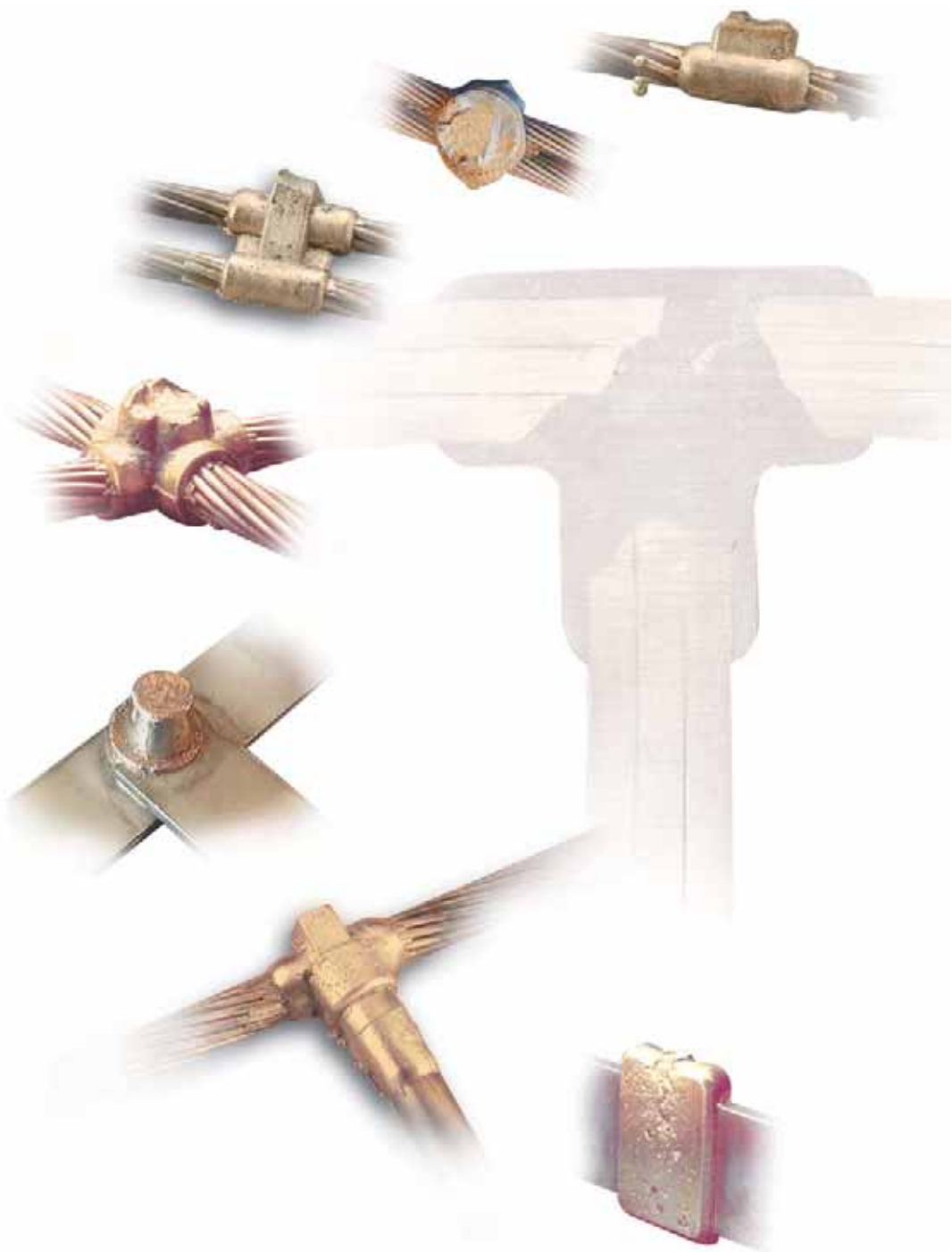


CADWELD®

Welded Electrical Connections

Metric



ERICO®

CADWELD® PLUS

The Standard by which all others are measured



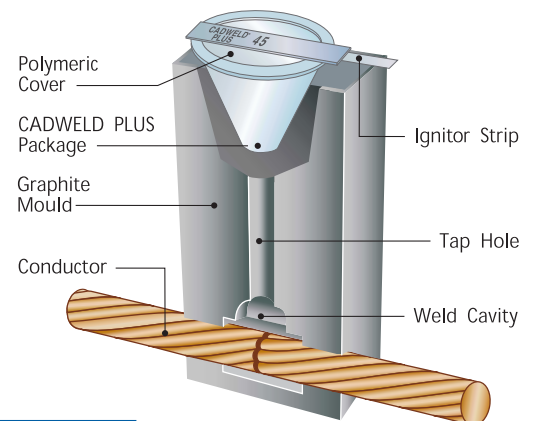
CADWELD® PLUS is a revolutionary new system that simplifies the process for exothermically welded connections.

Reliable – CADWELD® connections consistently perform the best in independent IEEE® 837 tests.

Innovative – CADWELD PLUS offers easy ignition and increases flexibility in hard-to-reach areas.

Easy to Use – CADWELD PLUS connections require fewer parts, no starting material and no cumbersome tools.

Most Experienced – ERICO®, the recognized leader in grounding and bonding.



CADWELD PLUS is the ultimate exothermic welded connection



Space-saving packaging ships and stores easily

IEEE is a registered trademark of The Institute of Electrical and Electronics Engineers, Incorporated



www.erico.com

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How to Order CADWELD Products

This catalog lists popular CADWELD connections. Look in the index for the connection you need. If you cannot find the connection you need, contact ERICO® or your local distributor or agent. Only the most popular CADWELD connections are listed in this catalog. We have designed over 45,000 connections and “specials” are designed every day.

1. What connection do you require?

Available connections are listed in the pictorial index which also shows the degree of difficulty in making the connection, and ease of mould cleaning. We strongly recommend that wherever possible you use moulds listed in this catalog. After selecting the connection, turn to the appropriate page and select the mould, welding material and tools you need.

2. What are the conductor sizes?

This catalog covers connections between solid or concentric stranded copper conductors, and busbars to each other, to lugs, to ground rods, to rebar, to rail and to special grounding accessories. For sizes not listed, contact your local CADWELD distributor, agent, or ERICO.

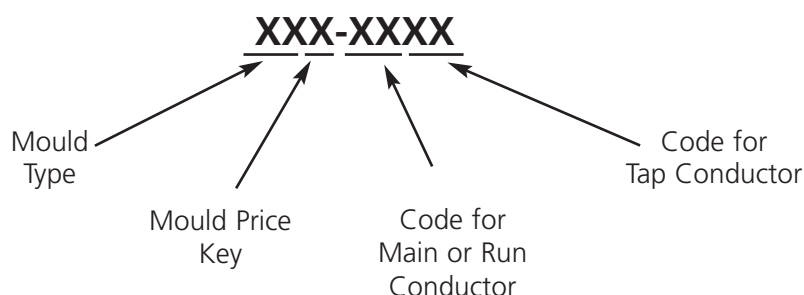
Note: Other publications describe connections to conductors of copperclad, high voltage copper, aluminium, busbar, lightning protection cable, steel cable, etc.

3. You must have the following to make a weld:

1. Mould to fit your conductors.
2. Welding material required by your mould.
3. Handle clamps or frame.
4. CADWELD® PLUS Control Unit or Flint Ignitor.
5. Lugs, sleeves, packing material listed on the page with the mould.

The CADWELD® Mould Numbering System

The CADWELD® Mould Part Number gives, in code, the complete information of the mould
– type of connection, mould price key, and conductor size(s).



EXAMPLES

TAC-Y6Y4

↑ ↑ ↑ ↑
Type TA Price Key C 120 mm² Run 70 mm² Tap

GTC-P143Y6

↑ ↑ ↑ ↑
Type GT Price Key C 14.2 mm Copper Clad Ground Rod 120 mm² Tap

SSC-Y4

↑ ↑ ↑
Type SS Price Key C 70 mm² Tap

VSC-Y2-V76

↑ ↑ ↑ ↑ ↑
Type VS Price Key C Cable 35 mm² Vertical Pipe 76 mm Diameter Pipe

Certain tools may be required for various connections.

If required, these tools are listed on the same page as the connection and in Section A.

- Some tools listed in Section A can save you a lot of time.
- Also refer to A9E, Contractor Tips, to make your job easier, and learn about labor saving ideas.

For other CADWELD literature, videos and software, See Page 50.

For all your connection needs – we're only a phone call away. See back cover for a complete listing of ERICO offices or call your local CADWELD distributor or agent.

REQUIRED TOOLS SUMMARY

Required tools are listed with each mould. For your reference, handle clamps and/or frame are summarized below.

<u>MOULD</u>	<u>REQUIRED</u>
A*	Includes frame with handle
C, Q & R	Requires L160
D, F & Z	Requires L159
E*	Includes frame but also requires L160
J*	Includes frame but also requires L159
K*, M* & V*	Includes frame with handles

* To order mould only - without handles or frame - add suffix "M" to mould part number.



The CADWELD® Mould Numbering System

COMMON REFERENCE FOR CABLE DIAMETERS

Nominal Area (mm²)	Concentric Cable		
	Strand	Diameter Range (mm)	Cable Size Code
6	7/1.04	3,12	A7
10	7/1.45	4,12	W2
10	7/1.35	4,05	W2
16	7/1.70	5,10	W3
16	7/1.68	5,04	W3
25	7/2.14	6,42	Y1
25	19/1.30	6,75 - 6,50	Y1
35	7/2.53	7,60 - 6,42	Y2
35	19/1.53	6,75	Y2
50	19/1.78	8,90	Y3
50	19/1.83	9,20 - 9,14	Y3
70	19/2.14	10,70	Y4
70	19/2.17	10,90 - 10,85	Y4
95	37/1.78	12,46	Y5
95	37/1.81	12,7 - 12,67	Y5
120	37/2.03	14,21	Y6
120	19/2.84	14,20	Y6

For other cable sizes or different stranding, please contact your local CADWELD® distributor, agent or ERICO®.

BUSBAR / TAPE KEY			
Thickness (mm)	CADWELD Code	Width (mm)	CADWELD Code
2	BA	20	H
3	CA	25	J
3,5	DA	30	K
4	EA	35	V
5	FA	40	L
6	PA	50	M
8	GA	60	N
10	HA	80	P
		100	Q

Ground Rods	
Size	CADWELD Code
7 mm	P070
10 mm	P100
12.7 mm	P128
14 mm	P140
14.2 mm	P143
15 mm	P150
16 mm	P160
17.2 mm	P172
19 mm	P190
20 mm	P200

Rebar	
Size	CADWELD Code
10 mm	51
12 mm	52
16 mm	53
20 mm	92
22 mm	55
25 mm	56
32 mm	58
36 mm	59
40 mm	83

CADWELD® - Technical Advantages

THE CADWELD® WELD

- Has a current-carrying capacity equal to that of the conductor
- Creates a permanent bond that withstands repeated fault currents and will not loosen, deteriorate or increase in resistance
- Consistently performs the best in independent IEEE® 837 tests
- Is easy to check visibly for quality

RELIABILITY

As the molecular bond eliminates the concept of surface contact, an electrolyte cannot penetrate between the conductors and cause oxidation and deterioration in the course of time.

CORROSIVE ENVIRONMENTS

This reliability is of particular interest for humid or chemical environments or for bonds directly buried in the ground.

ABILITY TO WITHSTAND HIGH CURRENT

The melting temperature of CADWELD connection is higher than the melting temperature of copper (1082°C). For this reason, in the event of abnormal heating due to a high fault current, the conductor is destroyed before the connection.

CONDUCTIVITY

The CADWELD connections form a solid bond around the conductors assuring continuity. The cross sectional area of the weld has greater current carrying capacity than the conductors.

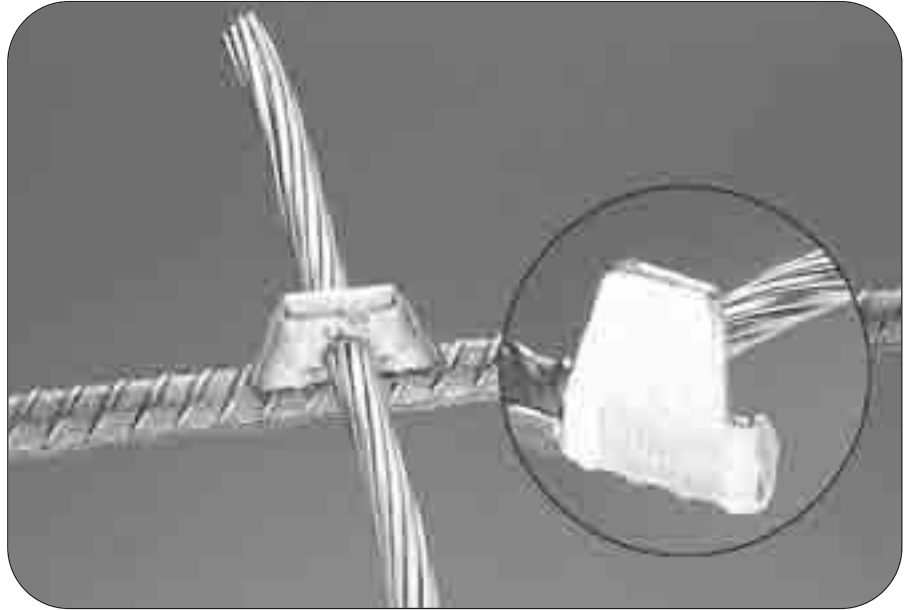
PERFORMANCE

Standard CADWELD welds have a cross section greater than that of the conductors to be joined, which compensates for the difference in resistivity between the conductor and the welding material. Consequently, under fault conditions the weld will always remain cooler than the conductor.

If special applications do not allow for the required increase in cross section to be employed, the use of the formula:

$$R = \frac{\rho \times l}{S} \text{ and } V = R \times I$$

will make it possible to define precisely the resistance of the CADWELD® weld.



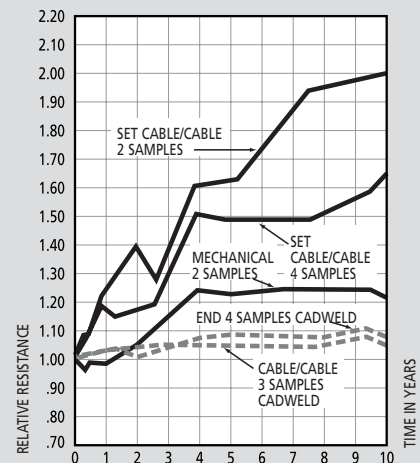
CORROSION TEST

This accelerated ageing test, carried out in a saline environment at a controlled temperature, demonstrates that CADWELD® welds retain all their electrical properties during the period of the test whereas the resistance of mechanical connections increase with time and this alters their conductive properties.

CADWELD's exceptional performance is due to its reliability resulting from the molecular bond.

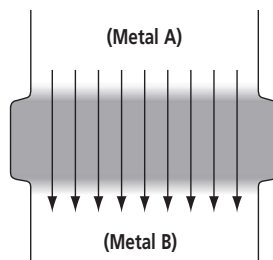
Comparison between CADWELD Bonded Connection and Mechanical Connection CADWELD Weld (Metal A) (Metal B).

The CADWELD bonded connection provides permanent conductivity over the whole of the section due to molecular bonding between the metal surfaces.



