

Developed in 1988, **CADWELD EXOLON** is a significant advance in welded electrical connections. The metallurgy is the same as the standard CADWELD connection approved by over 70% of electric utilities in the USA — but the virtual elimination of visible smoke plus a unique electric starting system makes this improved process easier and more convenient than ever before.

Most connections listed in this catalog can be ordered in the CADWELD EXOLON configuration. Ordering information is shown below.

## HOW TO ORDER CADWELD EXOLON

1. To order CADWELD EXOLON products, just specify molds and weld metal from the catalog and add an "XL" prefix.

**Example:** TAC2Q2Q becomes XLTAC2Q2Q, and 150 becomes XL150.

2. If the weld metal shown in the catalog shows more than one tube required such as 2-#200, you must specify #XL400 to get the correct size filters.

**Example:** XLTAD-4L3Q: XL400

3. The following molds require a price key change:
  - "C" price key molds using 2-#150 weld metals change to XLD price key.
  - "E" price key molds using 2-#150 weld metals change to XLJ price key.
  - "H" price key molds using 2-#150 weld metals, contact ERICO.
  - "M" price key molds using 2-#150 weld metals change to XLV price key.
  - "R" price key molds using 2-#150 weld metals change to XLF price key.
  - "T" price key molds, ALL change to XLP price key.

**Example:** TAC3Q3Q using 2-#150 weld metals change to XLTAD3Q3Q using #XL300 weld metal

4. Filters and ignitors are included with the weld metal. XL filters and ignitors are not sold separately.
5. The ignitor can be used only once and then must be discarded. Filters will last as specified in the instructions supplied with each mold.
6. A Relia-Start electric starter, part number XLB971A1 (battery, charger, carrying case and connecting cable), is required for XL weld metal. There is no starting material in the XL weld metal tube. Batteries operate about 200 starts before recharging from 120 VAC is required. The charger, all electrical connections and instructions are included in the battery case.
7. Baffle with cover is required for larger molds. Estimated life of the baffle is 500 welds.
 

XLB972A1 Baffle is required for molds using XL200 and XL250 weld metals.

XLB973A1 Baffle is required for molds using XL300 to XL750 weld metals.
8. For EZ Change Handles, add XL prefix. (Flint ignitor not included.)
9. Welding Tray, part number XLB974B2, is used under the mold to protect cables and equipment from hot materials.

# OTHER INFORMATION

## 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.

Prices for standard products are shown in Price List G285P

For other CADWELD literature, videos and software, See Section C.

For all your connection needs — we're only a phone call away.

Phone: 800-677-9089

Fax: 800-677-8131

or call your local CADWELD distributor, agent, or CADWELD Regional Sales Manager

## REQUIRED TOOLS SUMMARY:

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

<u>MOLD</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 mold only – without handles or frame – add suffix “M” to mold part number.



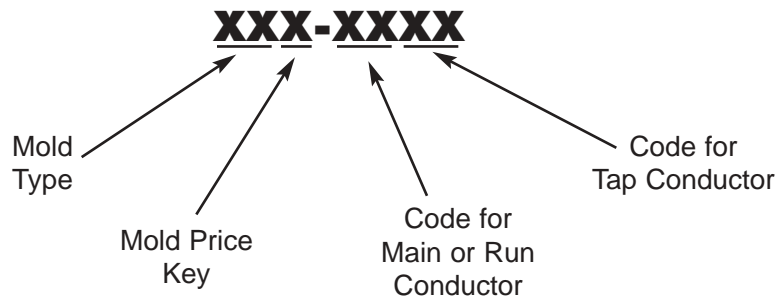
# GROUNDING CONNECTION SPECIFICATION

All grounding connections of copper to copper and copper to steel conductors of #8 and larger sized conductors shall be CADWELD exothermic welded connections. Conductors spliced with a CADWELD exothermic welded connection shall be considered as a continuous conductor, as stated in the notes accompanying NEC 250-50, 250-64, 250-68, 250-70 and IEEE Std 80 – 1986.

All grounding connections to equipment shall use bolted lugs. When the conductor is #8 and larger, the lug shall be joined to the conductor by the CADWELD process, otherwise use listed compression lugs which meet IEEE Std 837 – 1989.

