8 to 4/0 AWG. Stainless steel U-bolt, hex bolt and washers, 4-3/8” x 1-1/4” x 1-1/2”. Approximately 12.2 oz. (346 grams).

**CP3B**
Heavy Duty Round Pedestal Grounding Clamp
Cast bronze pedestal clamp. Fits up to 1-1/4” diameter round computer pedestals. Two bolt pressure cable holders can accommodate wire sizes from #6 to 2/0. Stainless steel U-bolt, straight bolts, nuts and washers. Approximately 17.4 oz. (494 grams).

**CP3BM**
Heavy Duty Square Pedestal Grounding Clamp
Cast bronze pedestal clamp. Fits up to 1-1/2” square computer pedestals. Two bolt pressure cable holders can accommodate wire sizes from #6 to 2/0. Stainless steel U-bolt, straight bolts, nuts and washers. Approximately 17.4 oz. (494 grams).
**Ground Rod Clamp - GC**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>GC1/2</td>
<td>Cast bronze, cable to 1/2&quot; (1.27cm) ground rod clamp. Has two stainless steel bolts 3/8&quot; – 16 x 1-1/4&quot;. Approximately 8.75 oz. (248 grams).</td>
<td></td>
</tr>
<tr>
<td>GC5/8</td>
<td>Cast bronze, cable to 5/8&quot; (1.59cm) ground rod clamp. Has two stainless steel bolts 3/8&quot; – 16 x 1-1/4&quot;. Approximately 9.3 oz. (264 grams).</td>
<td></td>
</tr>
<tr>
<td>GC3/4</td>
<td>Cast bronze, cable to 3/4&quot; (1.91cm) ground rod clamp. Has two stainless steel bolts 3/8&quot; – 16 x 1-1/4&quot;. Approximately 9 oz. (255 grams).</td>
<td></td>
</tr>
</tbody>
</table>

**U-Bolt Ground Rod Clamp**

**GCUB**

Cast bronze cable to ground rod clamp. Designed to join rods up to 7/8" OD and one or two cables with a cast bronze parallel cable holder. Stainless steel u-bolt, nuts and washers. 1-7/8" x 2-3/6" (47.6mm x 55.6mm); approximately 8.8 oz. (250 grams).

**Tinned Guy Wire Clamp**

**GW1T**

Tinned cast bronze clamp. Versatile clamp joins cables of various sizes. Stainless steel bolts, nuts and washers. 2-3/8" x 1-3/4" (60.33mm x 44.45mm); approximately 16 oz. (454 grams).

**Ground Rod Section Coupling - GRC**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRC1/2</td>
<td>Silicon bronze coupling for 1/2&quot; (1.27cm) sectional ground rod.</td>
<td>Approximately 2.65 oz. (75 grams).</td>
</tr>
<tr>
<td>GRC5/8</td>
<td>Silicon bronze coupling for 5/8&quot; (1.59cm) sectional ground rod.</td>
<td>Approximately 4.5 oz. (128 grams).</td>
</tr>
<tr>
<td>GRC3/4</td>
<td>Silicon bronze coupling for 3/4&quot; (1.91cm) sectional ground rod.</td>
<td>Approximately 4.8 oz. (136 grams).</td>
</tr>
</tbody>
</table>
Ground Plate - GP

Copper ground plate with two bolt pressure cable holders.

GP1  18" x 18" x .032 (45.7cm x 45.7cm x .0813cm)
GP2  18" x 24" x .032 (45.7cm x 61cm x .0813cm)
GP3  18" x 36" x .032 (45.7cm x 91.4cm x .0813cm)

Call factory for information on other sizes.

Ground Rods - GR

UL listed copper clad steel ground rods.

GR1X  1/2" x 8'  (1.27cm x 2.44m)
GR1   1/2" x 9'  (1.27cm x 2.74m)
GR2   1/2" x 10' (1.27cm x 3.05m)
GR2S  1/2" x 10' Sectional (1.27cm x 3.05m)
GR3X  5/8" x 8'  (1.59cm x 2.44m)
GR3   5/8" x 10' (1.59cm x 3.05m)
GR3S  5/8" x 10' Sectional (1.59cm x 3.05m)
GR4   3/4" x 10' (1.91cm x 3.05m)
GR4S  3/4" x 10' Sectional (1.91cm x 3.05m)

Call factory for information on other available ground rod sizes.