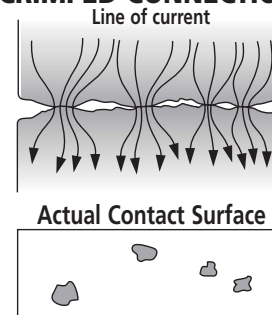
Comparison between CADWELD® Bonded Connection and Mechanical Connection

CADWELD WELD



The CADWELD bonded connection provides conductivity over the whole of the section due to molecular bonding between the metal surfaces.

MECHANICAL CRIMPED CONNECTION



The mechanical connection presents a significant difference between the apparent contact surface and the actual surface.



CADWELD® - Technical Advantages

GROUNDING SYSTEM – CONDUCTORS AND CONNECTORS

The grounding conductor size is based on the maximum magnitude and duration of available fault current, and on the type of connections being used in the grounding system.

IEEE® Std. 80-1986, Guide for Safety in Substation Grounding, uses a fusing formula as the basis for selecting minimum conductor size to avoid fusing (melting) under fault conditions.

This formula can be simplified to the following:

$$A = K \cdot I \sqrt{S}$$

Where:

- A** = Conductor size in mm²
- K** = Constant from the following table
- I** = RMS fault current in amperes
- S** = Fault time in seconds

Based on the standard ambient temperature of 40C.

MAX TEMP	CONSTANT K FOR ABOVE FORMULA		
	COPPER S.D.	COPPERWELD® DSA 40%	COPPERWELD DSA 30%
1083 C	3.55	5.30	6.10
450 C	4.65	6.96	8.04
350 C	5.12	7.67	8.85
250 C	5.90	8.85	10.22

The temperatures listed above for each material are specified in IEEE Std. 80-1986 to be used for different types of connecting means;

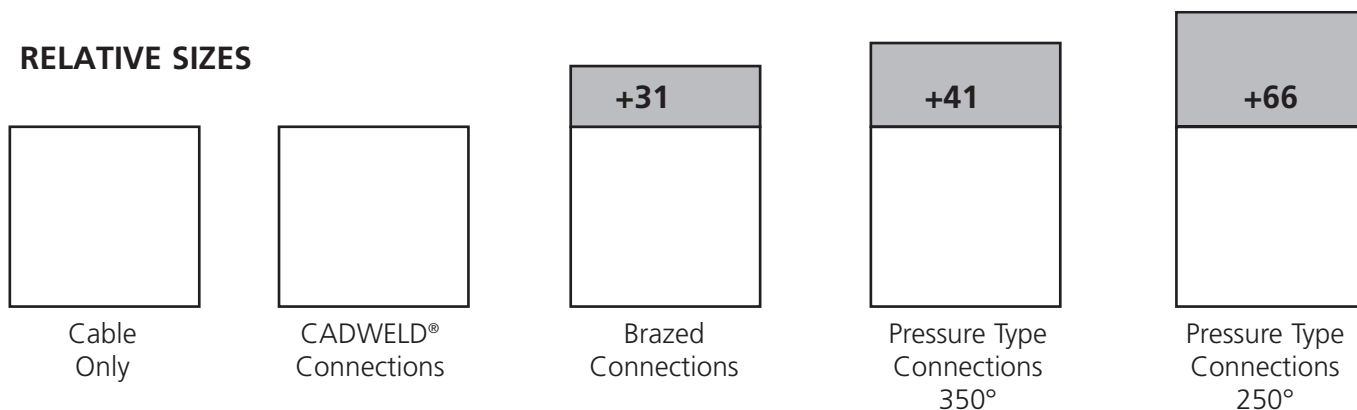
Pressure type connectors 250 to 350 C*

Brazed connections 450 C

Exothermic welded connections 1083 C

*except those that have been tested to and passed the requirements of IEEE Std. 837-1989.

RELATIVE SIZES



EXAMPLE – 25,000 Ampere, 2 second fault:

CONNECTION TYPE

CADWELD Electrical

Brazed

Pressure Type (at 350° C)

Pressure Type (at 250° C)

CONDUCTOR SIZE

126 mm² - use 150 mm²

164 mm² - use 185 mm²

181 mm² - use 185 mm²

209 mm² - use 240 mm²

Technical Information

CADWELD® THE MOLECULAR BOND

CADWELD® EXOTHERMIC CONNECTION

A welding process that eliminates the connection by forming a molecular bond.

Connections are the weak point of all electrical circuits and especially earthing circuits subjected to aging and corrosion. The capacity of an earthing circuit to protect the safety of personnel depends on the quality of the connections made.

BS 6651 (1992) STATES :

"Any joint other than welded represents a discontinuity in the current conducting system and is susceptible to variation and failure."

CADWELD® – The Molecular Bond

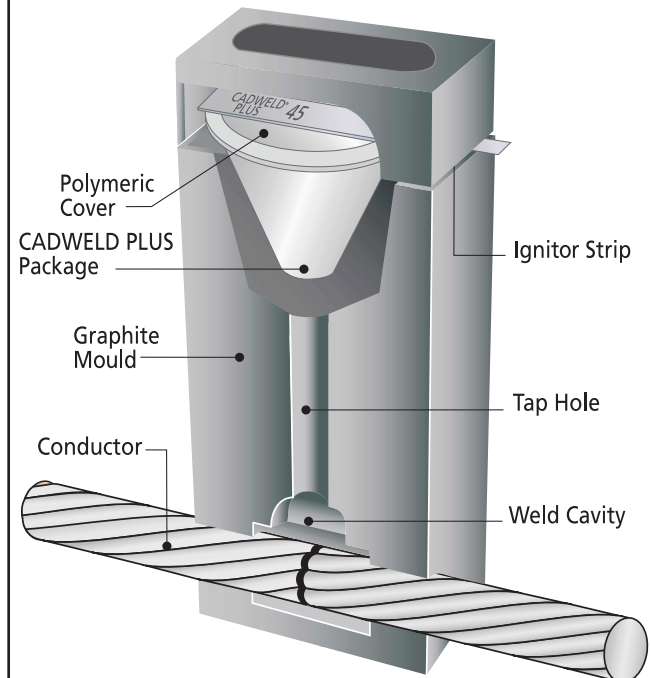
The CADWELD® process provides a way to produce copper/copper, copper/galvanized or plain steel, copper/copper clad steel, copper/bronze/brass/stainless steel, steel/steel, molecular bonds with no external energy or heat source.

The principle consists of bringing together a welding materials and ignition agent in a suitable graphite mould.

The reduction of copper oxide by aluminium produces molten copper and aluminium oxide slag at extremely high temperatures.

The shape of the mould, its dimensions, and the size of the welding material, are all dependent on the items to be welded.

THE CADWELD® MOULD USING CADWELD PLUS



Installation Is Easy!

4 Simple Steps For Permanently Welded Electrical Connections

The CADWELD PLUS Control Unit initiates the reaction of the metal crucible. The standard unit includes a 1.8 meter (6-foot) high temperature control unit lead. The lead attaches to the ignition strip using a custom made, purpose-designed termination clip.

After the termination clip is installed on the ignition strip, the installer pushes and holds the ignition button to start a charging and discharging sequence. Within a few seconds the control unit sends a predetermined voltage to the ignition strip and the reaction is initiated.



1
Insert CADWELD PLUS package into mould



2
Attach control unit termination clip to ignition strip



3
Press and hold operating switch and wait for the ignition



4
Open the mould and remove the expended steel cup – no special disposal required



CADWELD® PLUS

CADWELD PLUS for Grounding Applications

CADWELD PLUS Part Number	Article Number	Size Identification Ring Color	Traditional Welding Material Part Number (Clear Cap)
15PLUSF20	165700	Black	15
25PLUSF20	165701	Red	25
32PLUSF20	165702	White	32
45PLUSF20	165703	Light Blue	45
65PLUSF20	165704	Dark Green	65
90PLUSF20	165705	Gray	90
115PLUSF20	165706	Orange	115
150PLUSF20	165707	Dark Blue	150
200PLUSF20	165708	Yellow	200
250PLUSF20	165709	Purple	250
300PLUSF20	165710	Light Green	use 2 x 150
400PLUSF20	165711	Brown	use 2 x 200
500PLUSF20	165712	Light Brown	500



PLUSCU



Baffle Cover Kit



PLUSCULD

CADWELD PLUS Patent Numbers 6,553,911 6,835,910 6,703,578

CADWELD PLUS for Cathodic Applications

CADWELD PLUS Part Number	Article Number	Size Identification Ring Color	Traditional Welding Material Part Number (Green Cap)
CA15PLUSF33	165713	Black	CA15/CA15S
CA25PLUSF33	165714	Red	CA25
CA32PLUSF33	165715	White	CA32
CA45PLUSF33	165716	Light Blue	CA45
CA65PLUSF33	165717	Dark Green	CA65

CADWELD PLUS Part Number	Article Number	Size Identification Ring Color	Traditional Welding Material Part Number (Orange Cap)
CA25PLUSXF19	165722	Red	CA25XF19
CA32PLUSXF19	165723	White	CA32XF19
CA45PLUSXF19	165724	Light Blue	CA45XF19
CA65PLUSXF19	165725	Dark Green	CA65XF19

Accessories

Part Number	Article Number	Description
PLUSCU	165738	CADWELD PLUS Control Unit
PLUSCU15L	165745	CADWELD PLUS Control Unit with 4.6 meters (15 ft.) Lead
PLUSCULD	165739	CONTROL UNIT Replacement Lead) 1.8 meters (6 ft.)
PLUSCULD15	165746	CONTROL UNIT Replacement Lead 4.6 meters (15 ft.)
MC2X2KIT	165740	Kit, Baffle Cover, Graphite - 51 mm X 51 mm (2" X 2") Mould
MC25X3KIT	165744	Kit, Baffle Cover, Graphite - 64 mm X 76 mm (2½" X 3") Mould
MC3X3KIT	165741	Kit, Baffle Cover, Graphite - 76 mm X 76 mm (3" X 3") Mould
MC4X4KIT	165742	Kit, Baffle Cover, Graphite - 102 mm X 102 mm (4" X 4") Mould

CADWELD PLUS for Cast Iron Applications

CADWELD PLUS Part Number	Article Number	Size Identification Ring Color	Traditional Welding Material Part Number (Orange Cap)
25PLUSXF19	165718	Red	25XF19
32PLUSXF19	165719	White	32XF19
45PLUSXF19	165720	Light Blue	45XF19
65PLUSXF19	165721	Dark Green	65XF19

Gram weight PLUS welding material type i.e. 45PLUSF20

CADWELD® MULTI

4 Easy steps for multiple, permanently welded, electrical connections



Step 1 Layer batting and variable conductor sizes to be welded into dry mould



Step 2 Close mould and drop metal disk in place



Step 3 Dump welding material and tap bottom of container to release starting material



Step 4 Close the cover and ignite with flint ignitor. Open the mould after 10 seconds




The CADWELD MULTI combines a versatile mould block and a range of gaskets (batting) to allow numerous different welded connections to be produced without the need to change the mould for each connection type.



The process is similar to the traditional CADWELD with one distinct difference... there is no need to change the mould for different connection types.

The whole process is complete in about one minute. The connection table details the gasket quantities required for each weld.

CADWELD MULTI Available Items

Description	Part No.	Article No.			Unit Weight (kg)
Kit for 20 welds, in metallic box 14" x 13" x 6" (360 x 330 x 160 mm)	KITCDM01	167780		1	10.00
Kit for 20 welds using CADWELD PLUS, in metallic box (Control Unit sold separately) 14" x 13" x 11" (360 x 330 x 280 mm)	KITCDM01 PLUS	167781		1	11.50
Made from the following items which can be ordered separately:			Qty. in Kit		
Mould	CDM01	234720	1	1	1.000
Handle Clamp	FMCDM01	120882	1	1	1.100
Set of 33 battings/gaskets	SCDM01	120886	2	1	0.200
Welding material 90*	90	163040	2 boxes of 10	10	0.090
CADWELD PLUS Welding Material**	90PLUSF20	165705	2 boxes of 10	10	0.158
Toolset TS-6A, including: • gloves • cardcloth brush • soft brush • flint ignitor	TS6A	169930	1	1	0.490

* in KITCDM01 = Traditional CADWELD MULTI Kit
** in KITCDM01PLUS = CADWELD PLUS MULTI Kit



CADWELD® MULTI

CADWELD® MULTI Connection Capabilities

Copper Cable/Solid to Copper Cable/Solid



- Copper cable/solid sizes up to 1/0 (50 mm²) stranded or .40" (10 mm) diameter



- Copper cable/solid sizes up to #3 (25 mm²) stranded or .26" (6,5 mm) diameter

Copper Cable/Solid/Strip to Rebar



- Copper conductor sizes up to 1/0 (50 mm²) stranded or .40" (10 mm) diameter
- Copper or steel strip/lug sizes up to 1" x .138" (30 x 3,5 mm)
- Rebar sizes up to #3 (10 mm)

Copper Cable/Solid to Copper or Steel Strip/Lug



- Copper conductor sizes up to 1/0 (50 mm²) stranded or .40" (10 mm) diameter
- Copper or steel strip/lug sizes up to 1" x .138" (30 x 3,5 mm)

Copper Strip to Copper Strip

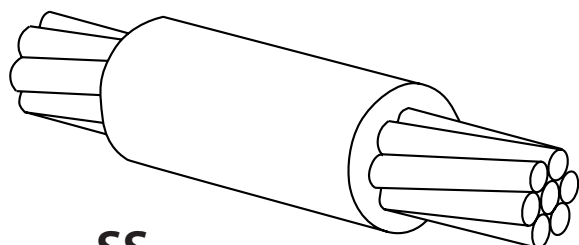


- BB and CG 1" x (.020" - .118"), (30 x 3,5 mm)
- BG and EB 1" x (.020" - .079"), (30 x 3 mm)

Galvanized Steel Strip to Galvanized Steel Strip



- Galvanized steel strip sizes up to 1" x .138" (30 x 3,5 mm)



SS

HORIZONTAL SPLICE

Splice of horizontal cables.

- Concentric stranded copper cable unless otherwise noted.
- Solid conductor may be copper or Copperweld®.
- Also available are splices of different and mixed cable sizes. For Copperweld DSA cables, contact ERICO®.
- **Bold letter** in mould part number is the price key.

REQUIRED TOOLS

	Article No.	Part No.
Handle Clamps		
for C Price Key Moulds	161000	L160
for D Price Key Moulds	161020	L159
CADWELD® PLUS Control Unit or Flint Ignitor	165738 165000	PLUSCU T320

SUGGESTED TOOLS

Conductor Cleaning Brush	165130	T313
Slag Removal Spade		
#65 w/m & smaller		B136A
#90 w/m & larger		B136B
Mould Cleaning Brush	165260	T394
Cable Clamp	165020	B265
Torch Head	140160	T111

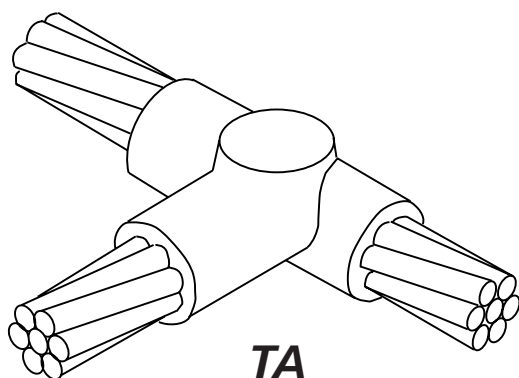
SS

CABLE SIZE (sq mm)	MOULD PART NO.	WELDING MATERIAL ¹
16*	SS C W3*	25
25	SS C Y1	32
35	SS C Y2	32
50	SS C Y3	45
70	SS C Y4	65
95	SS C Y5	90
120	SS C Y6	115
150	SS C Y7	115
185	SS C Y8	150
240	SS C Y9	200
8 mm Ø	SS C W6	45
10 mm Ø	SS C W8	65

*Packing: B112, sleeve

¹ For CADWELD PLUS add suffix "PLUSF20" (refer page 8)





TA

TA

CABLE SIZE (sq mm) run		MOULD PART NO. tap	WELDING MATERIAL ¹
16*	16*	TACW3W3	32
25	25	TACY1Y1	32
25	16*	TACY1W3	45
35	35	TACY2Y2	45
35	25	TACY2Y1	45
35	16*	TACY2W3	45
50	50	TACY3Y3	90
50	35	TACY3Y2	45
50	25	TACY3Y1	45
50	16*	TACY3W3	45
70	70	TACY4Y4	90
70	50	TACY4Y3	90
70	35	TACY4Y2	45
70	25	TACY4Y1	45
70	16*	TACY4W3	45
95	95	TACY5Y5	115
95	70	TACY5Y4	90
95	50	TACY5Y3	90
95	35	TACY5Y2	90
95	25	TACY5Y1	90
95	16*	TACY5W3	90

*Packing: B112, sleeve

¹For CADWELD PLUS add suffix "PLUSF20" (refer page 8)

HORIZONTAL TEE CONNECTIONS

Tee of horizontal run and tap cables.

