

SAFETY FIRST
 Safety Glasses and Gloves2

CADWELD WELD METAL2

CADWELD MOLDS2

ADAPTING MOLDS TO FIT CONDUCTORS
 Wrap Sleeves3
 Adapter Sleeves3
 Packing3
 CADWELD Mold Sealer3
 CADWELD Sleeve Kit3

CABLE AND WORK SURFACE PREPARATION
 Cable Cleaning Brushes4
 Cable Clamps4
 Rasp4
 Surefire™ Torch Head5
 Galvanizing Touch Up5

MOLD CARE AND USE
 Mold Cleaning Brushes6
 Slag Removal Spades6
 Disks6
 Disk Kit6
 Wear Plates7
 Split Crucible7

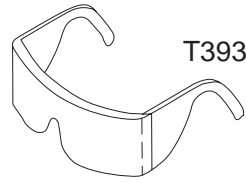
MOLD FASTENING AND MOUNTING
 Handle Clamps8
 Vertical Surface Mold Support8
 Chain Support Handle Clamps8
 Magnetic Handle Clamps9
 Fence Fabric Attachment Assembly9

GROUND ROD SPECIALTY TOOLS
 Ground Rod Driving Sleeves10
 Ground Rod Splice Clamp10
 ERITECH Ground Rod Drivers10

OTHER TOOLS
 Flint Ignitor10
 Flint Ignitor Extension10
 Ceramic Blanket11
 File11
 Pliers11
 Screwdriver11
 Welding Tray11
 Tool Box11
 Tool Kits11
 Tool Tray11
 Ground System Testers EST Series12
 Practical Guide to Electrical Grounding12

SAFETY FIRST

ERICO recommends SAFETY FIRST when making CADWELD Connections as you should consider with all tasks. We offer the following safety equipment. We recommend gloves and glasses as shown.



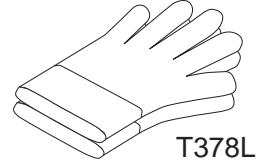
T393

Safety Glasses

These glasses may be worn separately or over prescription glasses.

Gloves

Heavy canvas gloves with leather palms.



T378L

CADWELD WELD METAL

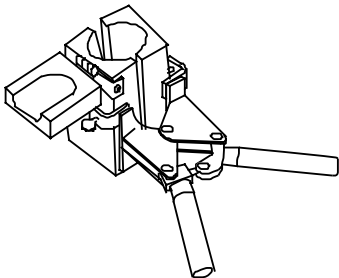
CADWELD Weld Metal is a mixture of copper oxide and aluminum, packaged by size in plastic tubes. Each tube contains the starting material at the bottom of the plastic tube, with the Weld Metal on top. These materials are not explosive and not subject to spontaneous ignition. These containers are packaged in boxes along with metal disks. Each weld uses one disk.



Five types of CADWELD Weld Metal are used for grounding connections:

1. F20 or standard Weld Metal is used for all grounding connections with the exception of those to cast iron or to load bearing rail. The Standard Weld Metal containers have clear (or natural) caps. Standard Weld Metal is also used with most FX molds.
2. XL Weld Metal is used with EXOLON molds. EXOLON Weld Metal containers have white caps.
3. XF-19 Alloy Weld Metal is used for all connections to cast iron such as Type HB and others. XF-19 Weld Metal containers have orange caps.
For DUCTILE IRON, see Section 3, Cast Iron Connections
4. CADWELD F80 Alloy Weld Metal is used for all connections to load bearing rail such as Type W Bonds. F80 Weld Metal containers have yellow caps.
5. Cathodic connections require different weld metal and molds. Contact ERICO for cathodic connection applications.

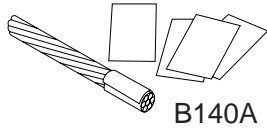
CADWELD MOLDS



A semi-permanent graphite mold is used for making most CADWELD Connections. The mold controls the direction and speed of the molten CADWELD weld metal flow and its final shape. The graphite used in a CADWELD mold is a high temperature type that lasts for an average of 50 or more CADWELD connections under normal usage.

ADAPTING MOLDS TO FIT CONDUCTORS

Cables smaller than indicated on mold tag can be welded by using either Wrap Sleeve or Adapter Sleeves.