A variety of stainless steel ground rods are also available.

Ground Strap

Flexible, tin-coated copper secondary bonding cable. Ideal for bonding doors, gates and machinery. Each strap has a tinned copper lug with a #10 eye on each end. Strap is a #6 AWG stranded wire. UL listed.

Ground Strap 11  11" long  27.9cm
Ground Strap 18  18" long  45.7cm
## Ground Test Wells

### Heavy Duty Ground Test Well

#### 12” Length

<table>
<thead>
<tr>
<th>Code</th>
<th>Material</th>
<th>Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>3100</td>
<td>PVC Schedule 80</td>
<td>12 3/4” x 12”</td>
</tr>
<tr>
<td>3102</td>
<td>3/8” Steel</td>
<td>12 3/4” x 12”</td>
</tr>
</tbody>
</table>

#### 18” Length

<table>
<thead>
<tr>
<th>Code</th>
<th>Material</th>
<th>Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>3120</td>
<td>PVC Schedule 80</td>
<td>12 3/4” x 18”</td>
</tr>
<tr>
<td>3122</td>
<td>3/8” Steel</td>
<td>12 3/4” x 18”</td>
</tr>
</tbody>
</table>

### Heavy Duty High Traffic Area Ground Test Well

#### 12” Length

<table>
<thead>
<tr>
<th>Code</th>
<th>Material</th>
<th>Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>3110</td>
<td>PVC Schedule 80</td>
<td>13 3/4” x 12”</td>
</tr>
<tr>
<td>3112</td>
<td>3/8” Steel</td>
<td>13 3/4” x 12”</td>
</tr>
<tr>
<td>3114</td>
<td>Concrete</td>
<td>13 3/4” x 12”</td>
</tr>
</tbody>
</table>

#### 18” Length

<table>
<thead>
<tr>
<th>Code</th>
<th>Material</th>
<th>Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>3130</td>
<td>PVC Schedule 80</td>
<td>13 3/4” x 18”</td>
</tr>
<tr>
<td>3132</td>
<td>3/8” Steel</td>
<td>13 3/4” x 18”</td>
</tr>
</tbody>
</table>

---

Ground Test Wells are also available in 24” and 36” lengths. All Ground Test Wells incorporate a heavy duty cast iron cover. Additional sizes and configurations are available. Call for more information.
Specialty Grounding Products

A wide variety of specialty grounding products are available. Including:

- Prefabricated Wire Mesh
- Signal Reference Grounding Grids
- Ground Bars
- Chemical Ground Rods

Special sizes, configurations, platings and options are available. For more information on any of these specialty grounding items, please call the factory.
### Fastener Loops - FL

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FL1C*</td>
<td>1-Nail stamped copper loop.</td>
</tr>
<tr>
<td>FL1T*</td>
<td>1-Nail stamped tinned copper loop.</td>
</tr>
<tr>
<td>FL1A*</td>
<td>1-Nail stamped aluminum loop.</td>
</tr>
</tbody>
</table>

* Use with Class I conductors.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FL51C*</td>
<td>1/4” hole, small stamped copper loop.</td>
</tr>
<tr>
<td>FL51T*</td>
<td>1/4” hole, small stamped tinned copper loop.</td>
</tr>
</tbody>
</table>

* Use with Class I conductors.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FL2C*</td>
<td>1/4” hole, medium stamped copper loop.</td>
</tr>
<tr>
<td>FL2T*</td>
<td>1/4” hole, medium stamped tinned copper loop.</td>
</tr>
</tbody>
</table>

* Use with Class I conductors.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FL3C†</td>
<td>1/4” hole, largest stamped copper loop.</td>
</tr>
<tr>
<td>FL3T†</td>
<td>1/4” hole, largest stamped tinned copper loop.</td>
</tr>
<tr>
<td>FL3A†</td>
<td>1/4” hole, largest stamped aluminum loop.</td>
</tr>
</tbody>
</table>