- Concentric stranded copper cable unless otherwise noted.
- Solid conductor can be copper or Copperweld®.
- **Bold letter** in mould part number is the price key.

REQUIRED TOOLS

	Article No.	Part No.
Handle Clamps		
for C Price Key Moulds	161000	L160
for D Price Key Moulds	161020	L159
CADWELD® PLUS Control Unit or Flint Ignitor	165738 165000	PLUSCU T320

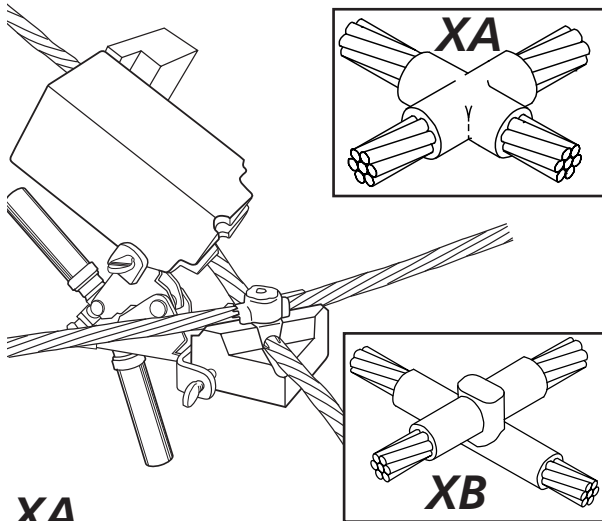
SUGGESTED TOOLS

Conductor Cleaning Brush	165130	T313
Slag Removal Spade		
#65 w/m & smaller		B136A
#90 w/m & larger		B136B
Mould Cleaning Brush	165260	T394
Cable Clamp	165020	B265
Torch Head	140160	T111

CABLE SIZE (sq mm) run		MOULD PART NO. tap	WELDING MATERIAL ¹
120	120	TACY6Y6	150
120	95	TACY6Y5	150
120	70	TACY6Y4	90
120	50	TACY6Y3	90
120	35	TACY6Y2	90
150	150	TACY7Y7	200
150	120	TACY7Y6	150
150	95	TACY7Y5	150
150	70	TACY7Y4	90
185	185	TACY8Y8	200
185	150	TACY8Y7	200
185	120	TACY8Y6	200
240	240	TACY9Y9	2 x 150**
240	185	TACY9Y8	200
240	150	TACY9Y7	200
240	120	TACY9Y6	200
8 mm Ø	8 mm Ø	TACW6W6	90
10 mm Ø	8 mm Ø	TACW8W6	90
10 mm Ø	10 mm Ø	TACW8W8	90

¹For CADWELD PLUS add suffix "PLUSF20" (refer page 8)

**For CADWELD PLUS use 300PLUSF20



XA

CABLE SIZE (sq mm) run tap		MOULD PART NO.	WELDING MATERIAL ¹
25	25	XAC Y 1Y1	45
35	35	XAC Y 2Y2	65
35	25	XAC Y 2Y1	65
50	50	XAC Y 3Y3	90
50	35	XAC Y 3Y2	90
70	70	XAC Y 4Y4	115
70	50	XAC Y 4Y3	115
95	95	XAC Y 5Y5	200
95	70	XAC Y 5Y4	150
95	50	XAC Y 5Y3	150
120	120	XAC Y 6Y6	200
120	95	XAC Y 6Y5	200
120	70	XAC Y 6Y4	200
150	150	XAC Y 7Y7	250
150	120	XAC Y 7Y6	250
150	95	XAC Y 7Y5	200
150	70	XAC Y 7Y4	200
185	185	XAC Y 8Y8	250
185	150	XAC Y 8Y7	250
185	120	XAC Y 8Y6	250
240	240	XAD Y 9Y9	500
240	185	XAD Y 9Y8	2 x 200*
240	150	XAD Y 9Y7	2 x 200*
240	120	XAD Y 9Y6	2 x 150**

¹ For CADWELD PLUS add suffix "PLUSF20" (refer page 8)

*For CADWELD PLUS use 400PLUSF20

**For CADWELD PLUS use 300PLUSF20

HORIZONTAL X CONNECTIONS

XA – Cross of horizontal cables, tap cable cut – cables in same plane.

XB – Cross of horizontal cables, lapped and not cut.

- Concentric stranded copper cable unless otherwise noted
- Solid conductor may be copper or Copperweld®.
- **Bold letter** in mould part number is the price key.

REQUIRED TOOLS

	Article No.	Part No.
Handle Clamps		
for C Price Key Moulds	161000	L160
for D Price Key Moulds	161020	L159
CADWELD® PLUS Control Unit or Flint Ignitor	165738 165000	PLUSCU T320

SUGGESTED TOOLS

Conductor Cleaning Brush	165130	T313
Slag Removal Spade		
#65 w/m & smaller		B136A
#90 w/m & larger		B136B
Mould Cleaning Brush	165260	T394
Cable Clamp	165020	B265
Torch Head	140160	T111

ADDITIONAL NOTES

- B136C cleaning tool supplied with each XB mould.
- All Q price moulds require L160 handle clamp.
- All Z price moulds require L159 handle clamp.

XB

CABLE SIZE (sq mm) run tap		MOULD PART NO.	WELDING MATERIAL ¹
25	25	XB C Y1Y1	65
35	35	XB C Y2Y2	90
50	50	XB Q Y3Y3	150
70	70	XB Q Y4Y4	200
95	95	XB Q Y5Y5	250
120	120	XB Q Y6Y6	2 x 150**
150	150	XB Z Y7Y7	2 x 200*
185	185	XB Z Y8Y8	500
240	240	XB Z Y9Y9	3 x 250***

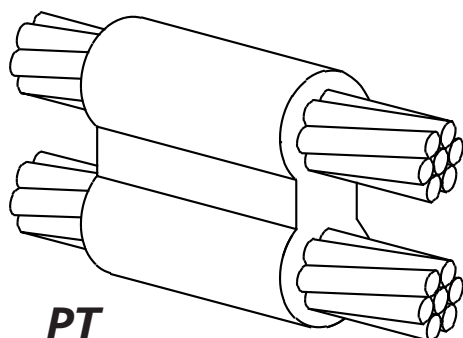
¹ For CADWELD PLUS add suffix "PLUSF20" (refer page 8)

*For CADWELD PLUS use 400PLUSF20

**For CADWELD PLUS use 300PLUSF20

***For CADWELD PLUS use 750PLUSF20





PT

CABLE SIZE (sq mm) run		MOULD PART NO. tap	WELDING MATERIAL ¹
25	25	PT CY 1Y1	45
35	35	PT CY 2Y2	65
35	25	PT CY 2Y1	65
50	50	PT CY 3Y3	90
50	35	PT CY 3Y2	65
70	70	PT CY 4Y4	115
70	50	PT CY 4Y3	115
95	95	PT CY 5Y5	200
95	70	PT CY 5Y4	150
95	50	PT CY 5Y3	150
120	120	PT CY 6Y6	250
120	95	PT CY 6Y5	200
120	70	PT CY 6Y4	150
150	150	PT DY 7Y7	2 x 150*
150	120	PT CY 7Y6	250
150	95	PT CY 7Y5	200
150	70	PT CY 7Y4	150
185	185	PT DY 8Y8	2 x 150*
185	150	PT DY 8Y7	2 x 150*
185	120	PT CY 8Y6	250
240	240	PT DY 9Y9	2 x 200**
240	185	PT DY 9Y8	2 x 150*
240	150	PT DY 9Y7	2 x 150*
240	120	PT CY 9Y6	250

¹ For CADWELD PLUS add suffix "PLUSF20" (refer page 8)

*For CADWELD PLUS use 300PLUSF20

**For CADWELD PLUS use 400PLUSF20

PARALLEL HORIZONTAL CONDUCTORS

Parallel through connection of horizontal cables.

- Run conductor is on the bottom of type PT moulds.
- Concentric strand copper cable unless otherwise noted.
- Solid conductor may be copper or Copperweld®.
- **Bold letter** in mould part number is the price key.

REQUIRED TOOLS

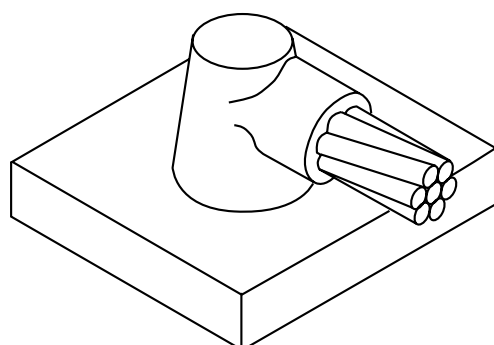
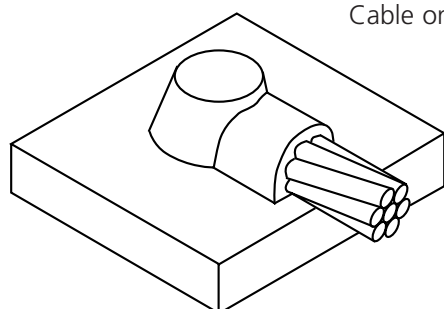
	Article No.	Part No.
Handle Clamps		
for C Price Key Moulds	161000	L160
for D Price Key Moulds	161020	L159
CADWELD® PLUS Control Unit or Flint Ignitor	165738 165000	PLUSCU T320

SUGGESTED TOOLS

Conductor Cleaning Brush	165130	T313
Slag Removal Spade		
#65 w/m & smaller		B136A
#90 w/m & larger		B136B
Mould Cleaning Brush	165260	T394
Cable Clamp	165020	B265
Torch Head	140160	T111

HA

Cable on surface



HS

Cable off surface

HA

CABLE SIZE (sq mm)	MOULD PART NO.	WELDING MATERIAL ¹
25	HAA Y 1	45
35	HAA Y 2	45
50	HAA Y 3	45
70	HAA Y 4	65

¹For CADWELD PLUS add suffix "PLUSF20" (refer page 8)

HS

CABLE SIZE (sq mm)	MOULD PART NO.	WELDING MATERIAL ¹
95	HSC Y 5	115
120	HSC Y 6	115
150	HSC Y 7	150
185	HSC Y 8	200
240	HSC Y 9	200

¹For CADWELD PLUS add suffix "PLUSF20" (refer page 8)

HORIZONTAL STEEL SURFACE

Horizontal concentric copper conductor to flat steel surface or top of horizontal pipe

- CADWELD® also has a complete product line for cathodic protection connections. See catalogue CA1A.
- A test weld should be made to check the possibility of burn-through on thin sections or thin wall pipe.
- Concentric stranded copper cable listed.
- **Bold letter** in mould part number is the price key.

REQUIRED TOOLS

	Article No.	Part No.
Handle Clamps*		
Flat Surface for C Price Key Moulds	161000	L160
for D Price Key Moulds	161020	L159
Pipe (curved surface) for C Price Key Moulds		B160V
for D Price Key Moulds		B159V
CADWELD® PLUS Control Unit or Flint Ignitor	165738 165000	PLUSCU T320

SUGGESTED TOOLS

Conductor Cleaning Brush	165030	T313
Slag Removal Spade		
#65 w/m & smaller		B136A
#90 w/m & larger		B136B
Mould Cleaning Brush	165260	T394
Cable Clamp	165020	B265
Torch Head	140160	T111
Rasp	162420	T321

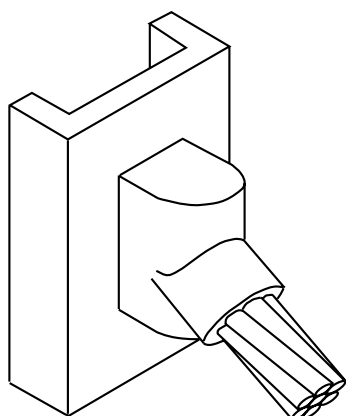
*Handles are included with A Price Key Moulds.

Cable to Steel Pipe (Types HA and HS) – Use flat surface mould part number with suffix.

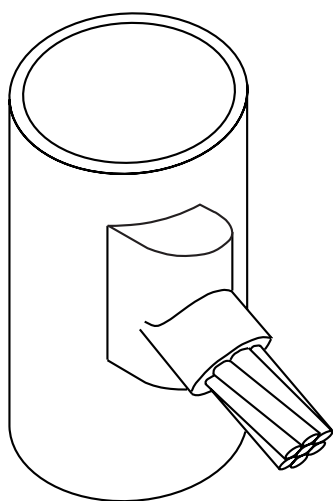
Cable	Nominal Pipe Diameter	Suffix
35 mm² and Smaller	Less than 350 mm Greater than 350 mm	Nominal Diameter (mm) None
50 mm² thru 120 mm²	Less than 760 mm Greater than 762 mm	Nominal Diameter (mm) None

Example: 35 mm² cable, on 100 mm diameter pipe HAA-Y2-100
95 mm² cable on 250 mm diameter pipe HSC-Y5-250





VS



VS

CABLE SIZE sq mm	MOULD PART NO.	WELDING MATERIAL ¹
25	VSCY1	45
35	VSCY2	45
50	VSCY3	90
70	VSCY4	90
95	VSCY5	115
120	VSCY6	115
150	VSCY7	150
185	VSCY8	200
240	VSCY9	200

¹ For CADWELD PLUS add suffix "PLUSF20" (refer page 8)

VERTICAL STEEL SURFACE

Cable down at 45° to vertical steel surface including pipe.
Cable to vertical flat steel surface; cable to side of vertical or horizontal steel pipe.

- CADWELD® also has a complete product line for cathodic protection connections.
- Concentric stranded copper cable listed.
- A test weld should be made to check the possibility of burn through on thin sections or thin wall pipe.
- **Bold letter** in mould part number is the price key.