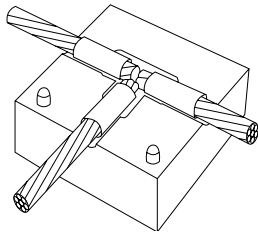
B140A

CADWELD Wrap Sleeve B140A

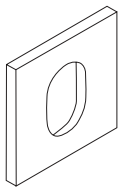
CADWELD Wrap Sleeve is wrapped around the cable until the diameter is about the same as the cable opening in the mold.

CADWELD Adapter Sleeves

CADWELD Adapter Sleeves are used to adapt a limited range of smaller size cables to a larger size CADWELD Mold.



CABLE SIZE		Adapter Sleeve Part No.	Use in Mold for Stranded
Concentric Strand	Solid		
#12,14	#10,12,14	B-133-1H	#6
#7,8,10	#6,8	B-133-1L	#4
#6	#5	B-112	#2
#4,5	#3,4	B-133-1V	#2
#3,4	#2	B-133-1Y	#1
#2	#1	B-133-2C	1/0
#1	1/0	B-133-2G	2/0
1/0,1	2/0	B-133-2L	3/0
2/0,1/0	3/0	B-133-2Q	4/0



Packing

Packing consists of either preformed ceramic packing or sometimes B140A or B141A copper wrap shim. Packing is required on all rebar connections.



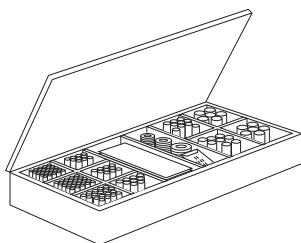
T403

CADWELD Mold Sealer

T403 CADWELD Mold Sealer is ideal for sealing hot or cold molds to retard leakage from large stranded conductors. It is required on certain molds such as Types HA, HB, HC, VG and VN. It prolongs useful mold life when the cable opening becomes worn.

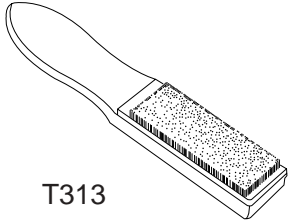
It is available in a convenient 2 pound package.

CADWELD Sleeve Kit



T427 Includes:			
Product #	Quantity	Product #	Quantity
B1331H	25	B1332L	8
B1331L	25	B1332Q	12
B112	18	B140A	10
B1331V	10	B117A	20
B1331Y	10	B117B	10
B1332C	9	B117C	10
B1332G	10	T320A	10

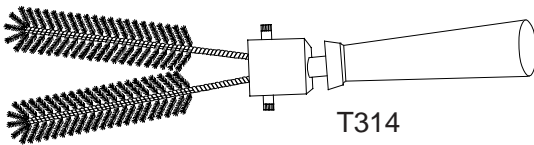
CABLE AND WORK SURFACE PREPARATION



T313

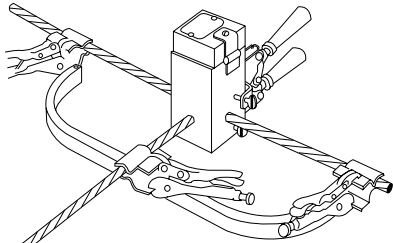
Cable Cleaning Brushes

Two types of brushes are available to aid in removing oxides from copper surfaces. T313 Card Cloth Brush with short stiff bristles is generally preferred for cleaning concentric conductors and busbars, which are not heavily oxidized.



T314

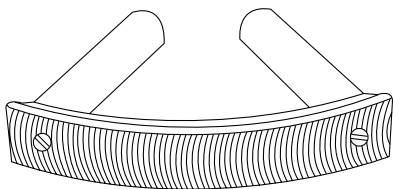
T314 Cable Cleaning Brush cleans any conductor and is especially useful for coarse or very dirty conductors. The brushes can be rotated to provide new cleaning bristles and are replaceable.



B265

Cable Clamp B265

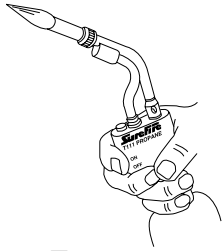
The B265 Cable clamp should be used with hard drawn copper cable, Copperweld DSA® conductor or any cable under tension. Use of the clamp aids in preventing cable movement and prolongs mold life.



T321

Rasp

T321 rasp is used to remove rust from any steel surface or galvanizing from hot dipped galvanized steel to expose the bare steel for welding. The curved blade makes it an efficient tool for flat surfaces. T321A Replacement blades are also available.