† Use with Class II conductors.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FL300C†</td>
<td>1/4” hole, large stamped tinned copper loop.</td>
</tr>
<tr>
<td>FL300A†</td>
<td>1/4” hole, large stamped aluminum loop.</td>
</tr>
</tbody>
</table>

† Use with Class II conductors.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FL4C</td>
<td>Stamped Adhesive Crimp Copper Loop</td>
</tr>
<tr>
<td></td>
<td>For use on built-up, single membrane or other</td>
</tr>
<tr>
<td></td>
<td>flat roof surfaces where mechanical penetrations</td>
</tr>
<tr>
<td></td>
<td>must be avoided. Use with adhesives compatible</td>
</tr>
<tr>
<td></td>
<td>to roof surface. 2-1/4” x 3-1/2” (5.7cm x 8.9cm);</td>
</tr>
<tr>
<td></td>
<td>approximately 1.4 oz. (40 grams).</td>
</tr>
<tr>
<td>FL4A</td>
<td>Stamped Adhesive Crimp Aluminum Loop</td>
</tr>
<tr>
<td></td>
<td>As above, but stamped aluminum.</td>
</tr>
<tr>
<td></td>
<td>Approximately .8 oz. (23 grams).</td>
</tr>
</tbody>
</table>

**NOTE:** Copper & bronze fittings are also available tinned.
Fastener Loops - FL

FL5B Standing Seam Bronze Fastener
Cast bronze fastener with one 1/4” bolt to anchor to the standing seam and a 1/4” hole on top. Comes with one FL3C loop and extra bolt for top mounting of loop. 3/4” diameter x 1” (1.9cm x 2.5cm); approximately 3.3 oz. (94 grams).

FL5A Standing Seam Aluminum Fastener
As above, but cast aluminum. Approximately 1.2 oz. (34 grams).

FL5A 5/16 5/16 Standing Seam Aluminum Fastener
Cast aluminum fastener for seams up to 5/16” in width. Comes with one 1/4” bolt to anchor to seam and a 1/4” threaded hole on top. Comes with one FL3A loop and one 1/4-20x5/8 bolt for top mounting loop. 1” diameter x 1” (2.5cm x 2.5cm); approximately 1.6 oz.

FL5A 1/2 1/2 Standing Seam Aluminum Fastener
Cast aluminum fastener for seams up to 1/2” in width. Comes with one 1/4” bolt to anchor to seam and a 1/4” threaded hole on top. Comes with one FL3A loop and one 1/4-20x5/8 bolt for top mounting loop. 1” diameter x 1” (2.5cm x 2.5cm); approximately 1.6 oz.

FL6C Layover Adhesive Stamped Copper Cable Holder
For use on built-up, single membrane or other flat roof surfaces where mechanical penetration must be avoided. Use with adhesives compatible to roof surface. 3-1/2” x 2” (8.9cm x 5.1cm); approximately 1.1 oz. (31 grams).

FL6A Layover Adhesive Stamped Aluminum Cable Holder
As above, but stamped aluminum. Approximately .5 oz. (14 grams).

FL7B Heavy Duty Cable Holder
A cast bronze, bolt-type adhesive fastener for securing cable. Suitable for use on built-up, single membrane or other roof surfaces where mechanical penetration must be avoided. Use with adhesives compatible to roof surfaces. 3-1/8” (7.9cm) diameter casting with stainless steel bolt and cast clip. Approximately 4.8 oz. (113 grams).

FL7A Aluminum
Approximately 1.7 oz. (48 grams).

NOTE: Copper & bronze fittings are also available tinned.
**Fasteners**

**FL9A**  
Aluminum 1 inch Standing Seam Fastener  
Stainless steel phillips head set screws, aluminum fastener loop for securing cable.  
Approximately 1.5” x 1.5” x .75” (38mm x 38mm x 19mm).

**FL9AX**  
Custom Standing Seam Fastener  
As above, manufactured to custom widths.  
Call the factory with your requirements.