REQUIRED TOOLS

	Article No.	Part No.
Handle Clamps		
Flat Surface for C Price Key Moulds	161000	L160
for D Price Key Moulds	161020	L159
Pipe for C Price Key Moulds		B160V
(to 100 mm dia.) for D Price Key Moulds		B159V
(Pipes 100-250 mm dia. add B158)		
CADWELD® PLUS Control Unit or	165738	PLUSCU
Flint Ignitor	165000	T320

SUGGESTED TOOLS

Conductor Cleaning Brush	165030	T313
Slag Removal Spade	See CADWELD Table	
Mould Cleaning Brush	165260	T394
Cable Clamp	165020	B265
Torch Head	140160	T111
Rasp	162420	T321

ADDITIONAL NOTES

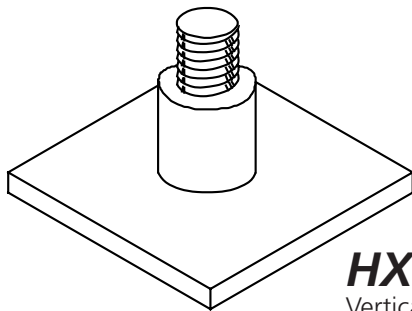
For flat vertical surfaces, on an H column or angle, the following attachment can be used to secure the mould.

for use with L160	B134
for use with L159	B135

Cable to Vertical Steel Pipe –

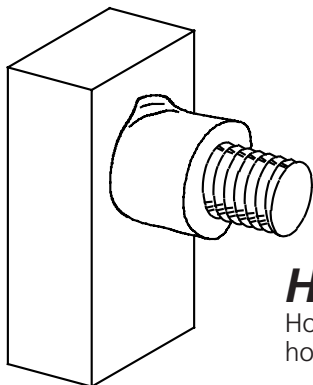
Use flat surface mould part number; add **V** and suffix.

Cable	Nominal Pipe Diameter	Suffix
25 mm² thru 120 mm²	Less than 80 mm 812.8 mm and larger	Nominal Pipe Diameter None
Example: 70 mm² to 102 mm pipe, VSC-Y4-102V		



HX

Vertical stud to horizontal steel surface



HV

Horizontal stud to horizontal steel surface

STEEL STUDS

Connections of steel studs to steel surfaces. Studs on grounded structures provide a convenient point of attachment of temporary protective ground clamps.

- **Bold letter** in mould part number is the price key.

REQUIRED TOOLS

		Article No.	Part No.
Handle Clamps	for C Price Key Moulds	161000	L160
	for D Price Key Moulds	161020	L159
CADWELD® PLUS Control Unit or Flint Ignitor		165738	PLUSCU
		165000	T320

SUGGESTED TOOLS

Mould Cleaning Brush	165260	T394
Rasp	162420	T321
Torch Head	140160	T111
Mould Scraper Tool		
#65 w/m & smaller		B136A
#90 w/m & larger		B136B

HX

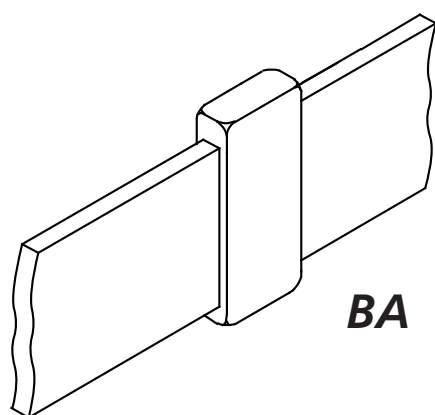
THREAD DESCRIPTION	MOULD PART NO.	WELDING MATERIAL ¹
M6	HXC-6	25
M8	HXC-8	32
M10	HXC-10	45
M12	HXC-12	45
M16	HXC-16	90

¹ For CADWELD PLUS add suffix "PLUSF20" (refer page 8)

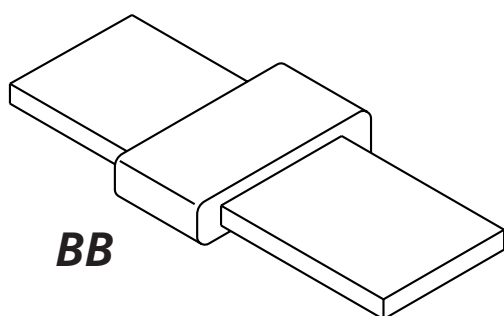
HV

THREAD DESCRIPTION	MOULD PART NO.	WELDING MATERIAL ¹
M6	HVC-6	25
M10	HVC-P100	45
M12	HVC-P120	65
M16	HVC-P160	115

¹ For CADWELD PLUS add suffix "PLUSF20" (refer page 8)



BA



BB

COPPER BUSBAR SPLICE

TYPE BA – Horizontal, on-edge, busbar.

TYPE BB – Horizontal busbars.

• **Bold letter** in mould part number is the price key.

REQUIRED TOOLS

	Article No.	Part No.
Handle Clamps		
for C Price Key Moulds	161000	L160
for D Price Key Moulds	161020	L159
CADWELD® PLUS Control Unit or Flint Ignitor	165738	PLUSCU
	165000	T320

SUGGESTED TOOLS

Conductor Cleaning Brush	165130	T313
Slag Removal Spade		
#65 w/m & smaller		B136A
#90 w/m & larger		B136B
Mould Cleaning Brush	165260	T394
Cable Clamp	165020	B265
Torch Head	140160	T111

BA

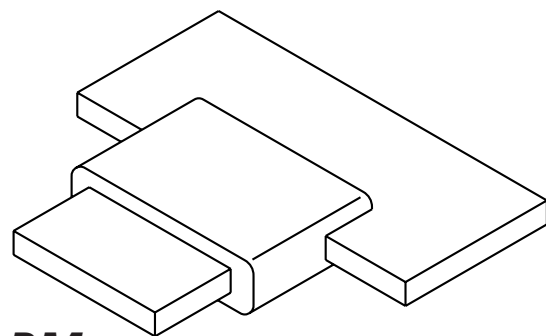
BUSBAR SIZE	MOULD PART NO.	WELDING MATERIAL ¹
3X25	BAC C AJ	65
3X50	BAC C AM	90
4X40	BAC E AL	115
4X50	BAC E AM	115
5X40	BAC F AL	150
5X50	BAC F AM	200
6X25	BAC P AJ	115
6X50	BAC P AM	150

¹ For CADWELD PLUS add suffix "PLUSF20" (refer page 8)

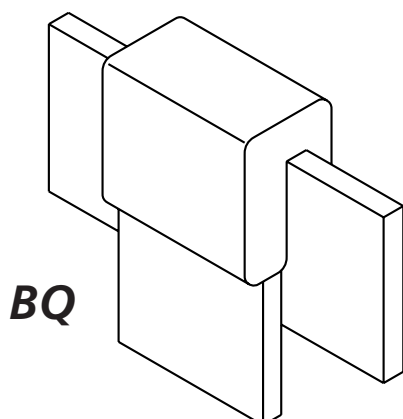
BB

BUSBAR SIZE	MOULD PART NO.	WELDING MATERIAL ¹
3X25	BB C AJ	90
3X50	BB R CAM	150
4X40	BB C EAL	150
4X50	BB R EAM	150
5X40	BB C FAL	150
5X50	BB R FAM	200
6X25	BB C PAJ	115
6X50	BB R PAM	250

¹ For CADWELD PLUS add suffix "PLUSF20" (refer page 8)



BM



BQ

BM

BUSBAR SIZE	MOULD PART NO.	WELDING MATERIAL ¹
3X25 3X50	BM C CAJCAJ BM D CAMCAMEAM	90 250
4X40 4X50	BM C EALAL BM D EAMEAM	150 200
5X40 5X50	BM C FALFAL BM D FAMFAM	150 200
6X25 6X50	BM C PAJPAJ BM D PAMPAM	115 250

¹ For CADWELD PLUS add suffix "PLUSF20" (refer page 8)

COPPER BUSBAR

TYPE BM – Tee tap – horizontal busbars.

TYPE BQ – Tee tap down – horizontal, on-edge, busbars.

• **Bold letter** in mould part number is the price key.

REQUIRED TOOLS

	Article No.	Part No.
Handle Clamps		
for C Price Key Moulds	161000	L160
for D Price Key Moulds	161020	L159
CADWELD® PLUS Control Unit or Flint Ignitor	165738 165000	PLUSCU T320

SUGGESTED TOOLS

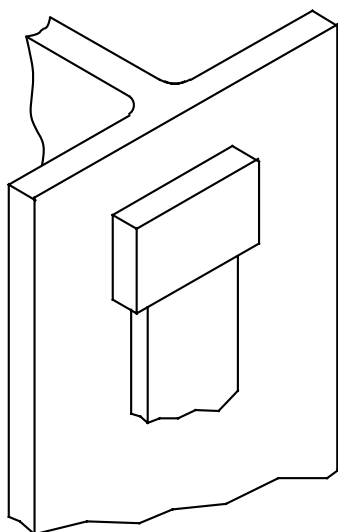
Conductor Cleaning Brush	165130	T313
Slag Removal Spade		
#65 w/m & smaller		B136A
#90 w/m & larger		B136B
Mould Cleaning Brush	165260	T394
Cable Clamp	165020	B265
Torch Head	140160	T111

BQ

BUSBAR SIZE	MOULD PART NO.	WELDING MATERIAL ¹
3X25 3X50	BQ C CAJCAJ BQ C CAMCAMEAM	90 200
4X40 4X50	BQ C EALAL BQ C EAMEAM	150 200
5X40 5X50	BQ C FALFAL BQ C FAMFAM	150 200
6X25 6X50	BQ C PAJPAJ BQ D PAMPAM	150 2 x 250*

¹ For CADWELD PLUS add suffix "PLUSF20" (refer page 8)

*For CADWELD PLUS use 500PLUSF20



BW

COPPER BUSBAR TO STEEL SURFACE

Vertical rising copper busbar to a flat, vertical steel surface

- A test weld should be made to check the possibility of burn through when intended for use on thin sections or thin wall pipe.

- **Bold letter** in mould part number is the price key.

REQUIRED TOOLS

	Article No.	Part No.
Handle Clamps		
for C Price Key Moulds	161000	L160
for D Price Key Moulds	161020	L159
CADWELD® PLUS Control Unit or Flint Ignitor	165738	PLUSCU
	165000	T320

SUGGESTED TOOLS

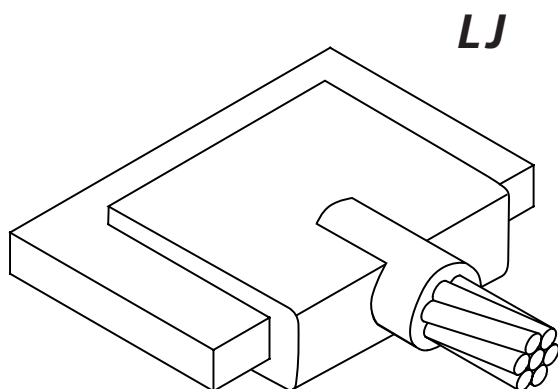
Conductor Cleaning Brush	165130	T313
Slag Removal Spade		
#65 w/m & smaller		B136A
#90 w/m & larger		B136B
Mould Cleaning Brush	165260	T394
Cable Clamp	165020	B265
Torch Head	140160	T111
Rasp	162420	T321

BW

BUSBAR SIZE	MOULD PART NO.	WELDING MATERIAL ¹
3X25 3X50	BW C CAJ BW C CAM	90 150
4X40 4X50	BW C EAL BW C EAM	200 250
5X40 5X50	BW C FAL BW D FAM	200 250
6X25 6X50	BW C PAJ BW D PAM	150 2 x 150*

¹ For CADWELD PLUS add suffix "PLUSF20" (refer page 8)

*For CADWELD PLUS use 300PLUSF20



LJ

BUSBAR (mm)	CABLE SIZE (sq mm)	MOULD PART NO.	WELDING MATERIAL ¹
3 x 25	35	LJ CA IY2	45
	50	LJ CA IY3	90
	70	LJ CA IY4	90
4 x 40 & WIDER	35	LJ CE ALY2	45
	50	LJ CE ALY3	90
	70	LJ CE ALY4	90
	95	LJ CE ALY5	90
	120	LJ CE ALY6	90
	150	LJ CE ALY7	115
	185	LJ CE ALY8	150
	240	LJ CE ALY9	150
5 x 40 & WIDER	35	LJ CF ALY2	65
	50	LJ CF ALY3	90
	70	LJ CF ALY4	90
	95	LJ CF ALY5	90
	120	LJ CF ALY6	115
	150	LJ CF ALY7	115
	185	LJ CF ALY8	150
	240	LJ CF ALY9	200
6 x 40 & WIDER	35	LJ CP ALY2	65
	50	LJ CP ALY3	90
	70	LJ CP ALY4	90
	95	LJ CP ALY5	90
	120	LJ CP ALY6	115
	150	LJ CP ALY7	115
	185	LJ CP ALY8	150
	240	LJ CP ALY9	200

¹ For CADWELD PLUS add suffix "PLUSF20" (refer page 8)

CABLE TO BUSBAR

Tap of horizontal cable to edge of horizontal, flat busbar.

- Concentric stranded copper cable is listed.
- The minimum distance between adjacent welds is indicated as "C" dimension.
- **Bold letter** in mould part number is the price key.

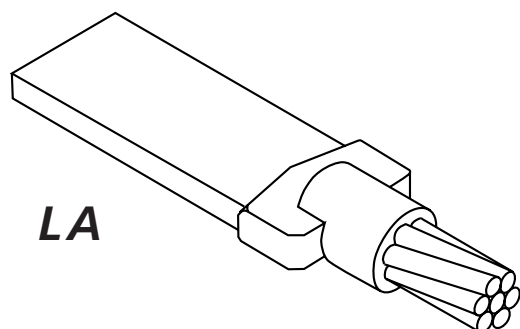
REQUIRED TOOLS

	Article No.	Part No.
Handle Clamps		
for C Price Key Moulds	161000	L160
for D Price Key Moulds	161020	L159
CADWELD® PLUS Control Unit or Flint Ignitor	165738 165000	PLUSCU T320

SUGGESTED TOOLS

Conductor Cleaning Brush	165130	T313
Slag Removal Spade		
#65 w/m & smaller		B136A
#90 w/m & larger		B136B
Mould Cleaning Brush	165260	T394
Cable Clamp	165020	B265
Torch Head	140160	T111





LA

LA

CABLE SIZE (sq mm)	BUS OR LUG SIZE (mm)	MOULD PART NO.	WELDING MATERIAL ¹
16	2 x 20	LAC-W3-BAH	32
	2 x 25	LAC-W3-BAJ	32
	3 x 20	LAC-W3-CAH	45
	3 x 25	LAC-W3-CAJ	45
25	2 x 25	LAC-Y1-BAJ	45
	3 x 20	LACY1-CAH	45
	3 x 25	LAC-Y1-CAJ	45
	4 x 25	LAC-Y1-EAJ	65
35	2 x 25	LAC-Y2-BAJ	45
	3 x 20	LACY2-CAH	45
	3 x 25	LAC-Y2-CAJ	45
	4 x 25	LAC-Y2-EAJ	45
50	2 x 25	LAC-Y3-BAJ	45
	3 x 20	LAC-Y3-CAH	45
	3 x 25	LAC-Y3-CAJ	45
	4 x 25	LAC-Y3-EAJ	65
70	3 x 25	LAC-Y4-CAJ	65
	3 x 30	LAC-Y4-CAK	65
	4 x 25	LAC-Y4-EAJ	65
	4 x 30	LAC-Y4-EAK	65
	5 x 30	LAC-Y4-FAK	90
95	3 x 25	LAC-Y5-CAJ	65
	3 x 30	LAC-Y5-CAK	90
	4 x 25	LAC-Y5-EAJ	90
	4 x 30	LAC-Y5-EAK	90
	5 x 30	LAC-Y5-FAK	90
120	3 x 25	LAC-Y6-CAJ	90
	3 x 30	LAC-Y6-CAK	90
	4 x 25	LAC-Y6-EAJ	90
	4 x 30	LAC-Y6-EAK	90
	5 x 30	LAC-Y6-FAK	90

¹ For CADWELD PLUS add suffix "PLUSF20" (refer page 8)

COPPER LUGS (METRIC)

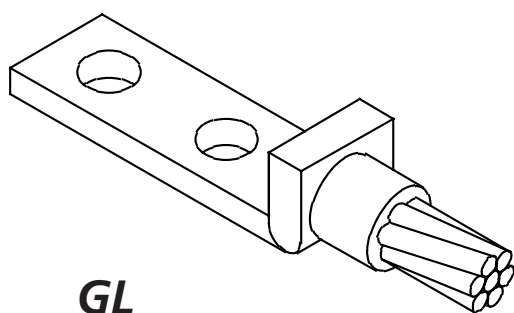
- Lugs and connections for equipment and structures. Ideal for power utility applications.
- Concentric stranded copper cable is listed.
- **Bold letter** in mould part number is the price key.