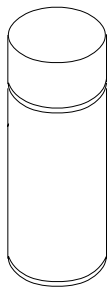


T111

Surefire™ Torch Head

T111 Self igniting propane torch head. Squeeze the control knob for an instant flame. Release and it's out. No flame adjusting. The burn tip remains cool during normal use. Operates on its side or upside down. Can withstand 60MPH winds without flare-out. Fits all standard 14 and 16 oz. propane cylinders.

SUREFIRE™ is a trademark of IPI



T372A

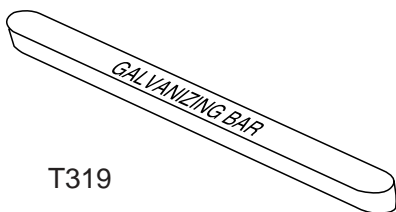
Galvanizing Touch-Up

Easy to use galvanizing paint in a spray can is used to touch up heat affected areas on galvanized steel surfaces after welding. The damage to the galvanizing is often minimal so the repair is often cosmetic. T372A galvanizing compound available in 12 ounce aerosol can.



T358

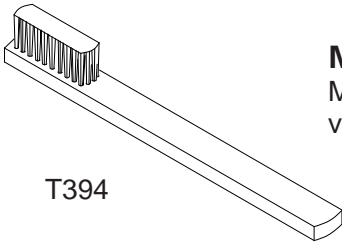
T358 Regalv is a 97% zinc rich organic coating which also can be used to repair galvanized surfaces. The brush is attached to the cap.



T319

T319 Galvanizing Bar is used to repair a galvanized surface that has been damaged by welding or drilling. This is a low temperature, self-fluxing material. Often there is sufficient heat after making the CAD-WELD Connection to melt the bar or a small torch may be used.

MOLD CARE AND USE



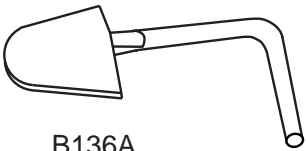
T394

Mold Cleaning Brush

Mold cleaning brush T394 is very useful for removing slag from molds – especially vertical split molds.

Slag Removal Spades

Slag Removal Spades are useful for removing the slag after making a CADWELD Connection – especially useful with horizontally split molds.



B136A
B136B

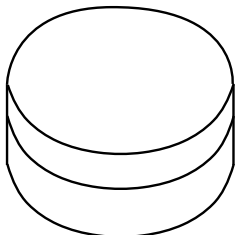
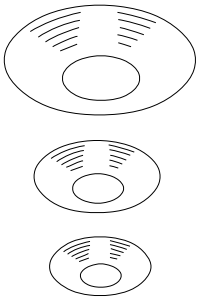
Slag Spade Part No.	Use With Mold Price	Using Weld Metal Size
B-136-A	A, C, & R	#65 & Smaller
B-136-B	C, D, F & R	#90 & Larger

Disks

Each time a weld is made, a new disk is required. The disk sits on the bottom of the crucible. Its purpose is to hold the powdered weld metal until the reaction takes place. The slag produced by the reaction rises to the surface and the molten copper settles to the bottom of the crucible where it melts the disk and flows over the conductors to produce a permanent molecular bond.

Disks are available in three sizes:

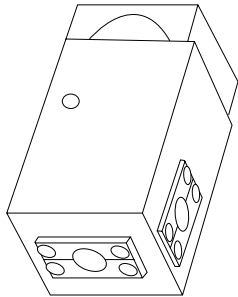
- B117A used in molds using #15 thru #32 weld metal (3/4" diameter).
 - B117B used in molds using #45 thru #115 weld metal (1" diameter).
 - B117C used in molds using #150 thru #500 weld metal (1-1/2" diameter).
- Disks are included with the Weld Metal.



T328D

Disk Kit

A disk container (T328) which includes 20 of each of the three sizes of steel disks is available for your convenience. Kit P/N T328D.



Wear Plates

Wear Plates reduce mechanical abrasion of molds at cable entry points and help prevent leakage of molten metal (particularly on larger 7 strand conductor). These features prolong mold life.