**FL10A**  
Zip-Rib Standing Seam Fastener  
Cast aluminum cable holder for use on “zip-rib” style round top standing seam roofs. Features FL3A fastener loop and stainless steel bolt.  
1.15” thick x 1.8” x 1.6” (4.5cm x 2.9cm).  
Approximately 4 oz. (113 grams).

**FL19B**  
Ballast Pan Cable Fastener  
A cast bronze, pan-type cable holder for use on flat roofs. Pan can be filled with concrete, gravel or stones to hold it in place. Comes with FL3C fastener loop and stainless steel bolt.  
3-7/8” (9.8cm) diameter; approximately 10.2 oz. (289 grams).

**FL19A**  
Aluminum  
Approximately 3.4 oz. (96 grams).

**Tree Drive**

**TD**  
Cast Soft Bronze Tree Drive  
3-1/4” (8.25cm); approximately 1.1 oz. (31 grams).
### Stainless Steel Fasteners

#### Nuts

<table>
<thead>
<tr>
<th>Size</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4–20</td>
<td>Hex Finish Nut</td>
</tr>
<tr>
<td>5/16–18</td>
<td>Hex Finish Nut</td>
</tr>
<tr>
<td>3/8–16</td>
<td>Hex Finish Nut</td>
</tr>
<tr>
<td>1/2–13</td>
<td>Hex Jam Nut</td>
</tr>
<tr>
<td>5/8–11</td>
<td>Hex Jam Nut</td>
</tr>
<tr>
<td>1/2–13</td>
<td>Acorn Cap Nut</td>
</tr>
</tbody>
</table>

#### Washers

<table>
<thead>
<tr>
<th>Size</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>Flat Washer</td>
</tr>
<tr>
<td>5/16&quot;</td>
<td>Flat Washer</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>Flat Washer</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>Flat Washer</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>Fender Washer 2&quot; OD</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Size</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>Lock Washer</td>
</tr>
<tr>
<td>5/16&quot;</td>
<td>Lock Washer</td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>Lock Washer</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>Lock Washer</td>
</tr>
</tbody>
</table>

#### Hex Head Bolts

<table>
<thead>
<tr>
<th>Size</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4–20 x 1/2&quot;</td>
<td>Hex Head</td>
</tr>
<tr>
<td>1/4–20 x 5/8&quot;</td>
<td>Hex Head</td>
</tr>
<tr>
<td>1/4–20 x 1-1/4&quot;</td>
<td>Hex Head</td>
</tr>
<tr>
<td>5/16–18 x 3/4&quot;</td>
<td>Hex Head</td>
</tr>
<tr>
<td>5/16–18 x 7/8&quot;</td>
<td>Hex Head</td>
</tr>
<tr>
<td>5/16–18 x 1/1/4&quot;</td>
<td>Hex Head</td>
</tr>
<tr>
<td>3/8–16 x 1&quot;</td>
<td>Hex Head</td>
</tr>
<tr>
<td>3/8–16 x 1-1/4&quot;</td>
<td>Hex Head</td>
</tr>
</tbody>
</table>

#### Hex Washer Head Self-Tapping Screws

<table>
<thead>
<tr>
<th>Size</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>#10 x 3/4&quot;</td>
<td>Magnetic Type ‘A’</td>
</tr>
<tr>
<td>#10 x 1&quot;</td>
<td>Magnetic Type ‘A’</td>
</tr>
<tr>
<td>#10 x 1-1/2&quot;</td>
<td>Magnetic Type ‘A’</td>
</tr>
</tbody>
</table>

#### Hex Washer Head Self-Drilling Screws

<table>
<thead>
<tr>
<th>Size</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>#10 x 5/8&quot;</td>
<td>Magnetic Tech</td>
</tr>
<tr>
<td>#10 x 3/4&quot;</td>
<td>Magnetic Tech</td>
</tr>
<tr>
<td>#10 x 1-1/2&quot;</td>
<td>Magnetic Tech</td>
</tr>
<tr>
<td>#12 x 3/4&quot;</td>
<td>Magnetic Tech</td>
</tr>
<tr>
<td>#12 x 1-1/4&quot;</td>
<td>Magnetic Tech 5</td>
</tr>
</tbody>
</table>
# Stainless Steel Fasteners