REQUIRED TOOLS

	Article No.	Part No.
Handle Clamps		
for C Price Key Moulds	161000	L160
for D Price Key Moulds	161020	L159
CADWELD® PLUS Control Unit or	165738	PLUSCU
Flint Ignitor	165000	T320

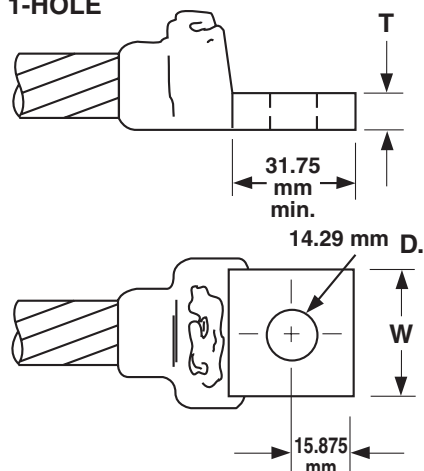
SUGGESTED TOOLS

Conductor Cleaning Brush	165130	T313
Slag Removal Spade		
#65 w/m & smaller		B136A
#90 w/m & larger		B136B
Mould Cleaning Brush	165260	T394
Cable Clamp	165020	B265
Torch Head	140160	T111



GL

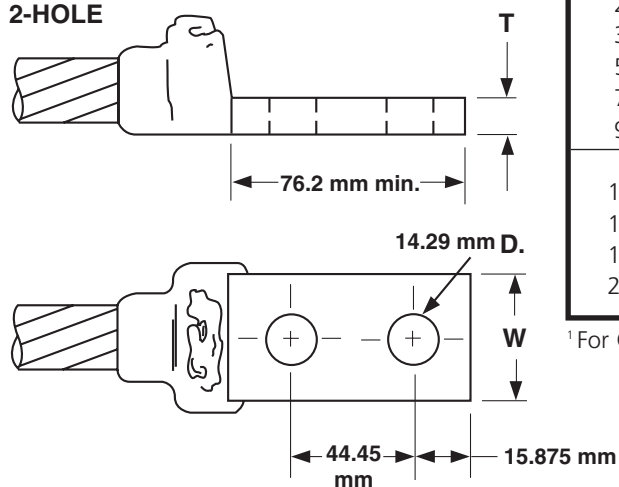
1-HOLE



NEMA® Drilled Lugs-B-121 Series

All lugs are tin plated copper.

2-HOLE



NEMA Drilled Lugs-B-122 Series

COPPER LUGS

- Lugs and connections for equipment and structures. Ideal for power applications.
- Concentric stranded copper cable is listed.
- **Bold letter** in mould part number is the price key.

REQUIRED TOOLS

	Article No.	Part No.
Handle Clamps		
for C Price Key Moulds	161000	L160
for D Price Key Moulds	161020	L159
CADWELD® PLUS Control Unit or Flint Ignitor	165738	PLUSCU
	165000	T320

SUGGESTED TOOLS

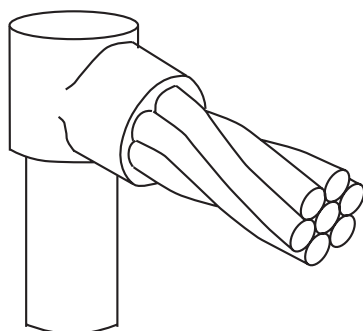
Conductor Cleaning Brush	165130	T313
Slag Removal Spade		
#65 w/m & smaller		B136A
#90 w/m & larger		B136B
Mould Cleaning Brush	165260	T394
Cable Clamp	165020	B265
Torch Head	140160	T111

GL

CABLE SIZE (sq mm)	MOULD PART NO.	WELDING MATERIAL ¹	LUG SIZE T X W (mm)	GL LUG NUMBER	
				1 HOLE	2 HOLE
25	GL C CEY1	32	3.18 x 25.4	B-121-CE	B-122-CE
35	GL C CEY2	32	3.18 x 25.4	B-121-CE	B-122-CE
50	GL C CEY3	45	3.18 x 25.4	B-121-CE	B-122-CE
70	GL C CEY4	45	3.18 x 25.4	B-121-CE	B-122-CE
95	GL C DEY5	65	4.76 x 25.4	B-121-DE	B-122-DE
120	GL C DEY6	65	4.76 x 25.4	B-121-DE	B-122-DE
150	GL C EEY7	90	6.35 x 25.4	B-121-EE	B-122-EE
185	GL C EEY8	90	6.35 x 25.4	B-121-EE	B-122-EE
240	GL C EGY9	150	6.35 x 38.1	B-121-EG	B-122-EG

¹For CADWELD PLUS add suffix "PLUSF20" (refer page 8)





GR

GR

GROUND ROD SIZE Dia. (mm)	CABLE SIZE (sq mm)	MOULD PART NO.	WELDING MATERIAL
12.7	25	GR CP 128Y1	65
	35	GR CP 128Y2	65
	50	GR CP 128Y3	65
	70	GR CP 128Y4	90
	95	GR CP 128Y5	90
	120	GR CP 128Y6	90
	150	GR CP 128Y7	115
	185	GR CP 128Y8	115
14.2	25	GR CP 143Y1	65
	35	GR CP 143Y2	90
	50	GR CP 143Y3	90
	70	GR CP 143Y4	90
	95	GR CP 143Y5	90
	120	GR CP 143Y6	90
	150	GR CP 143Y7	115
	185	GR CP 143Y8	150
	240	GR CP 143Y9	250
17.2	25	GR CP 173Y1	90
	35	GR CP 173Y2	90
	50	GR CP 173Y3	90
	70	GR CP 173Y4	90
	95	GR CP 173Y5	90
	120	GR CP 173Y6	90
	150	GR CP 173Y7	115
	185	GR CP 173Y8	115
	240	GR CP 173Y9	150

CABLE TO GROUND ROD

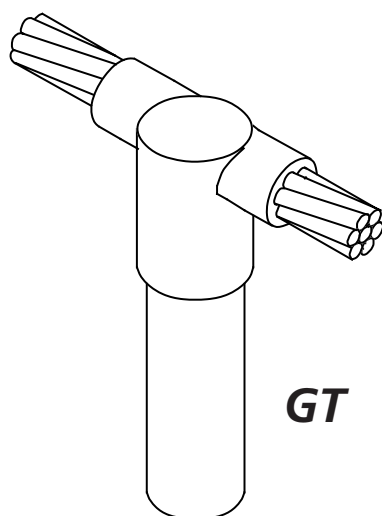
- Single cable to top of ground rod. Concentric strand copper cable unless otherwise noted. For copperclad, galvanized, stainless clad or stainless steel ground rods.
- **Bold letter** in mould part number is the price key.

REQUIRED TOOLS

	Article No.	Part No.
Handle Clamps		
for C Price Key Moulds	161000	L160
for D Price Key Moulds	161020	L159
CADWELD® PLUS Control Unit or	165738	PLUSCU
Flint Ignitor	165000	T320

SUGGESTED TOOLS

Conductor Cleaning Brush	165130	T313
Slag Removal Spade		
#65 w/m & smaller		B136A
#90 w/m & larger		B136B
Mould Cleaning Brush	165260	T394
Cable Clamp	165020	B265
File	165260	T329
Torch Head	140160	T111



GT

GROUND ROD SIZE Dia. (mm)	CABLE SIZE (sq mm)	MOULD PART NO.	WELDING MATERIAL ¹
12.7	25	GT CP 128Y1	90
	35	GT CP 128Y2	90
	50	GT CP 128Y3	90
	70	GT CP 128Y4	90
	95	GT CP 128Y5	115
	120	GT CP 128Y6	150
	150	GT CP 128Y7	150
	185	GT CP 128Y8	200
14.2	25	GT CP 143Y1	90
	35	GT CP 143Y2	90
	50	GT CP 143Y3	90
	70	GT CP 143Y4	115
	95	GT CP 143Y5	115
	120	GT CP 143Y6	150
	150	GT CP 143Y7	200
	185	GT CP 143Y8	200
	240	GT CP 143Y9	250
17.2	25	GT CP 173Y1	90
	35	GT CP 173Y2	90
	50	GT CP 173Y3	90
	70	GT CP 173Y4	115
	95	GT CP 173Y5	115
	120	GT CP 173Y6	150
	150	GT CP 173Y7	200
	185	GT CP 173Y8	200
	240	GT CP 173Y9	250

¹ For CADWELD PLUS add suffix "PLUSF20" (refer page 8)

CABLE TO GROUND ROD

- Through cable to top of ground rod. Connections are for concentric strand copper cable unless otherwise noted. For copperclad, galvanized, stainless clad or stainless steel ground rods.

- Bold letter** in mould part number is the price key.

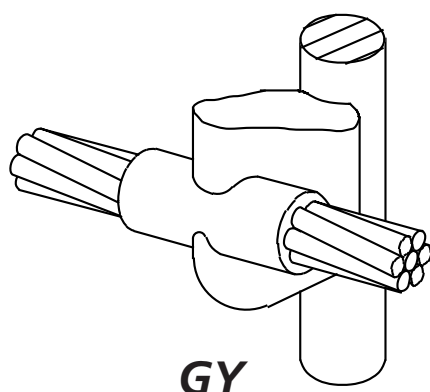
REQUIRED TOOLS

	Article No.	Part No.
Handle Clamps		
for C Price Key Moulds	161000	L160
for D Price Key Moulds	161020	L159
CADWELD® PLUS Control Unit or Flint Ignitor	165738	PLUSCU
	165000	T320

SUGGESTED TOOLS

Conductor Cleaning Brush	165130	T313
Slag Removal Spade		
#65 w/m & smaller		B136A
#90 w/m & larger		B136B
Mould Cleaning Brush	165260	T394
Cable Clamp	165020	B265
File	165260	T329
Torch Head	140160	T111





GY

GROUND ROD SIZE Dia. (mm)	CABLE SIZE (sq mm)	MOULD PART NO.	WELDING MATERIAL ¹
12.7	25	GY EP 128Y1	90
	35	GY EP 128Y2	90
	50	GY EP 128Y3	115
	70	GY EP 128Y4	115
	95	GY EP 128Y5	115
	120	GY EP 128Y6	150
	150	GY EP 128Y7	200
	185	GY EP 128Y8	200
14.2	25	GY EP 143Y1	90
	35	GY EP 143Y2	90
	50	GY EP 143Y3	115
	70	GY EP 143Y4	115
	95	GY EP 143Y5	150
	120	GY EP 143Y6	150
	150	GY EP 143Y7	200
	185	GY EP 143Y8	250
	240	GY JP 143Y9	2 x 200*
17.2	25	GY EP 173Y1	90
	35	GY EP 173Y2	90
	50	GY EP 173Y3	115
	70	GY EP 173Y4	150
	95	GY EP 173Y5	150
	120	GY EP 173Y6	250
	150	GY EP 173Y7	250
	185	GY JP 173Y8	2 x 200*
	240	GY JP 173Y9	2 x 200*

¹For CADWELD PLUS add suffix "PLUSF20" (refer page 8)

*For CADWELD PLUS use 400PLUSF20

CABLE TO GROUND ROD

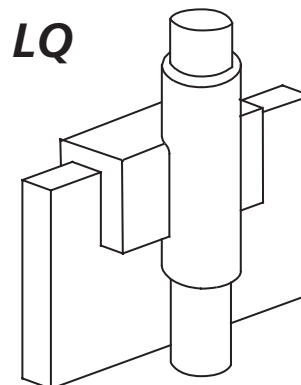
- Through cable to side of ground rod.
- Concentric strand copper cable unless otherwise noted.
- Ground rods can be copperclad, galvanized, stainless clad or stainless steel.
- **Bold letter** in mould part number is the price key.

REQUIRED TOOLS

	Article No.	Part No.
Handle Clamps		
for C Price Key Moulds	161000	L160
for D Price Key Moulds	161020	L159
CADWELD® PLUS Control Unit or Flint Ignitor	165738	PLUSCU
	165000	T320

SUGGESTED TOOLS

Conductor Cleaning Brush	165130	T313
Slag Removal Spade		
#65 w/m & smaller		B136A
#90 w/m & larger		B136B
Mould Cleaning Brush	165260	T394
Cable Clamp	165020	B265
File	165260	T329
Torch Head	140160	T111



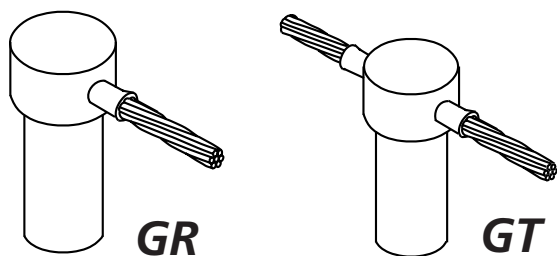
LQ

GROUND ROD SIZE Diam. (mm)	BUSBAR SIZE (mm)	MOULD PART NO.	WELDING MATERIAL ¹
12.7	3 x 25	LQ E -P128-CAJ	250
14.2	3 x 25	LQ E -P143-CAJ	250
17.2	3 x 25	LQ E -P173-CAJ	2 x 200*

¹For CADWELD PLUS add suffix "PLUSF20" (refer page 8)

*For CADWELD PLUS use 400PLUSF20

Cable to Ground Rod CADWELD® PLUS ONE SHOT GR/GT



CADWELD® PLUS ONE SHOT connections are available in standard packages of 6 each.

CABLE TO GROUND ROD USING CADWELD PLUS ONE SHOT CONNECTIONS

For both plain or threaded copperclad and galvanized steel or stainless steel rods. The CADWELD PLUS ONE SHOT case is a ceramic disposable body replacing the familiar semi-permanent graphite mould and associated handle clamp. Everything required is included except control unit.