## THE CADWELD MOLD NUMBERING SYSTEM

The CADWELD Mold Part Number gives, in code, the complete information about the mold  
 – Type of connection, mold price key, and conductor size(s)



### EXAMPLES

**TAD-4L3Q**

↑ ↑ ↑ ↑  
 Type Price 500 kcmil  
 TA Key D Tap  
 750 kcmil Run

**GTC-182V**

↑ ↑ ↑ ↑  
 Type Price 250 kcmil  
 GT Key C Tap  
 3/4" Copper Clad Ground Rod

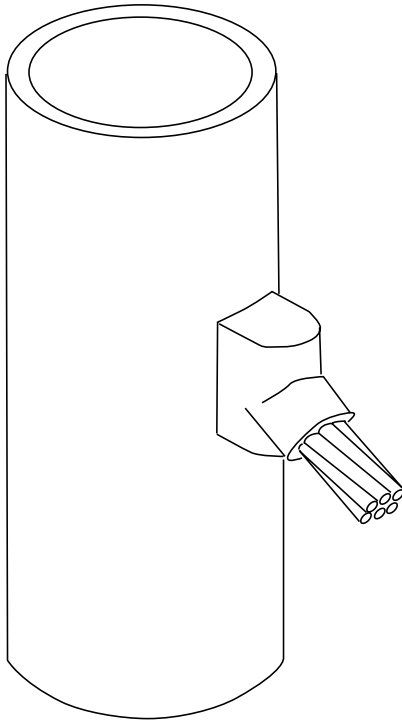
**SSC-3D**

↑ ↑ ↑  
 Type Price 350 kcmil  
 SS Key C Tap

**VSC-2C-V3**

↑ ↑ ↑ ↑ ↑  
 Type Price Vertical  
 VS Key C Pipe  
 1/0 Cable 3" IPS

Conductor codes are listed in Section B



VS

## RANGE OF VERTICAL PIPES

- Cable down at 45° to range of vertical steel pipes.
- CADWELD also has a complete product line for cathodic protection connections. See Bulletin CA1A.
- **A test weld should be made to check the possibility of burn through on thin sections or thin wall pipe.**
- When only one pipe size rather than a range of sizes is involved, see Cable to Steel Pipe Table on previous page.
- Concentric stranded copper cable is listed.
- **Bold letter** in mold part number is the price key.

## REQUIRED TOOLS

**Handle Clamps L160 or B160V** (chain support handle clamp) for **C** Price Key Mold

**Flint Ignitor T320** (Included with handle clamp but also available separately)

## SUGGESTED TOOLS

Cable Cleaning Brush	T313 or T314
Slag Removal Spade	B136A or B136B
Mold Cleaning Brush	T394
Rasp	T321
Torch Head	T111

## ACCESSORIES

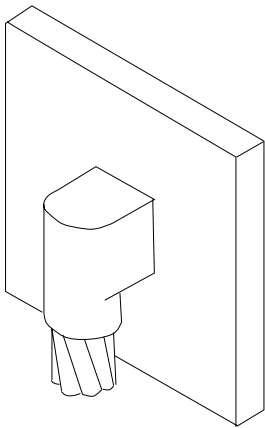
See Section A

CABLE SIZE	Nominal Pipe Size	MOLD PART NO.	WELD METAL
4	1 1/2" to 4" Pipe	V <b>S</b> C-1L-V3C	45
	4" to 6" Pipe	V <b>S</b> C-1L-V5C	45
	6" to 10" Pipe	V <b>S</b> C-1L-V8C	45
	12" to 30" Pipe	V <b>S</b> C-1L-V21C	45
	32" Pipe or Larger	(1)	
2 SOL	1 1/2" to 4" Pipe	V <b>S</b> C-1T-V3C	45
	4" to 6" Pipe	V <b>S</b> C-1T-V5C	45
	6" to 10" Pipe	V <b>S</b> C-1T-V8C	45
	12" to 30" Pipe	V <b>S</b> C-1T-V21C	45
	32" Pipe or Larger	(1)	
	1 1/2" to 4" Pipe (cable <b>up</b> at 45°)	V <b>F</b> C-1T-002V3C	45
2	1 1/2" to 4" Pipe	V <b>S</b> C-1V-V3C	45
	4" to 6" Pipe	V <b>S</b> C-1V-V5C	45
	6" to 10" Pipe	V <b>S</b> C-1V-V8C	45
	12" to 30" Pipe	V <b>S</b> C-1V-V21C	45
	32" Pipe or Larger	(1)	
1	2" to 4" Pipe	V <b>S</b> C-1Y-V3C	65
	4" to 6" Pipe	V <b>S</b> C-1Y-V5C	65
	6" to 10" Pipe	V <b>S</b> C-1Y-V8C	65
	12" to 30" Pipe	V <b>S</b> C-1Y-V21C	65
	32" Pipe or Larger	(1)	

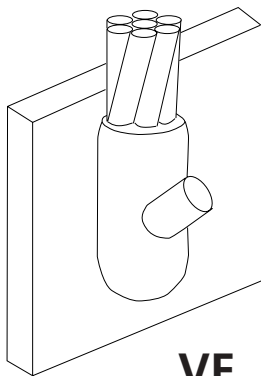
(1) Use flat surface mold part number. See page 3-7.