Most CADWELD Molds are available with factory mounted Wear Plates for the following sizes:

- Copper Cable: 1/0 AWG thru 500 Kcmil
- DSA Copperweld®: 7/#10 thru 19/#6
- Ground Rods: 1/2" thru 1"

To order WEAR PLATES, specify: Mold Part No. followed by the suffix "-W" i.e., TAC-2Q2Q-W.

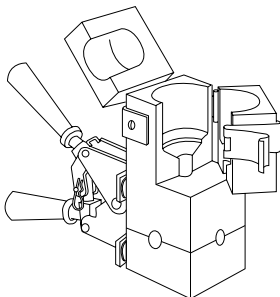
Not available with types HA, HB, HC, LJ, certain PTs & PCs, RR, VB, VF, VG, VN, XA, XBQ or XBZ.

Following are the number of Wear Plates (W.P.) used on the various types listed in this catalog.

TYPE	W.P.	TYPE	W.P.	TYPE	W.P.
GB	1	HT	2	RC	2
GB-GR	2	LA	1	RD	2
GB-GT	3	LE	2	SS	2
GL	1	LL	1*	TA	3
GR	2	PC	3**	VS	1
GT	3	PT	4**	VT	2
GY	3	RA	1	VV	1
HS	1	RB	2	XB	4

* Available only on molds for 2" and narrower bus size.

** Available only on mold for 1/0 (or 7/#10) and larger run and tap.



Split Crucible Molds

Molds made with a horizontal opening and solid crucible section may be specified as a SPLIT CRUCIBLE TYPE. The advantage of the SPLIT CRUCIBLE MOLD is easier cleaning, but lead times are longer.

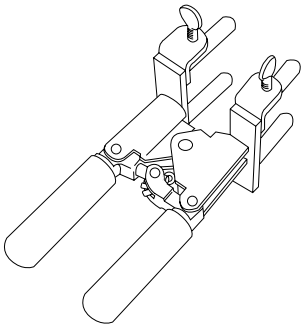
To order a SPLIT CRUCIBLE TYPE specify: Mold Part No. followed by the suffix "-L" i.e., TAC2Q2QL.

Available in Type TA, XA, XB (C & D mold price only), LE and LJ connections.

MOLD FASTENING AND MOUNTING

CADWELD Handle Clamps

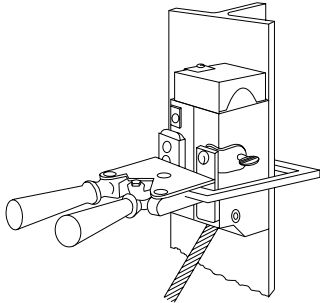
Handle Clamps such as the one shown are required for most molds. Specialized frames with handles are used on some molds. Flint ignitors are included with all Handle Clamps. The following Handle Clamps are most widely used.



1. L160 for all molds having a "C", "E", "Q", or "R" mold price listing. (3" wide molds)
2. L159 for all molds having a "D", "F", "J" or "Z" mold price listing (4" wide molds)

Vertical Surface Mold Support

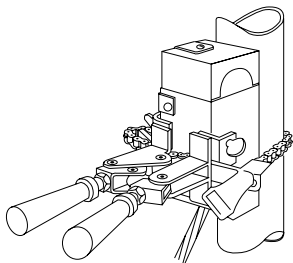
The CADWELD Mold can be securely held to a vertical "H" column or angle by using the Vertical Surface Mold Support. It is easily attached to an existing L159 or L160 Handle Clamp. For use with Types VB, VG, VN, and VS molds, fits steel up to 1" thick, for Type VF mold, 3/4" thick.



- B134: For use with L160 E-Z CHANGE Handle Clamp
 B135: For use with L159 E-Z CHANGE Handle Clamp

Chain Support Handle Clamps

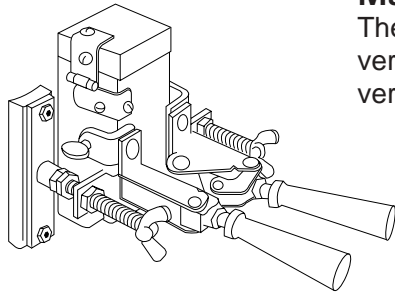
The CADWELD mold can be securely held to a pipe using the clamp assembly consisting of a modified L159 or L160 Handle Clamp with built-in Pipe Attachment.