Meets NEC® requirements

REQUIRED TOOLS

	Article No.	Part No.
CADWELD® PLUS Control Unit	165738	PLUSCU

SUGGESTED TOOLS

Cable Cleaning Brush	165030	T313
File	165260	T329
Torch Head	140160	T111

GROUND ROD SIZE Dia. (mm)	CONDUCTOR SIZE (mm²)	PART NUMBER	
		TYPE GR	TYPE GT
12.7	8-10	GR1-141GPLUS	GT1 -141GPLUS
	14-22	GR1-141LPLUS	GT1 -141LPLUS
	25	GR1-141QPLUS	GT1-141QPLUS
	30-38	GR1-141VPLUS	GT1 -141VPLUS
14.2	8-10	GR1-161GPLUS	GT1-161GPLUS
	14-22	GR1-161LPLUS	GT1-161LPLUS
	25	GR1-161QPLUS	GT1-161QPLUS
	30-38	GR1-161VPLUS	GT1-161VPLUS
	50-60	GR1-162CPLUS	GT1-162CPLUS
	70 sq mm	GR1-162GPLUS	
17.2	8-10	GR1-181GPLUS	GT1-181GPLUS
	14-22	GR1-181LPLUS	GT1-181LPLUS
	25	GR1-181QPLUS	GT1-181QPLUS
	30-38	GR1-181VPLUS	GT1-181VPLUS
	50-60	GR1-182CPLUS	GT1-182CPLUS
	70 sq mm	GR1-182GPLUS	




GB

GROUND ROD SPLICE

- CADWELD® ground rod splices are very strong and use the proven corrosion resistant CADWELD connection.
- CADWELD ground rod splices are available for copperclad, galvanized or stainless ground rods.
- **Bold letter** in mould part number is the price key.

REQUIRED TOOLS

	Article No.	Part No.
Handle Clamps		
for C Price Key Moulds	161000	L160
for D Price Key Moulds	161020	L159
CADWELD® PLUS Control Unit or	165738	PLUSCU
Flint Ignitor	165000	T320
Ground Rod Splice Clamp		B120

SUGGESTED TOOLS

Conductor Cleaning Brush	165130	T313
Slag Removal Spade		
#65 w/m & smaller		B136A
#90 w/m & larger		B136B
Mould Cleaning Brush	165260	T394
Cable Clamp	165020	B265
File	165260	T329
Torch Head	140160	T111

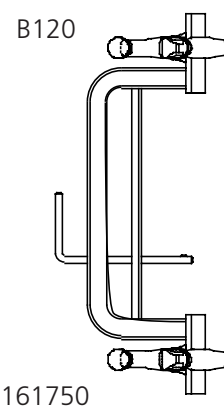
GB

GROUND ROD SIZE Dia. (mm)	MOULD PART NO.	WELDING MATERIAL
12.7	HDGBC14	250*
14.2	HDGBC16	2 x 150**
17.2	HDGBC18	2 x 200***

*For CADWELD PLUS use 250PLUSF20

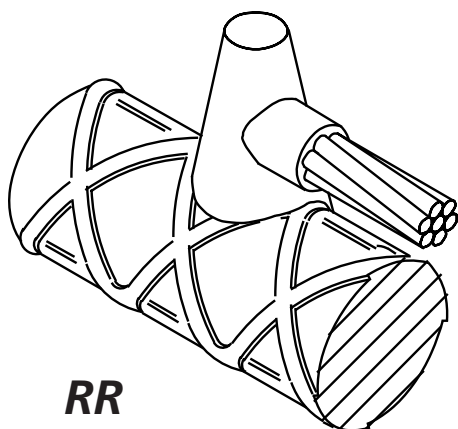
**For CADWELD PLUS use 300PLUSF20

***For CADWELD PLUS use 400PLUSF20



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 mould while splicing the rods. (Type HDGB Connection).



CABLE TO REBAR

Horizontal cable tap to horizontal rebar.

- Rebar material characteristics and location of weld must be considered when selecting connections to rebar.
- Concentric stranded copper cable is listed.
- **Bold letter** in mould part number is the price key.

REQUIRED TOOLS

		Article No.	Part No.
Handle Clamps	for C Price Key Moulds	161000	L160
	for D Price Key Moulds	161020	L159
CADWELD® PLUS Control Unit or		165738	PLUSCU
Flint Ignitor		165000	T320
Packing Material	One required for each connection - see tables below		

SUGGESTED TOOLS

Cable Cleaning Brush	165030	T313
Slag Removal Spade		
#65 w/m & smaller		B136A
#90 w/m & larger		B136B
Mould Cleaning Brush	165260	T394
File	165260	T329
Torch Head	140160	T111

RR

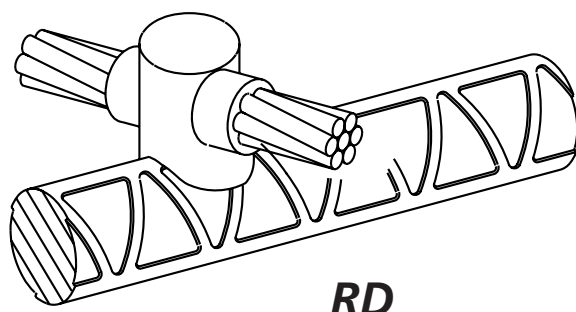
REBAR SIZE Diam (mm)	CABLE SIZE (sq mm)	MOULD PART NO.	WELDING MATERIAL ¹	PACKING MATERIAL
12	25	RR A 52Y1	45	B143A
	35	RR A 52Y2	45	B143A
	50	RR C 52Y3	90	B141A
	70	RR C 52Y4	90	B141A
	95	RR C 52Y5	115	B141A
16	25	RR A 53Y1	45	B143A
	35	RR A 53Y2	45	B143A
	50	RR C 53Y3	90	B141A
	70	RR C 53Y4	90	B141A
	95	RR C 53Y5	115	B141A

¹ For CADWELD PLUS add suffix "PLUSF20" (refer page 8)

REBAR SIZE Diam (mm)	CABLE SIZE (sq mm)	MOULD PART NO.	WELDING MATERIAL ¹	PACKING MATERIAL
22	35	RR A 55Y2	45	B143B
	50	RR H 55Y3	90	B144C
	70	RR H 55Y4	90	B144C
	95	RR H 55Y5	115	B144A
25	35	RR A 56Y2	45	B143B
	50	RR H 56Y3	90	B144C
	70	RR H 56Y4	90	B144C
	95	RR H 56Y5	115	B144A
32	50	RR H 58Y3	90	B144C
	70	RR H 58Y4	90	B144C
	95	RR H 58Y5	115	B144A

¹ For CADWELD PLUS add suffix "PLUSF20" (refer page 8)





RD

CABLE TO REBAR

X-connection horizontal cable to horizontal rebar.

- Rebar material characteristics and location of weld must be considered when selecting connections to rebar.
- Concentric stranded copper cable is listed.
- **Bold letter** in mould part number is the price key.

REQUIRED TOOLS

		Article No.	Part No.
Handle Clamps	for C Price Key Moulds	161000	L160
	for D Price Key Moulds	161020	L159
CADWELD® PLUS Control Unit or		165738	PLUSCU
Flint Ignitor		165000	T320
Packing Material	One required for each connection - see tables below		

SUGGESTED TOOLS

Cable Cleaning Brush	165030	T313
Slag Removal Spade		
#65 w/m & smaller		
#90 w/m & larger		
Mould Cleaning Brush	165260	T394
File	165260	T329
Torch Head	140160	T111

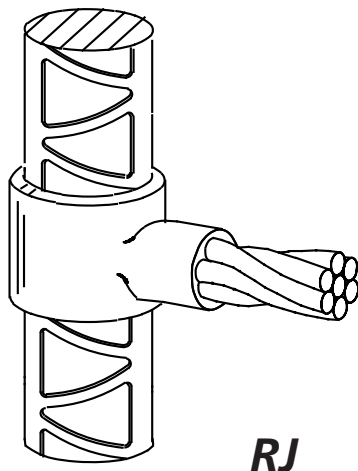
RD

REBAR SIZE Diam (mm)	CABLE SIZE (sq mm)	MOULD PART NO.	WELDING MATERIAL ¹	PACKING MATERIAL
12	25	RDC 5 2Y1	65	B141A
	35	RDC 5 2Y2	90	B141A
	50	RDM 5 2Y3	115	B141A
	70	RDM 5 2Y4	115	B141A
	95	RDM 5 2Y5	150	B141A
16	25	RDC 5 3Y1	65	B141A
	35	RDC 5 3Y2	90	B141A
	50	RDM 5 3Y3	115	B141A
	70	RDM 5 3Y4	115	B141A
	95	RDM 5 3Y5	150	B141A

¹ For CADWELD PLUS add suffix "PLUSF20" (refer page 8)

REBAR SIZE Diam (mm)	CABLE SIZE (sq mm)	MOULD PART NO.	WELDING MATERIAL ¹	PACKING MATERIAL
22	35	RD H 55Y2	90	B144C
	50	RD H 55Y3	115	B144C
	70	RD H 55Y4	115	B144C
	95	RD H 55Y5	150	B144A
25	35	RD H 56Y2	90	B144C
	50	RD H 56Y3	115	B144C
	70	RD H 56Y4	115	B144C
	95	RD H 56Y5	150	B144A
32	50	RD H 58Y3	115	B144C
	70	RD H 58Y4	115	B144C
	95	RD H 58Y5	150	B144A

¹ For CADWELD PLUS add suffix "PLUSF20" (refer page 8)



CABLE TO REBAR

T-connection horizontal cable to vertical rebar.

- Rebar material characteristics and location of weld must be considered when selecting connections to rebar.
- Concentric stranded copper cable is listed.
- **Bold letter** in mould part number is the price key.

REQUIRED TOOLS

		Article No.	Part No.
Handle Clamps	for C&E Price Key Moulds	161000	L160
	for D Price Key Moulds	161020	L159
CADWELD® PLUS Control Unit or		165738	PLUSCU
Flint Ignitor		165000	T320
Packing Material	One required for each v connection - see tables below		

SUGGESTED TOOLS

Cable Cleaning Brush	165030	T313
Slag Removal Spade		
#65 w/m & smaller		B136A
#90 w/m & larger		B136B
Mould Cleaning Brush	165260	T394
File	165260	T329
Torch Head	140160	T111

RJ

REBAR SIZE Diam (mm)	CABLE SIZE (sq mm)	MOULD PART NO.	WELDING MATERIAL ¹	PACKING MATERIAL
12	25	RJ C 52Y1	65	B140A
	35	RJ C 52Y2	65	B140A
	50	RJ C 52Y3	115	B140A
	70	RJ C 52Y4	115	B140A
	95	RJ C 52Y5	150	B140A
16	25	RJ C 53Y1	65	B140A
	35	RJ C 53Y2	65	B140A
	50	RJ C 53Y3	115	B140A
	70	RJ C 53Y4	115	B140A
	95	RJ C 53Y5	150	B140A

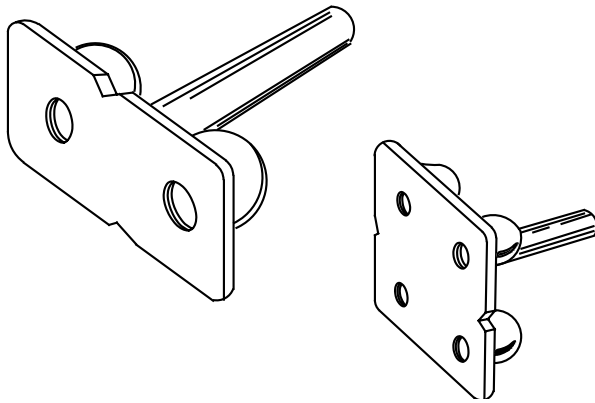
¹ For CADWELD PLUS add suffix "PLUSF20" (refer page 8)

REBAR SIZE Diam (mm)	CABLE SIZE (sq mm)	MOULD PART NO.	WELDING MATERIAL ¹	PACKING MATERIAL
22	35	RJ E 55Y2	65	B144E
22	50	RJ E 55Y3	115	B144B
22	70	RJ E 55Y4	115	B144B
22	95	RJ E 55Y5	150	B144B
25	35	RJ E 93Y2	65	B144A
25	50	RJ E 93Y3	115	B144B
25	70	RJ E 93Y4	115	B144B
25	95	RJ E 93Y5	150	B144B
32	50	RJ E 58Y3	115	B144B
32	70	RJ E 58Y4	115	B144B
32	95	RJ E 58Y5	150	B144E

¹ For CADWELD PLUS add suffix "PLUSF20" (refer page 8)



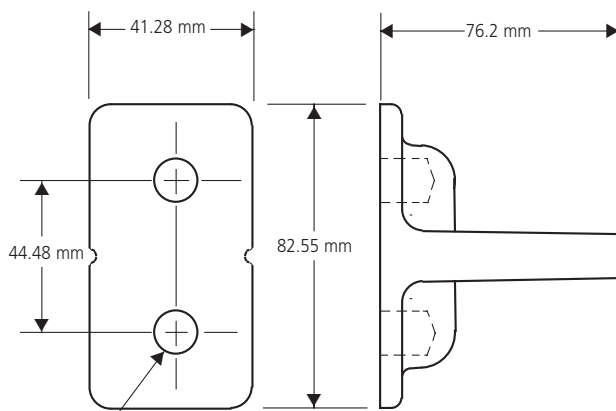
CADWELD® Cast Ground Plates



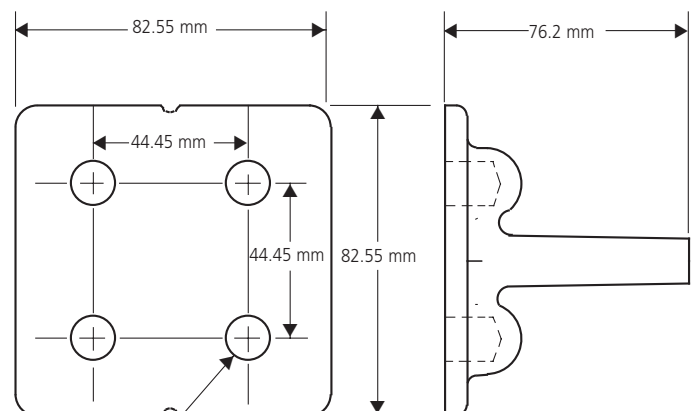
CADWELD CAST GROUND PLATES

CADWELD ground plates used in concrete structures offer convenient ground system connection points. These ground points are used for equipment, machinery and structure grounding after completion of the concrete work.

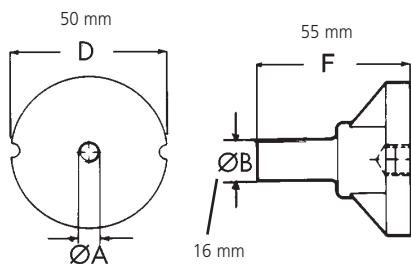
The castings are made from a copper alloy ... CADWELD ground plate connections result in current carrying capacity equal to that of the conductor or stud and cannot loosen or corrode.



1/2" thread, 12.7 mm DEEP - 2 HOLES
B162-2Q With 4/0 AWG Stud (120 mm²)



1/2" thread, 12.7 mm DEEP - 4 HOLES
B164-2Q With 4/0 AWG Stud (120 mm²)



DB12A (Article No. 166150) With M12 Stud

CAUTION:

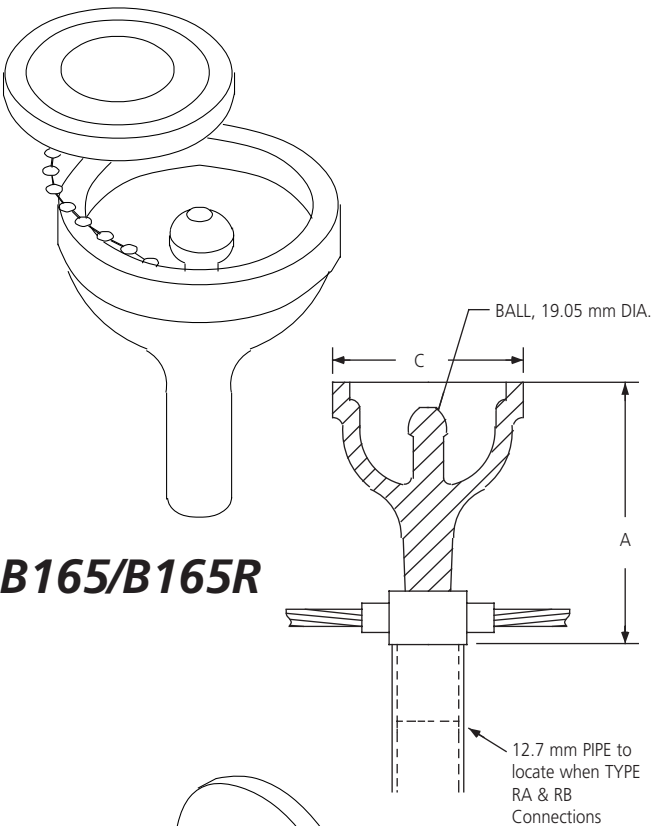
Use only CADWELD cast ground plates. Other similar plates may be available that do not meet the strength requirements necessary. They may crack or break during installation.

