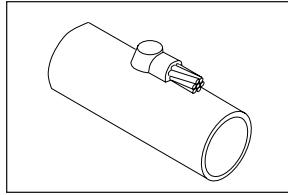
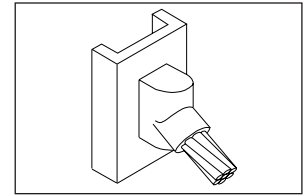


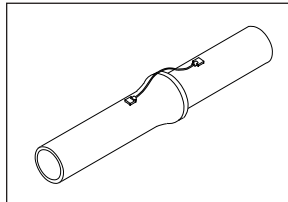
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Page 2



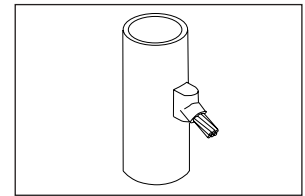
VS
Page 7



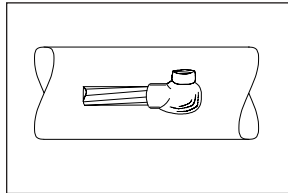
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Page 3



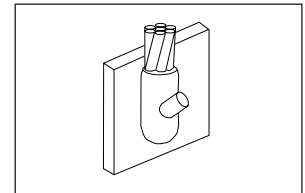
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Page 8



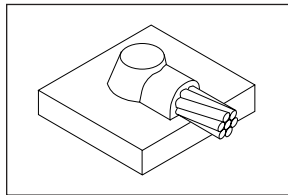
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Page 4



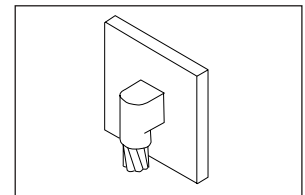
VF
Page 9



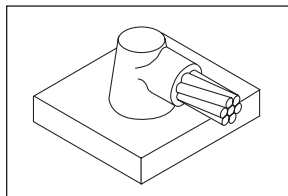
HA
Page 5



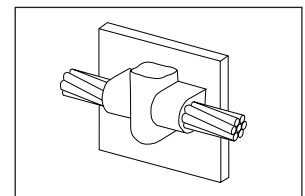
VB
Page 9



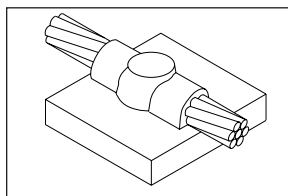
HS
Page 5



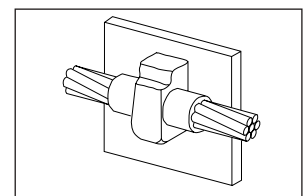
VG
Page 10



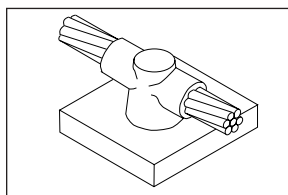
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Page 6



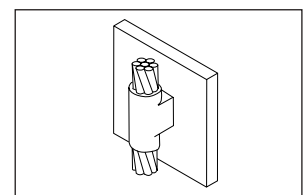
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Page 10

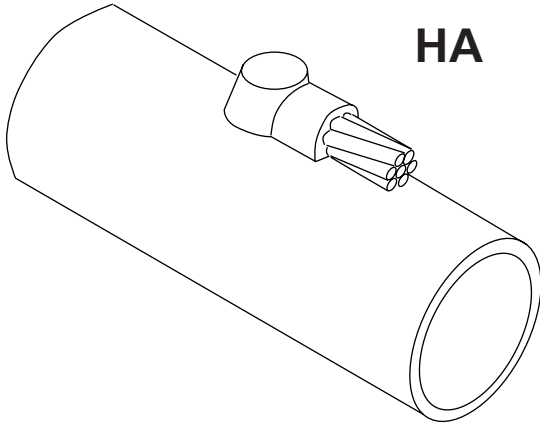


HT
Page 6



VV
Page 11





HA - Cable to Horizontal Steel Pipe

RANGE OF HORIZONTAL STEEL PIPES

- Horizontal copper conductor to top of horizontal steel pipe.
- 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 is involved, see Cable to Steel Pipe table on previous page.
- Concentric stranded copper cable listed.
- **Bold letter** in mold part number is the price key.