Clamp Part No.	Fits Mold Price	For Following Connection Types	Pipe
B159V	D & F	VS, VF, VB, & VV	Vertical
B160V	C & R	VS, VF, VB, & VV	Vertical
B159VT	D & F	VT	Vertical
B160VT	C & R	VT	Vertical
B159H	D & F	HA, HS, HC, & HT	Horizontal
B160H	C & R	HA, HS, HC, & HT	Horizontal

The above clamps are equipped with 20" length of chain which will fit up to 4" pipes. Extra 20" length of chain, B158, is available to fit up to 10" pipes.



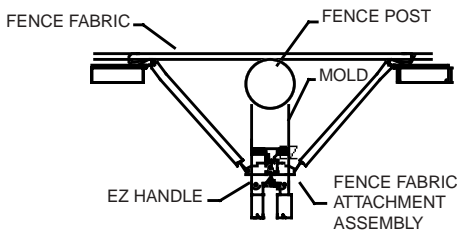


Magnetic Handle Clamps

The CADWELD mold can be securely held to a large flat or slightly curved vertical surface using the Handle Clamp with Magnetic Support. Used on vertically split molds.

Clamp Part No.	Fits Mold Price Key	Minimum Width Required*
B396	C & R Price Key	8"
B159M	D & F Price Key	10-1/2"
B399AM	T Price Key	6"
B399BM	P & N Price Key	7"

*Width will vary slightly depending upon the type of connection being made.



Fence Fabric Attachment Assembly

An easy to use, labor saving, Fence Fabric Attachment Assembly fastens to your existing L159 or L160 Handle Clamp to firmly hold your mold to the fence post after the fence fabric has been attached. Ideal for retrofit jobs.

Fence Fabric Attachment Part No.	Fits Handles
B827A	L160, L159

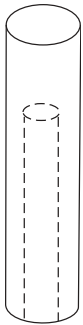
GROUND ROD SPECIALTY TOOLS



ERITECH® Ground Rod Drivers

Product #	Description
EGRD58	5' Driver body with insert for up to 5/8" ground rods
EGRD58I*	Replacement insert for 5/8" ground rods
EGRD34	5' Driver body with insert for up to 3/4" ground rods
EGRD34I*	Replacement insert for 3/4" ground rods

*Both 5/8" and 3/4" inserts fit standard body of EGRD58 or EGRD34.

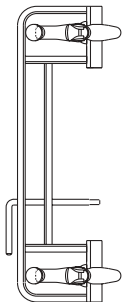


Ground Rod Driving Sleeves**

Use a CADWELD ground rod driving sleeve to prevent mushrooming top of ground rod.

Ground Rod Size	Part No.
1/2" Copper Bonded or Steel RodB137-14
5/8" Copper Bonded (.563" diameter)B137-16
5/8" Steel (.625" diameter)B137-31
3/4" Copper Bonded (.682" diameter)B137-18
3/4" Steel (.750" diameter)B137-33
1" Copper Bonded (.914" diameter)B137-22
1" Steel (1.00" diameter)B137-37

** For plain (unthreaded) ground rods only.

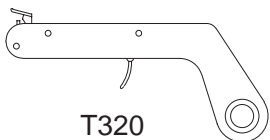


B120

Ground Rod Splice Clamp

The B120 Ground Rod Splice Clamp must be used to support the upper rod and provide a method of correctly positioning the rods and mold while splicing the rods. (Type HDGB and GB Connection).

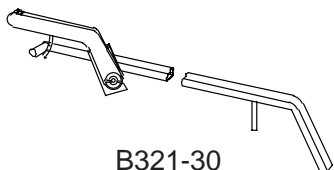
OTHER TOOLS



T320

Flint Ignitors

T320 CADWELD Flint Ignitors are used to ignite the starting material when making a CADWELD Connection. An ignitor is included with each Handle Clamp or frame. T320A Replacement Flints are also available.

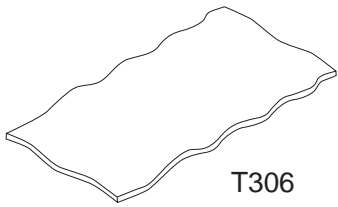


B321-30

Flint Ignitor Extension

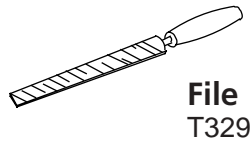
B321-30 Flint Ignitor Extension attaches to the T320 Flint Ignitor and allows the installer to be about 30" from the mold. Ideal for such operations where the mold is in a narrow trench and the installer is at ground level.