Use a CADWELD Type TA or Type SS mould when connecting the CADWELD cast ground plate to the ground conductor. The cast ground plate stud size noted above fits the mould opening for a cable of the same size.

Example: Tee connection of 120 mm² cable to B164-2Q (4/0 AWG stud size), use mould TACY62Q.

Splice connection of 120 mm² cable to B164-2Q, use mould SSC-2QY6.

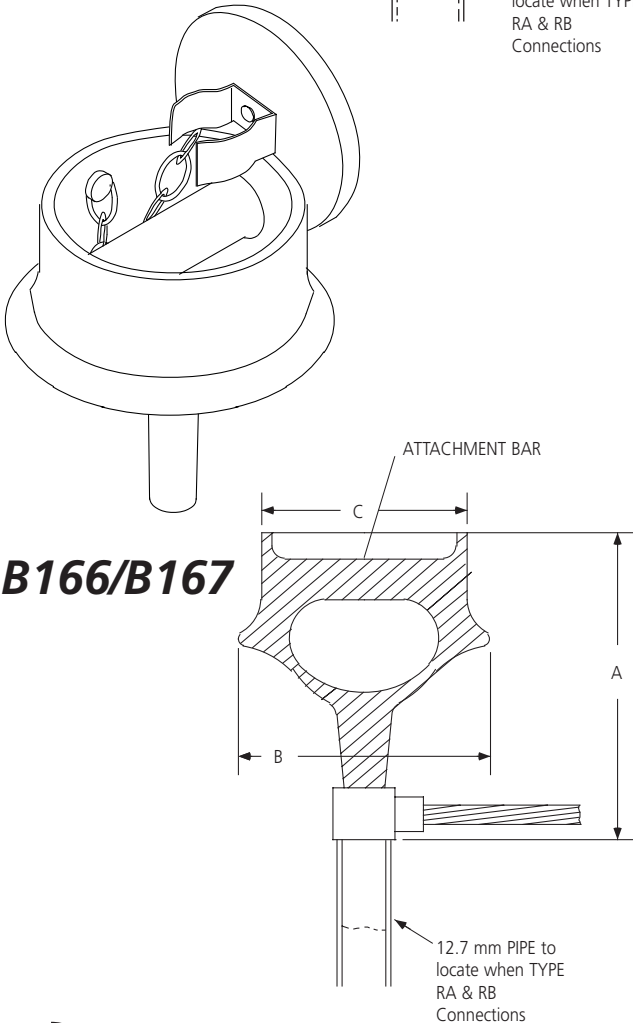
Aircraft Grounding Receptacles



B-165 and B-165R

The B-165 and B-165R Grounding Receptacles are copper alloy castings intended for use in static grounding systems of aircraft refueling areas. They are easily connected to the grounding system conductor and/or ground rods with CADWELD® connections. Designed for simple installation flush with the paved surface. The attachment point (19.05mm ball) is an integral part of the casting on the B-165 and is removable on the B-165R.

RECEPTACLE	B-165 and B-165R
Depth A, Grade Level to Support.	114 mm
Diameter C, at Grade Level	70 mm
SPECIAL NOTE	
ERICO® Aircraft Static Grounding Clamp B2617A can be used to connect to B-166 and B-167	



B-166 and B-167


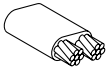

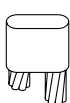

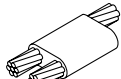

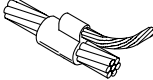

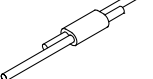
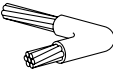
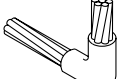
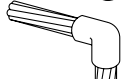
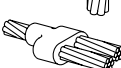



The B-166 and B-167 Combination Tie-down and Static Grounding Receptacles are copper alloy castings. They are easily connected to the grounding system conductor with CADWELD connections. Designed for simple installation flush with the paved surface. The attachment bar (19.05 mm diameter on the B-166 and 38.1 mm on the B-167) is an integral part of the casting.

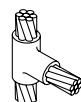

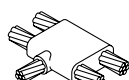
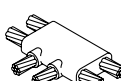





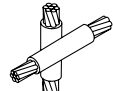



RECEPTACLE	B-166	B-167
Depth A, Grade Level to Support	159	185
Diameter B, Maximum Ring Size	121	165
Diameter C, at Grade Level	98	121
For assemblies using B-166 and B-167, contact ERICO.		



Other Cable to Cable Connections


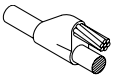
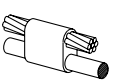

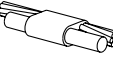
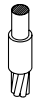


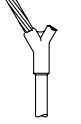
The connections shown below are for use only where connections shown in this catalog are not suitable.

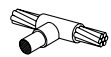
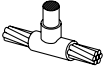

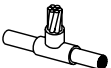



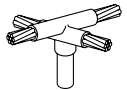
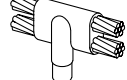
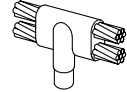

NAME	TYPE	EASE	SPLIT
Parallel dead end	PJ 	1	V
	PK 	2	*
	PM 	3	V
	PN 	3	V
Parallel Tap	PH 	3	V
	PA 	2	*
	PB 	3	V
	PC 	1	V
	PD 	3	V
	PG 	1	V
Splice	PP 	1	*
	PQ 	3	V
	PR 	2	V
	SC 	1	*
	SD 	3	V
	SE 	3	V
	SV 	3	V

NAME	TYPE	EASE	SPLIT
Tee	TC 	3	V
	TD 	3	*
	TE 	3	*
	TF 	3	V
	TL 	3	V
	TV 	3	V
X vertical (horizontal cable uncut)	XC 	3	V
X vertical (vertical cable uncut)	XD 	3	V
X vertical (neither cable cut)	XF 	3	*
X vertical (neither cable cut)	XG 	3	*
X - 45° tap	YC 	3	V
	YD 	3	V
	YE 	3	V

Other Cable to Ground Rods or Other Connections

The connections shown below are for use only where connections shown in this catalog are not suitable.





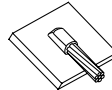
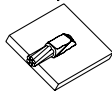








NAME	TYPE	EASE	SPLIT
Parallel tap	GQ 	3	V
	GS 	1	V
Parallel thru	DQ 	1	V
	GP 	3	V
	GW 	1	V
Splice	GD 	3	V
	GE 	1	V
	GF 	1	V
	GV 	1	V

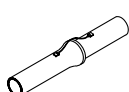
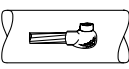
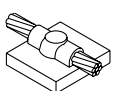
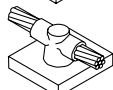


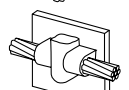
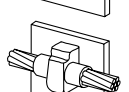
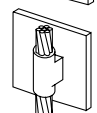
NAME	TYPE	EASE	SPLIT
Tee	GG 	1	*
	GH 	3	V
	GJ 	1	*
	GK 	3	V
	GM 	2	V
	GN 	2	V
	GX 	3	V
	NB 	4	*
	NC 	1	V
	ND 	1	V
Y - 45° tap	VW 	2	V



Other Cable to Steel or Cast Iron Connections

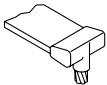

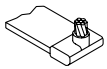

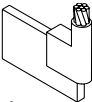
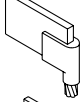




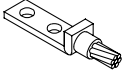

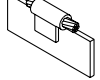

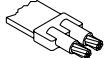
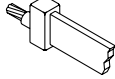

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


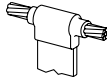



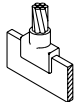


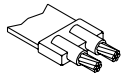


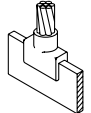
NAME	TYPE	EASE	SPLIT
Tap cast iron	VH 	1	V
	VJ 	1	V
	VK 	1	V
	VR 	1	V
Tap steel	HF 	1	*
	HG 	2	*
	VA 	1	V
	VC 	1	V
	VE 	2	V
	VL 	1	V
Thru cast iron	HE 	1	*
Thru steel	HJ 	2	*
	HK 	1	V
	VX 	2	V

NAME	TYPE	EASE	SPLIT
Pipe	HB 	1	*
	VN 	1	*
Other connections to steel	HC 	1	*
	HT 	1	V
	VF 	1	V
	VB 	2	V
	VG 	1	V
	VT 	1	
	VV 	1	V

Other Cable to Busbar or Lug Connections

The connections shown below are for use only where connections shown in this catalog are not suitable.

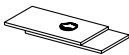
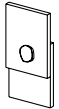
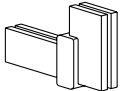
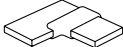
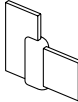
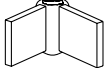

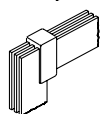
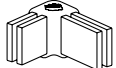
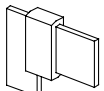
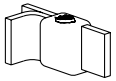
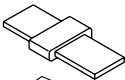

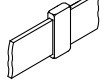
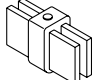
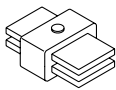
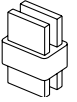
NAME	TYPE	EASE	SPLIT
EII	DN 	2	V
	LX 	2	*
	LY 	3	*
	MA 	2	*
	MB 	3	*
	MC 	3	*
	MD 	3	*
	ME 	2	*
	MF 	3	*
	MG 	2	V
Lug	PL 	1	V
Parallel tap	LV 	1	V
Parallel thru	LW 	1	V
Splice	DM 	2	*
	DS 	2	*
	LB 	1	V
	LC 	3	V

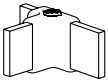
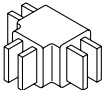
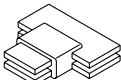
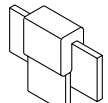
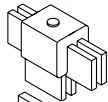
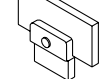
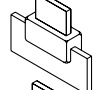
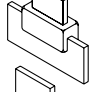
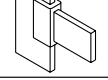
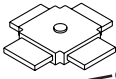
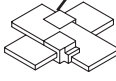
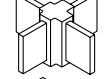
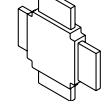
NAME	TYPE	EASE	SPLIT
Splice	LD 	3	V
	LE 	1	*
	LF 	3	*
	LG 	3	V
	LH 	3	*
	LK 	2	V
	LL 	1	V
	LM 	1	V
	LN 	4	*
	LP 	2	*
	LS 	2	*
	LT 	2	*
	LQ 	2	V
	LR 	2	*



Other Busbar to Busbar Connections

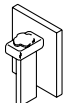
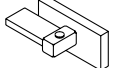
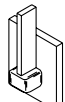
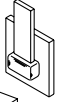
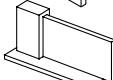






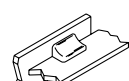
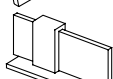


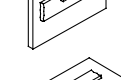
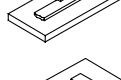
The connections shown below are for use only where connections shown in this catalog are not suitable.

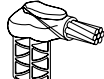
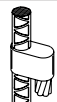
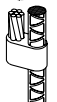

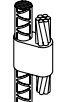





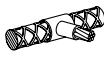
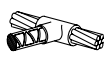



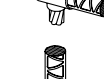

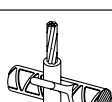
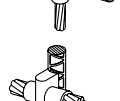
NAME	TYPE	EASE	SPLIT
Button-weld	TW 	1	*
	TX 	1	V
EII	DJ 	4	V
	EN 	2	*
	EQ 	4	V
	ER 	2	*
	ES 	3	*
	ET 	2	V
	EV 	3	*
	EP 	1	V
Parallel tap	BJ 	2	V
Splice	BB 	2	*
	BC 	3	V
	BD 	3	*
	BF 	2	*
	BG 	2	*
	BH 	4	V

NAME	TYPE	EASE	SPLIT
Tee	BK 	2	*
	BL 	3	*
	BN 	3	*
	BR 	2	V
	BS 	2	V
	BT 	4	*
	BV 	3	*
	DE 	3	V
X	EE 	3	V
	EA 	4	V
	EB 	4	*
	EC 	4	*
	ED 	4	V

optional weld

Other Busbar Connections / Other Rebar Connections


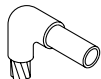






NAME	TYPE	EASE	SPLIT
Tap	BX 	3	V
	BY 	3	V
	CA 	3	V
	CB 	2	V
	CJ 	2	V
	DC 	3	*
	DD 	3	V
	DF 	2	V
	HL 	1	V
	HM 	1	V
	HN 	1	*
Thru	CD 	3	V
	CK 	2	V
	CF 	1	V
	CC 	1	V
	CH 	1	V
	CG 	1	V


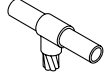






NAME	TYPE	EASE	SPLIT
EII	DT 	2	V
Parallel tap	DR 	2	V
	RV 	2	V
Parallel thru	RT 	2	V
	RW 	2	V
Splice	RE 	2	V
	RF 	2	V
	RG 	1	V
	SF 	2	V
	SR 	1	V
Tee	RH 	1	*
	RK 	1	*
	RL 	2	V
	RM 	2	V
	RN 	2	V
	RP 	2	V
	RQ 	2	V
X	XJ 	1	*
	RC 	1	V



Cable to Copper Tube Connections


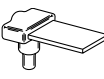


The connections shown below are for use only where connections shown in this catalog are not suitable.




NAME	TYPE		EASE	SPLIT
EII	DP		1	*
	MV		2	V
	MW		3	V
	MX		2	V
	MY		3	V
Splice	MH		1	V
	MJ		3	V
	MK		3	V

NAME	TYPE		EASE	SPLIT
Tee	ML		1	*
	MM		3	*
	MP		3	*
	MQ			
	MR		3	*
	MS		3	*
	MT		3	*
	NA		1	*

Busbar to Ground Rods Connections


The connections shown below are for use only where connections shown in this catalog are not suitable.

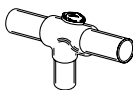
NAME	TYPE		EASE	SPLIT
EII	CL		1	V
Tee	CN		1	V
	CM		3	V
	CP		2	V

NAME	TYPE		EASE	SPLIT
Splice	CS		3	V
Tee	CQ		3	V
	CR		1	V

Copper Tube to Ground Rods Connections


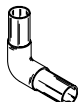



The connections shown below are for use only where connections shown in this catalog are not suitable.







NAME	TYPE	EASE	SPLIT
EII	FT 	1	V

NAME	TYPE	EASE	SPLIT
Tee	FV 	1	V

Copper Tube to Copper Tube Connections

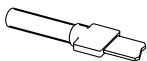
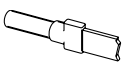
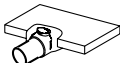
The connections shown below are for use only where connections shown in this catalog are not suitable.