CABLE SIZE	Nominal Pipe Size	MOLD PART NO.	WELD METAL
1/0	2" to 4" Pipe	V <b>S</b> C-2C-V3C	90
	4" to 6" Pipe	V <b>S</b> C-2C-V5C	90
	6" to 10" Pipe	V <b>S</b> C-2C-V8C	90
	12" to 30" Pipe	V <b>S</b> C-2C-V21C	90
	32" Pipe or Larger	(1)	
2/0	2" to 4" Pipe	V <b>S</b> C-2G-V3C	90
	4" to 6" Pipe	V <b>S</b> C-2G-V5C	90
	6" to 10" Pipe	V <b>S</b> C-2G-V8C	90
	12" to 30" Pipe	V <b>S</b> C-2G-V21C	90
	32" Pipe or Larger	(1)	
3/0	2" to 4" Pipe	V <b>S</b> C-2L-V3C	115
	4" to 6" Pipe	V <b>S</b> C-2L-V5C	115
	6" to 10" Pipe	V <b>S</b> C-2L-V8C	115
	12" to 30" Pipe	V <b>S</b> C-2L-V21C	115
	32" Pipe or Larger	(1)	
4/0	2" to 4" Pipe	V <b>S</b> C-2Q-V3C	115
	4" to 6" Pipe	V <b>S</b> C-2Q-V5C	115
	6" to 10" Pipe	V <b>S</b> C-2Q-V8C	115
	12" to 30" Pipe	V <b>S</b> C-2Q-V21C	115
	32" Pipe or Larger	(1)	





**VB**  
Cable down to vertical steel surface



**VF**  
Cable up to vertical steel surface

## VERTICAL STEEL SURFACE

- Connection of vertical cable to vertical flat steel surface or to side of vertical or horizontal steel pipe.
- **A test weld should be made to check the possibility of burn through on thin sections or thin wall pipe.**
- Concentric stranded copper cable listed.
- Cable to steel pipe. Add pipe orientation and nominal pipe size to flat surface mold part number. Examples:  
VFC-2G-V6, 2/0 conductor to vertical 6" pipe.  
VFC-1Y-H4, #1 conductor to horizontal 4" pipe
- **Bold letter** in mold part number is the price key.

## REQUIRED TOOLS

**Handle Clamps** **L160** for C and R Price Key Molds  
**L159** for F Price Key Molds

**Flint Ignitor** **T320** (Included with handle clamp but also available separately)

## SUGGESTED TOOLS

Cable Cleaning Brush T313 or T314  
Rasp T321  
Slag Removal Spade B136A or B136B  
Mold Cleaning Brush T394  
Torch Head T111

## ACCESSORIES

See Section A

TYPE VB		
CABLE SIZE	MOLD PART NO.	WELD METAL
4	VBC-1L	65
2 SOL	VBC-1T	65
2	VBC-1V	65
1	VBC-1Y	90
1/0	VBC-2C	115
2/0	VBC-2G	115
3/0	VBC-2L	150
4/0	VBC-2Q	150
250	VBC-2V	200
300	VBC-3A	200
350	VBC-3D	250
500	VBR-3Q	2-150

TYPE VF*		
CABLE SIZE	MOLD PART NO.	WELD METAL
4	VFC-1L	65
2 SOL	VFC-1T	65
2	VFC-1V	65
1	VFC-1Y	90
1/0	VFC-2C	150
2/0	VFC-2G	150
3/0	VFR-2L	200
4/0	VFR-2Q	200
250	VFR-2V	200
300	VFR-3A	250
350	VFF-3D	2-150
500	VFF-3Q	2-200

\*See VF connection to pipe on page 3-8

## BARE CLASS A, B, AND C CONCENTRIC STRANDED CONDUCTOR

Based on A.S.T.M. Standard Specifications.

Size in Circular mils	Size A.W.G.	Conductor Dia. In.	NUMBER OF WIRES					CADWELD Cable code
			7	19	37	61	91	
1,000,000		1.152			.1644*	.1280	.1048	4Y
800,000		1.031			.1470*	.1145	.0938	4Q
750,000		.998			.1424*	.1109	.0908	4L
700,000		.964			.1375*	.1071	.0877	4G
600,000		.893			.1273	.0992	.0812	3X
500,000		.813		.1622*	.1162	.0905		3Q
400,000		.728		.1451	.1040	.0810		3H
350,000		.681		.1357	.0973	.0757		3D
300,000		.630		.1257	.0900	.0701		3A
250,000		.575		.1147	.0822	.0640		2V
211,600	4/0	.528	.1739	.1055	.0756			2Q
167,800	3/0	.470	.1548	.0940	.0673			2L
133,100	2/0	.419	.1379	.0837	.0600			2G
105,500	1/0	.373	.1228	.0745	.0534			2C
83,690	1	.332	.1093	.0664	.0476			1Y
66,370	2	.292	.0974	.0591				1V
52,630	3	.260	.0867	.0526				1Q
41,740	4	.232	.0772	.0469				1L
26,240	6	.184	.0612	.0372				1H
16,510	8	.146	.0486	.0295				1E
10,380	10	.116	.0385	.0234				1B
6,530	12	.0915	.0305	.0185				
4,110	14	.0726	.0242	.0147				

\*Class AA