Ceramic Blanket

The woven Ceramic Blanket (Part T306) can be used to hold a hot mold or keep the work surface free of slag when cleaning the mold.

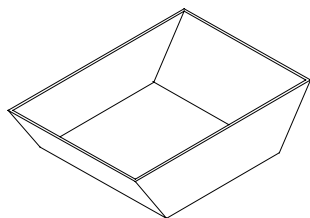
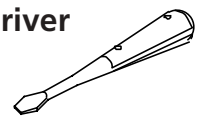


File
T329



Pliers
T304

Screwdriver
T305



XLB974-B2

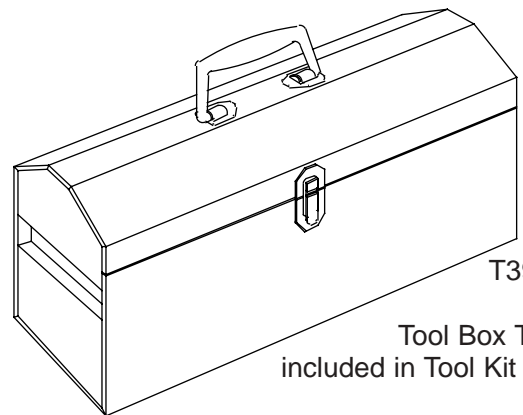
Welding Tray

The Welding Tray (Part XLB974-B2) can contain a spill of molten weld metal. It is for personnel safety. Recommended when working overhead or over expensive equipment.

TOOL KITS

Tool Box T396

A tool box is highly recommended to carry tools, molds, weld metal and a propane torch.

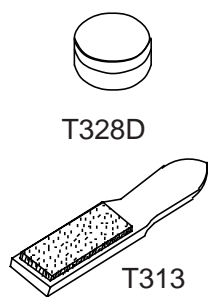


T396

Tool Box T396 is included in Tool Kit T315A

Tool Kit T315A

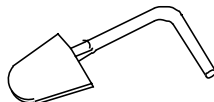
Other Tool Kits can be made for your particular requirements.



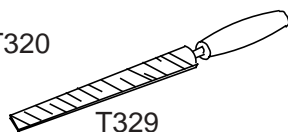
T328D



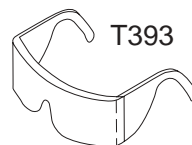
T320



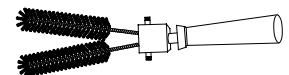
B136A



T329



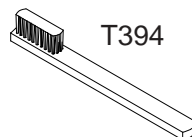
T393



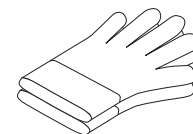
T314



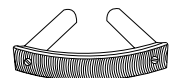
T304



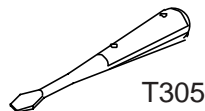
T394



T378L



T321

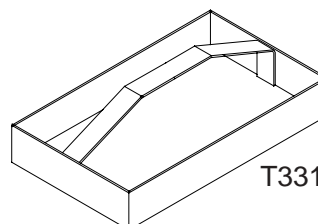


T305

TOOL TRAY

Tool Tray Only: T331

Ideal for carrying one or two molds, weld metal, propane torch and tools.

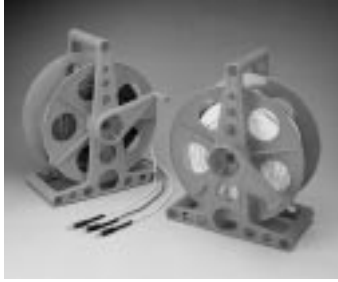


T331

Tool Tray T331 is not included in Tool Kit T315A

Ground System Testers

EST Series



EST Reel Kit 500

Product #	Description
EST 101	2 pole resistance, 3 pole ground to earth resistance measurement @128Hz
EST 201	2 pole AC resistance, 3 pole ground to earth resistance measurement, 4 pole soil resistivity measurement
EST 301	2 pole AC resistance, 2 & 3 pole ground to earth resistance measurement, 4 pole soil resistivity, and clamp-on stakeless and selective adapters
ESTREELKIT500	EST Reel Kit 500 feet long (includes two reels)



EST101



EST201



EST301

Reference Material



Product #	Description
G157LT99	Practical Guide to Electrical Grounding