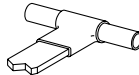
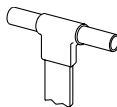
NAME	TYPE	EASE	SPLIT
EII	FK 	1	*
	FL 	3	V
	FM 	2	V
Splice	FD1 	V	
	FE 	3	V

NAME	TYPE	EASE	SPLIT
Tee	FH 	3	V
	FF 	1	*
	FG 	2	V
	FH 	3	V
	FJ 	3	V
X	XT 	4	*

Copper Tube to Busbar or Lugs Connections

The connections shown below are for use only where connections shown in this catalog are not suitable.

NAME	TYPE	EASE	SPLIT
Splice	FN 	1	*
	FP 	1	V
Tee	EW 	2	V

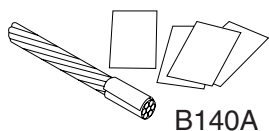
NAME	TYPE	EASE	SPLIT
Tee	FR 	2	*
	FS 	1	V



Material, Tools and Accessories

ADAPTING MOULDS TO FIT CONDUCTORS

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

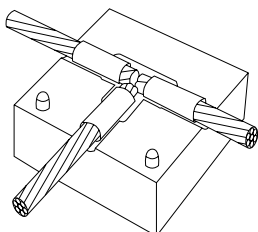


CADWELD® Wrap Sleeve B140A

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

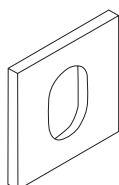
CADWELD Adapter Sleeves

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



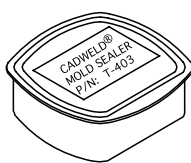
CABLE SIZE Concentric Strand	Adapter Sleeve Part No.	Use in Mould for Stranded
4	B-133-1H	10
10	B-133-1L	25
16	B-112	25
16	B-133-1V	35
25*	B-133-1Y	35
35	B-133-2C	50
35	B-133-2G	70
50	B-133-2L	70
70	B-133-2Q	95

*Substitute for 7/2.14 only



Packing

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



T403

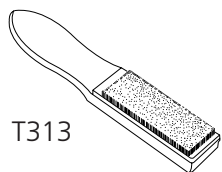
CADWELD Mould Sealer

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

It is available in a convenient 0.9 kg package.

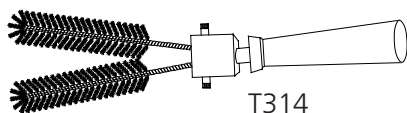
Material, Tools and Accessories

CABLE AND WORK SURFACE PREPARATION

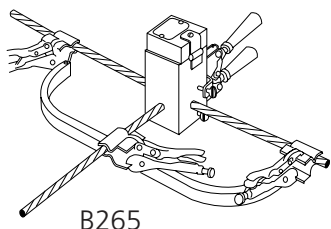


Cable Cleaning Brushes

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

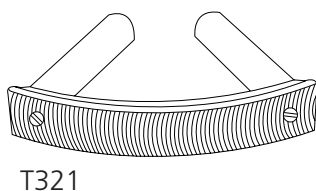


T314 Cable Cleaning Brush cleans any conductor and is especially useful for coarse or very dirty conductors. The brushes can be rotated to provide new cleaning bristles and are replaceable.



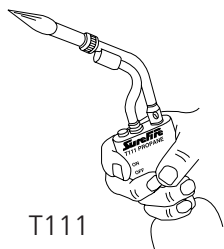
Cable Clamp B265

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 mould life.



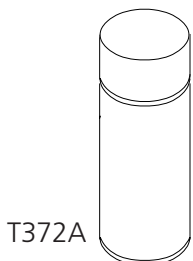
Rasp

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.



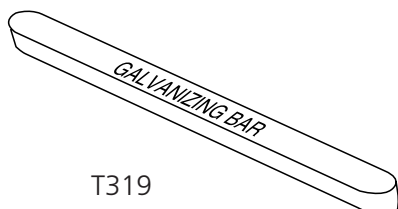
Surefire® Torch Head

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 60 MPH winds without flareout. Fits all standard 14 and 16 oz. propane cylinders.



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.



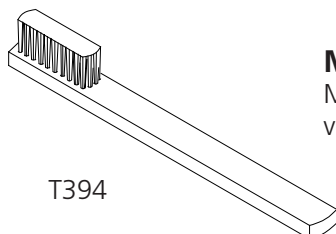
Galvanizing Bar

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 CADWELD® Connection to melt the bar or a small torch may be used.



Material, Tools and Accessories

MOULD CARE AND USE



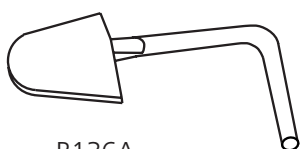
Mould Cleaning Brush

Mould cleaning brush T394 is very useful for removing slag from moulds – especially vertically split moulds.

T394

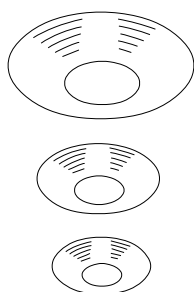
Slag Removal Spades

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



B136A
B136B

Slag Spade Part No.	Use With Mould Price	Using Welding Material Size
B-136-A B-136-B	A,C, & R C,D,F & R	#65 & Smaller #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 welding material 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 melts through the conductors to produce a permanent molecular bond.

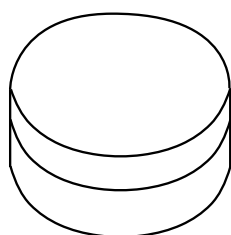
Disks are available in three sizes:

B117A used in moulds using #15 thru #32 welding material (3/4" diameter).

B117B used in moulds using #45 thru #115 welding material (1" diameter).

B117C used in moulds using #150 thru #500 welding material (1-1/2" diameter).

Disks are included with Welding Material.



T328D

Disk Kit

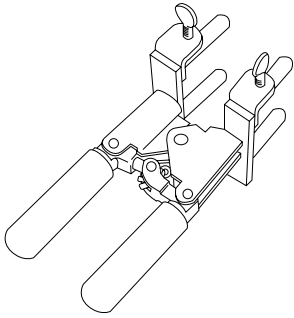
A disk container (T328) which includes 20 of each of the three sizes of steel disks is available for your convenience. Kit P/N T328D.

Material, Tools and Accessories

MOULD FASTENING AND MOUNTING

CADWELD® Handle Clamps

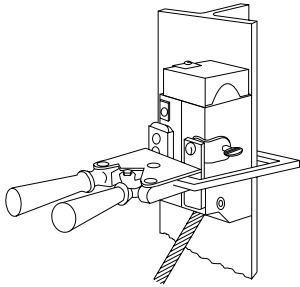
Handle Clamps such as the one shown are required for most moulds. Specialized frames with handles are used on some moulds. Flint ignitors are included with all Handle Clamps. The following Handle Clamps are most widely used.



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

Vertical Surface Mould Support

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

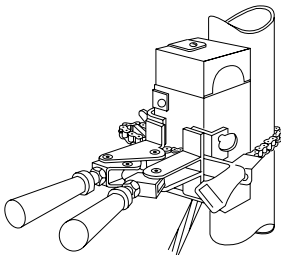


B134: For use with L160 E-Z CHANGE Handle Clamp

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

Chain Support Handle Clamps

A CADWELD mould 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.

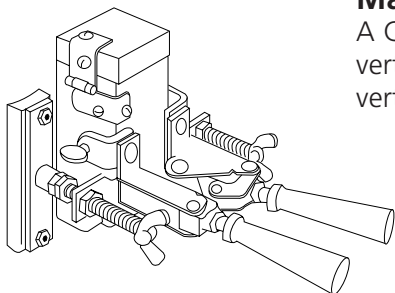


Clamp Part No.	Fits Mould Price	For Following Connection Types	Pipe
B159V	D & F	VS,VF,VB, & VV	Vertical
B160V	C & R	VS,VF,VB, & VV	Vertical
B159VT	D & F	VT	Vertical
B160VT	C & R	VT	Vertical
B159H	D & F	HA,HS,HC, & HT	Horizontal
B160H	C & R	HA,HS,HC, & HT	Horizontal

The above clamps are equipped with 500 mm length of chain which will fit up to 100 mm pipes. Extra 500 mm length of chain, B158, is available to fit up to 250 mm pipes.



Material, Tools and Accessories

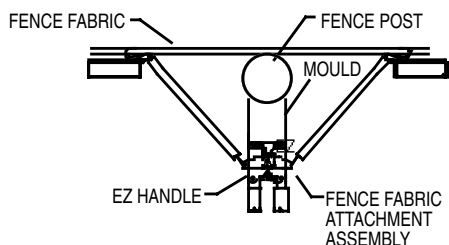


Magnetic Handle Clamps

A CADWELD® mould can be securely held to a large flat or slightly curved vertical surface using the Handle Clamp with Magnetic Support. Used on vertically split moulds.

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

Material, Tools and Accessories

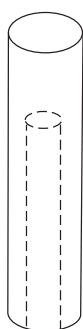
GROUND ROD SPECIALTY TOOLS



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.

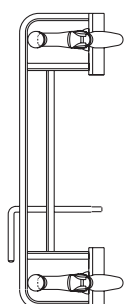


Ground Rod Driving Sleeves**

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 Rod	B137-14
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.

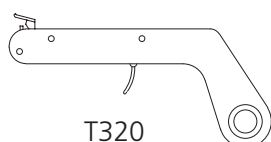


B120

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 mould while splicing the rods. (Type HDGB and GB Connection).

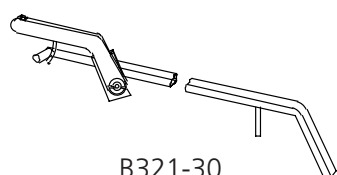
OTHER TOOLS



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.



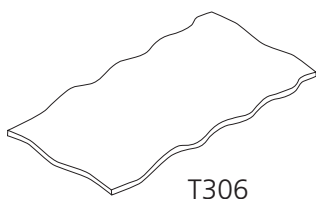
B321-30

Flint Ignitor Extension

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

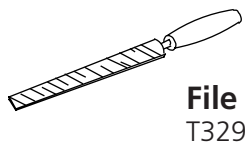


Material, Tools and Accessories



Ceramic Blanket

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

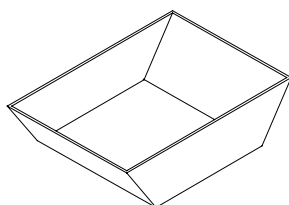
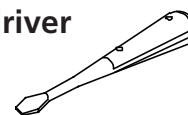


File
T329



Pliers
T304

Screwdriver
T305



XLB974-B2

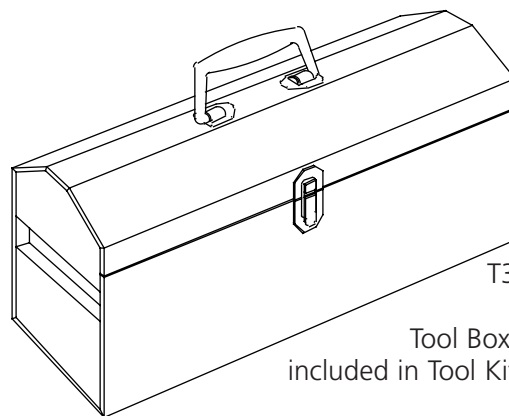
Welding Tray

The Welding Tray (Part No. XLB974-B2) can contain a spill of molten welding material. 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, moulds, welding material and a propane torch.



T396

Tool Box T396 is included in Tool Kit T315A

Tool Kit T315A

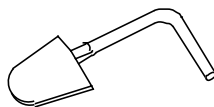
Other Tool Kits can be made for your particular requirements.



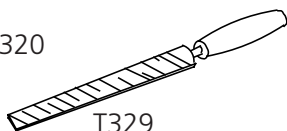
T328D



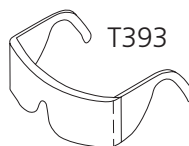
T320



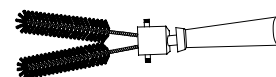
B136A



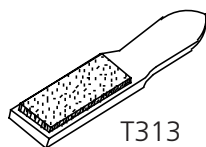
T329



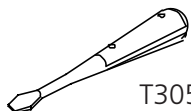
T393



T314



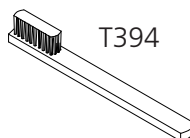
T313



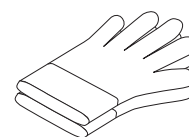
T305



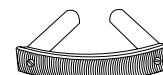
T304



T394



T378L

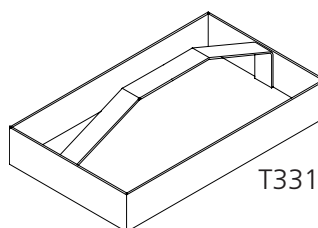


T321

TOOL TRAY

Tool Tray Only: T331

Ideal for carrying one or two moulds, welding material, propane torch and tools.



T331

Tool Tray T331 is not included in Tool Kit T315A

Reference Material

OTHER SPECIALIZED APPLICATION CATALOGS, APPLICATIONS, BULLETINS AND TECHNICAL INFORMATION

A1L ERITECH® STATIC GROUNDING CONNECTIONS

A4G CADWELD® SUBSTATION GROUNDING

Numerous applications and guidelines for grounding electrical supply station (substations).

A7D CADWELD INSTALLERS AND INSPECTORS GUIDE

A guide for installation and inspection of CADWELD® exothermically welded connections.

A9E CADWELD CONTRACTOR TIPS

Ideal for contractors – How to save time and make the installation easy.

CA1A CADWELD CATHODIC PROTECTION CONNECTIONS CATALOG

TRAINING VIDEOS

E469D CADWELD®/CADWELD® PLUS CD



Product #	Description
G157LT99	Practical Guide to Electrical Grounding

WARNING

ERICO products shall be installed and used only as indicated in ERICO's product instruction sheets and training materials. Instruction sheets are available at www.erico.com and from your ERICO customer service representative. Improper installation, misuse, misapplication or other failure to completely follow ERICO's instructions and warnings may cause product malfunction, property damage, serious bodily injury and death.

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ERICO® Facility Electrical Protection Literature



Facility Electrical Protection Solutions Brochure

Discusses effective facility electrical protection. The catalog details the ERICO® Six Point Plan of Protection and goes on to cover lightning protection, grounding, bonding and surge protection in depth. Products and detailed drawings are included, as are industries to which the technologies are most applicable.



ERITECH® Lightning Protection Catalogs

ERITECH® SYSTEM 2000 Lightning Protection Products catalog highlights products used in conventional lightning protection. Products detailed include conductors, ground rods and plates, clamps, splices, points and accessories.

ERITECH® SYSTEM 3000 Lightning Protection Products catalog details the active lightning protection process. Information on air terminals, downconductors and design software is included.



ERITECH® Grounding Products Catalog

Details ERICO's extensive offering of ground rods and accessories, ground mesh and mats, signal reference grids, ground bars, ground receptacles, transient earth clamps, ground enhancement materials, and other grounding materials.



CADWELD® Welded Electrical Connections Catalog

Covers the range of hardware required to make a CADWELD connection as well as detailed ordering information for molds, weld materials, fence and gate jumpers and the smokeless CADWELD® EXOLON process.



CRITEC® Surge Protection Products Catalog

Details the extensive range of CRITEC Surge Protection Devices for industries such as commercial & industrial, process control & automation and telecommunications. It includes information on AC protection products, data control and signal protection products, as well as point-of-use protection products.



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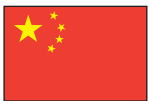
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