REQUIRED TOOLS

Handles	<i>Handle is included with A and H Price Key Molds</i>
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

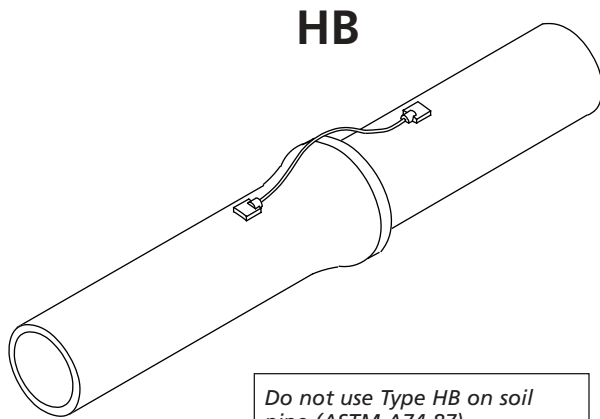
CABLE SIZE	Nominal Pipe Size	MOLD PART NO.	WELD METAL
4	1 1/4" to 2" Pipe	HAA-1L-162C	45
	3" to 4" Pipe	HAA-1L-350C	45
	6" to 8" Pipe	HAA-1L-7C	45
	10" to 12" Pipe	HAA-1L-11C	45
	14" Pipe or Larger	(1)	
2	1 1/4" to 2" Pipe	HAA-1V-162C	45
	3" to 4" Pipe	HAA-1V-350C	45
	6" to 8" Pipe	HAA-1V-7C	45
	10" to 12" Pipe	HAA-1V-11C	45
	14" Pipe or Larger	(1)	
2 SOL	1 1/4" to 2" Pipe	HAA-1T-162C	45
	3" to 4" Pipe	HAA-1T-350C	45
	6" to 8" Pipe	HAA-1T-7C	45
	10" to 12" Pipe	HAA-1T-11C	45
	14" Pipe or Larger	(1)	
1	2 1/2" to 4" Pipe	HAA-1Y-325C	65
	6" to 8" Pipe	HAA-1Y-7C	65
	10" to 12" Pipe	HAA-1Y-11C	65
	14" Pipe or Larger	(1)	

(1) Use flat surface mold part number. See page 3-5.

CABLE SIZE	Nominal Pipe Size	MOLD PART NO.	WELD METAL
1/0	3" to 4" Pipe	HAH-2C-350C	90
	6" to 10" Pipe	HAH-2C-8C	90
	12" to 28" Pipe	HAH-2C-20C	90
	30" Pipe or Larger	(1)	
2/0	3" to 4" Pipe	HAH-2G-350C	90
	6" to 10" Pipe	HAH-2G-8C	90
	12" to 28" Pipe	HAH-2G-20C	90
	30" Pipe or Larger	(1)	
3/0	3" to 4" Pipe	HAH-2L-350C	115
	6" to 10" Pipe	HAH-2L-8C	115
	12" to 28" Pipe	HAH-2L-20C	115
	30" Pipe or Larger	(1)	
4/0	3" to 4" Pipe	HAH-2Q-350C	115
	6" to 10" Pipe	HAH-2Q-8C	115
	12" to 28" Pipe	HAH-2Q-20C	115
	30" Pipe or Larger	(1)	

(1) Use flat surface mold part number. See page 3-5.





Do not use Type HB on soil pipe (ASTM A74-87)

Note: DUCTILE IRON

Tests by ERICO indicate that connections to most ductile iron pipe can be made using the CADWELD molds and weld metal designated to be used on steel pipe.

However, some reports from the field suggest that all ductile iron is not the same. In such cases, the molds and weld material for cast iron do work.

We therefore suggest:

1. Whenever possible, make tests on the ductile iron pipe being used to determine if the material for steel can be used.

– OR –

2. Use the molds and weld metal designed for cast iron. It will make satisfactory connections on all ductile iron.

HORIZONTAL CAST IRON SURFACE

- **NOT FOR USE ON STEEL PIPE**
- CADWELD cable connections to horizontal flat cast iron surface; cable to top of horizontal cast iron pipe.
- **A test weld should be made on a section of the pipe being used to determine possibility of detrimental metallurgical effects.**
- Concentric stranded copper cable unless otherwise noted.
- **Bold letter** in mold part number is the price key.