## Nails and Nail-Ins

<table>
<thead>
<tr>
<th>Nail Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4D Nail</td>
<td>1-1/2&quot; annular ring, threaded stainless steel nail</td>
</tr>
<tr>
<td>6D Nail</td>
<td>2&quot; annular ring, threaded stainless steel nail</td>
</tr>
<tr>
<td>10D Nail</td>
<td>3&quot; annular ring, threaded stainless steel nail</td>
</tr>
<tr>
<td>1/4&quot; Nail-In</td>
<td>Rawl Zamac, mushroom head nail-in stainless 1&quot; pin</td>
</tr>
</tbody>
</table>

## Sheet Metal Screws

<table>
<thead>
<tr>
<th>Screw Size</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>#10 x 5/8&quot;</td>
<td>Phillip Pan Screw</td>
</tr>
<tr>
<td>#12 x 3/4&quot;</td>
<td>Phillip Pan Screw</td>
</tr>
<tr>
<td>#12 x 1&quot;</td>
<td>Phillip Pan Screw</td>
</tr>
<tr>
<td>#12 x 1-1/4&quot;</td>
<td>Phillip Pan Screw</td>
</tr>
</tbody>
</table>

## Rubber (EPDM) Washers

Sealants

**Two-Part Pourable Sealer**
1-gallon Part A, 1-quart Part B
Fast-drying adhesive cement for adhering to rubber membrane roofing.

**Rubber Lap Sealer**
Black sealant - 11 fluid ounce tube
Compatible with rubber membrane roofing materials.

**Rubber Flashing**
Pressure sensitive, 6”-wide uncured rubber flashing with adhesive backing. (6”w x 100’L roll. Approximately .075 thick.)

**Adhesive/Sealant**

**Heavy Duty Sealant**
High performance sealant adheres to a variety of building substrates.

M-1 by Chemlink in 10.1 fluid ounce tube (299 ml)
- Black
- Grey
- White

Clear by Chemlink in 10.1 fluid ounce tube (299 ml)
Available by the tube and in 24 tube cases.
Exothermic Connections

We stock a complete line of weld metals, molds and accessories. Call for a complete catalog of exothermic weld equipment.

Cable To Cable

Type CC-1
Type CC-2
Type CC-4
Type CC-14

Type CC-7
Type CC-11

Cable To Ground Rod

Type CR-1
Type CR-2
Type CR-3
Type CR-17

Type CR-24
Type RR-1

When ordering exothermic molds, be sure to specify the size of the conductor(s) and/or rod(s) you will be using.
Exothermic Connections

We stock a complete line of weld metals, molds and accessories. Call for a complete catalog of exothermic weld equipment.

Cable To Surface

Type CS-1
Type CS-2
Type CS-3
Type CS-4
Type CS-6
Type CS-7
Type CS-8
Type CS-9
Type CS-18
Type CS-23

Cable To Lug Or Bus

Type CB-1
Type CB-2 & CB-6
Type CB-3 & CB-7
Type CB-4
Type CB-5

Threaded Stud To Steel Surface

Type RS-1
Type RS-2

When ordering exothermic molds, be sure to specify the size of the conductor(s) and/or rod(s) you will be using.
# Single Phase Surge Protection Devices

ECLE stocks a variety of Surge Protection Devices, including products that meet the latest UL 96A Master Label Certification requirements. Call the factory for assistance with product selection and to obtain cut sheets.