REQUIRED TOOLS

- Handles** Handle is included with **A Price Key Molds**
- Flint Ignitor** **T320** (Included with handle clamp but also available separately)

SUGGESTED TOOLS

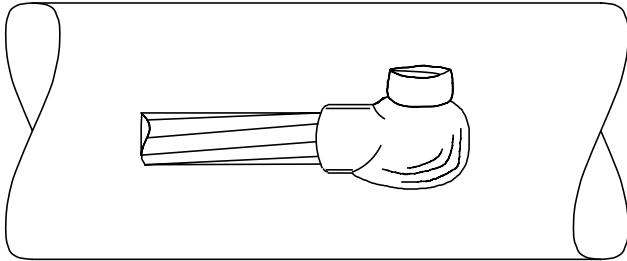
- Cable Cleaning Brush T313 or T314
 Rasp T321
 Slag Removal Spade B136A or B136B
 Mold Cleaning Brush T394
 Torch Head T111

ACCESSORIES

See Section A

CONDUCTOR SIZE	SURFACE	Mold Part No.	WELD METAL
8 Solid or Stranded, 6 Solid	Flat 4" to 24" Pipe	HBA-1G	25XF-19
		HBA-1G-P.S.*	25XF-19
6 Stranded	Flat 4" to 24" Pipe	HBA-1H	25XF-19
		HBA-1H-P.S.*	25XF-19
4 Solid	Flat 4" to 24" Pipe	HBA-1K	45XF-19
		HBA-1K-P.S.*	45XF-19
4 Stranded	Flat 4" to 24" Pipe	HBA-1L	45XF-19
		HBA-1L-P.S.*	45XF-19
2 Solid	Flat 4" to 24" Pipe	HBA-1T	45XF-19
		HBA-1T-P.S.*	45XF-19
2 Stranded	Flat 4" to 24" Pipe	HBA-1V	45XF-19
		HBA-1V-P.S.*	45XF-19
1 Stranded	Flat 4" to 24" Pipe	HBA-1Y	65XF-19
		HBA-1Y-P.S.*	65XF-19

*Specify nominal pipe size, i.e., HBA1G-6 for 6" pipe.
 Use flat surface mold part number for pipes larger than 24 inches.



VN

Right hand shown - RH

VERTICAL STEEL SURFACE

- Conductor to vertical flat steel surface or cable to the side of horizontal steel pipe.
- Concentric stranded copper cable is listed.
- **A test weld should be made to check the possibility of burn through on thin sections or thin wall pipe.**
- Cable to vertical side of horizontal steel pipe. Add right or left hand and nominal pipe size to flat surface mold part number.
Example: VNC-2G-LH-4 - weld on left end of conductor, 4" pipe, 2/0 stranded conductor.
- **Bold letter** in mold part number is the price key.

REQUIRED TOOLS

Handle Clamps L160 for C Price Key Molds

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

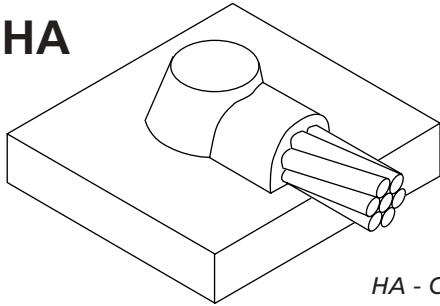
See Section A

TYPE VN		
CABLE SIZE	MOLD PART NO.	WELD METAL
6*	VNC-1H	45
4	VNC-1L	45
2 SOL	VNC-1T	65
2	VNC-1V	45
1	VNC-1Y	65
1/0	VNC-2C	90
2/0	VNC-2G	90
3/0	VNC-2L	115
4/0	VNC-2Q	115
250	VNC-2V	115
300	VNC-3A	150
350	VNC-3D	200
500	VNC-3Q	200

*Requires B112 sleeve (1 per weld)

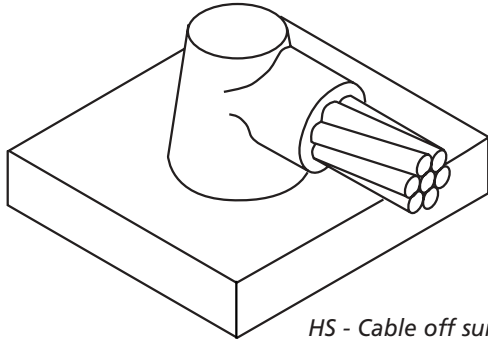


HA



HA - Cable on surface

HS



HS - Cable off surface

TYPE HA

CABLE SIZE	MOLD PART NO.	WELD METAL
6*	HAA-1H	45
4	HAA-1L	45
2 SOL	HAA-1T	45
2	HAA-1V	45
1	HAA-1Y	65

TYPE HS

CABLE SIZE	MOLD PART NO.	WELD METAL
1/0	HSC-2C	90
2/0	HSC-2G	90
3/0	HSC-2L	115
4/0	HSC-2Q	115
250	HSC-2V	115
300	HSC-3A	150
350	HSC-3D	200
500	HSC-3Q	200
750	HSD-4L	2-150
1000	HSD-4Y	2-200

*Requires B112 sleeve (1 per weld)

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 Bulletin 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 mold part number is the price key.

REQUIRED TOOLS

- Handle Clamps** **L160** for **C** Price Key Molds
L159 for **D** Price Key Molds
Handles are included with A Price Key Molds
- Flint Ignitor** **T320** (Included with handle clamp or frame but also available separately)

SUGGESTED TOOLS

- | | |
|----------------------|----------------|
| Cable Cleaning Brush | T313 or T314 |
| Slag Removal Spade | B136A or B136B |
| Mold Cleaning Brush | T394 |
| Cable Clamp | B265 |
| Torch Head | T111 |

ACCESSORIES

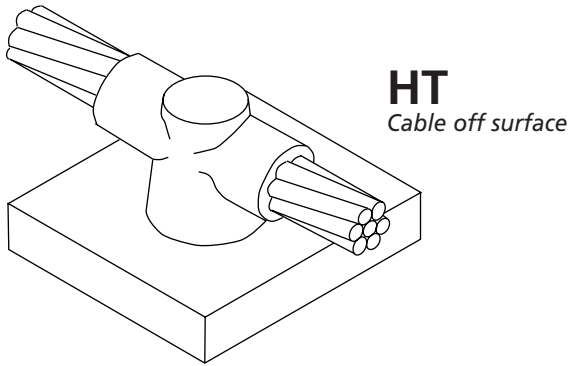
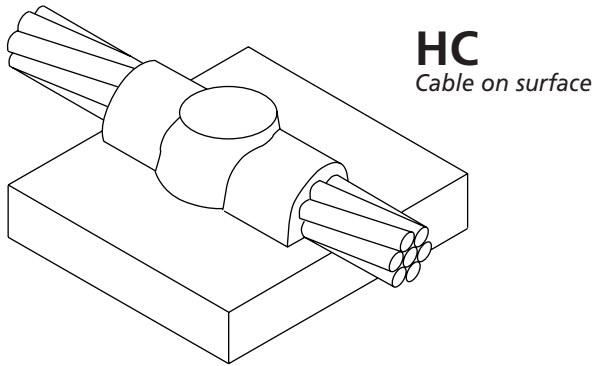
See Section A

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

Cable	Nominal Pipe Size	Suffix
#1 and Smaller	12" and smaller	Nominal Pipe Size
	14" and larger	None
1/0 thru 250	28" and smaller	Nominal Pipe Size
	30" and larger	None

Example: #1 cable to 3-1/2" pipe, HAA-1Y-3.50

For welds to copper surface, see section 5



HORIZONTAL STEEL SURFACE

- Cable to horizontal flat steel surface or cable to top of horizontal steel pipe.
- CADWELD also has a complete product line for cathodic protection connections. See Bulletin CA1A.
- 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 mold part number is the price key.

REQUIRED TOOLS

- Handle Clamps** **L160** for **C** Price Key Molds
L159 for **D** Price Key Molds
Handles are included with A Price Key Molds
- Flint Ignitor** **T320** (Included with handle clamp or frame 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

TYPE HC

CABLE SIZE	MOLD PART NO.	WELD METAL
6*	H C A-1H	45
4	H C A-1L	45
2 SOL	H C A-1T	45
2	H C A-1V	45
1	H C A-1Y	65

TYPE HT

CABLE SIZE	MOLD PART NO.	WELD METAL
1/0	H T C-2C	90
2/0	H T C-2G	115
3/0	H T C-2L	115
4/0	H T C-2Q	150
250	H T C-2V	150
300	H T C-3A	200
350	H T C-3D	250
500	H T D-3Q	2-150

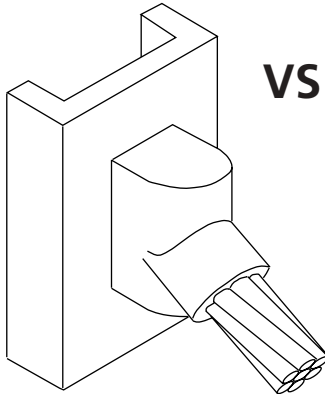
Cable to Horizontal Steel Pipe (Types **HC** and **HT**) –
Use flat surface mold part number with suffix.