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>APT S50A120V2P</td>
<td>APT SPDee 120/240 Single Phase 3 wire surge protection device. UL 1449 Rev 3 listed</td>
</tr>
<tr>
<td>APT S50A120V2PN</td>
<td>As above with additional neutral ground protection.</td>
</tr>
<tr>
<td>EMR IG120S101R-WL</td>
<td>Emerson 120/240 Single Phase four wire surge protection device. UL 1449 Rev 3 listed</td>
</tr>
<tr>
<td>DTK 120/240SA</td>
<td>Ditek 120/240 Single Phase four wire surge protection device. UL 1449 Rev 3 listed</td>
</tr>
<tr>
<td>IG1240RC3</td>
<td>Intermatic 120/240 Single Phase four wire surge protection device. Meets UL 1449 Rev 3 requirements. NOT UL LISTED</td>
</tr>
<tr>
<td>DTK 120/240CM+</td>
<td>Ditek 120/240 Single Phase surge protection device. UL listed but NOT ELIGIBLE for Master Label Certification</td>
</tr>
</tbody>
</table>
Three Phase Surge Protection Devices

ECLE stocks a variety of Surge Protection Devices, including products that meet the latest UL 96A Master Label Certification requirements. Call the factory for assistance with product selection and to obtain cut sheets.

APT SPDee Line - UL Listed
Meets UL 1449 Rev 3 requirements for UL96A Master Label Certification

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>APT S50A120V3Y</td>
<td>120V 208 Three Pole Wye</td>
</tr>
<tr>
<td>APT S50A120V3YN</td>
<td>As above with neutral ground protection</td>
</tr>
<tr>
<td>APT S50A240V3D</td>
<td>240V Three Pole Delta</td>
</tr>
<tr>
<td>APT S50A277V3Y</td>
<td>277V 480 Three Pole Wye</td>
</tr>
<tr>
<td>APT S50A277V3YN</td>
<td>As above with neutral ground protection</td>
</tr>
<tr>
<td>APT S50480V3D</td>
<td>480V Three Pole Delta</td>
</tr>
</tbody>
</table>

Note: APT SPDee units are for use on panels up to 1200 amps. For larger panels request pricing for APT XDS, XCS and XAS product lines.

Emerson IG Series - UL Listed
Meets UL 1449 Rev 3 requirements for UL96A Master Label Certification

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMR IG120Y111R-WL</td>
<td>120/208 VAC Three Phase Wye</td>
</tr>
<tr>
<td>EMR IG240D110R-WL</td>
<td>240VAC Three Phase Delta</td>
</tr>
<tr>
<td>EMR IG277Y111R-WL</td>
<td>277/480VAC Three Phase Wye</td>
</tr>
<tr>
<td>EMR IG480D110R-WL</td>
<td>480VAC Three Phase Delta</td>
</tr>
</tbody>
</table>

Note: Emerson IG series can be used for up to 2500 amp panels. For larger panels request pricing for IH product line.

Intermatic AG Series

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AG6503C3</td>
<td>347 or 600 VAC Three Phase Wye</td>
</tr>
<tr>
<td></td>
<td>For all three phase systems up to 420 VAC line to ground</td>
</tr>
</tbody>
</table>

Note: NOT FOR USE for UL96A Master Label Certifications. Meets UL 1449 Rev 3 requirements but NOT UL LISTED.
ECLE stocks a variety of Surge Protection Devices, including products that meet the latest UL 96A Master Label Certification requirements. Call the factory for assistance with product selection and to obtain cut sheets.

### Telephone Surge Protection Devices

- **APT-SAT1**: In-line RJ45/RJ11 Telephone Protection (not pictured)
- **APT-TM1P**: Hard-Wired 1 Pair Telephone Protection
- **APT-SATH2**: Hard-Wired 2 Pair Telephone Protection
- **APT-SATHW2**: As above with weather proof enclosure
- **APT-SATW6**: Hard-wired 6 Pair Telephone Protection with weather proof enclosure

A variety of snap-on protectors are also available.

### Video/Coax Surge Protection Devices

- **APT-SAVFFF**: F-Style In-line Coax Protector. Rated for CATV, DSS, TV, VCR and Cable Modems. UL 497B and 497C Listed
- **EMR-CX06-M**: CCTV and Data/Coax Protector (not shown) UL 497B Listed
- **SYC-VF-H**: High Frequency Coax Protector (not shown)

### Data Line Surge Protection Devices

- **EMR-CAT6-5POE**: Data line protection for category 5 power over ethernet data lines and category 6 applications. RJ-45 female connectors. UL497B Listed