Cable	Nominal Pipe Size	Suffix
#1 and Smaller	12" and smaller	Nominal Pipe Size
	14" and larger	None
1/0 thru 250	28" and smaller	Nominal Pipe Size
	30" and larger	None

Example: #1 cable to 6" pipe, H**C**A-1Y-6

*Requires B112 sleeve (2 per weld)





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. See Bulletin CA1A.
- 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 mold part number is the price key.

REQUIRED TOOLS

Handle Clamps **L160** for **C** Price Key Molds
L159 for **D** Price Key Molds

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

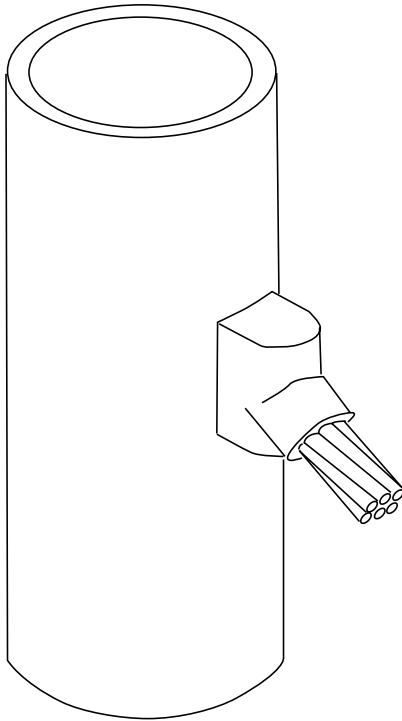
ACCESSORIES

See Section A

TYPE VS		
CABLE SIZE	MOLD PART NO.	WELD METAL
6*	V S C-1H	45
4	V S C-1L	45
2 SOL	V S C-1T	45
2	V S C-1V	45
1	V S C-1Y	65
1/0	V S C-2C	90
2/0	V S C-2G	90
3/0	V S C-2L	115
4/0	V S C-2Q	115
250	V S C-2V	115
300	V S C-3A	150
350	V S C-3D	200
500	V S C-3Q	200
750	V S D-4L	2-150
1000	V S D-4Y	2-200

*Requires B112 sleeve (1 per weld)

Cable to Vertical Steel Pipe – Use flat surface mold part number; add V and suffix.		
Cable	Nominal Pipe Size	Suffix
#6 thru 250	30" and smaller	Nominal Pipe Size
	32" and larger	None
Example: 4/0 to 4" pipe, V S C-2Q-V4		
Cable to horizontal steel pipe – Add H and nominal pipe size to flat surface mold number. Example: 2/0 to 8" pipe, V S C-2G-H8		



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

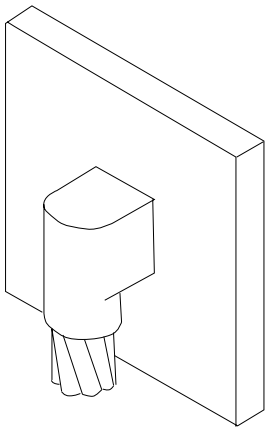
See Section A

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

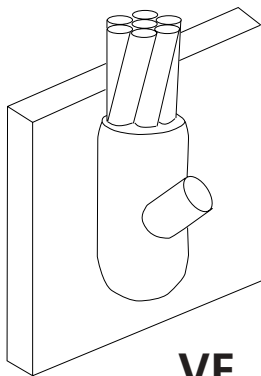
(1) Use flat surface mold part number. See page 3-7.

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

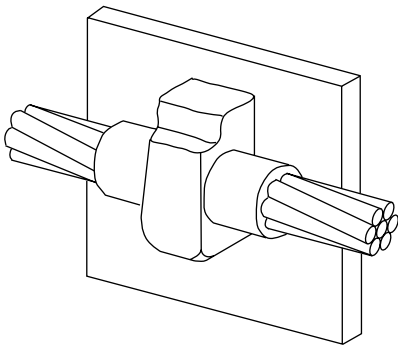
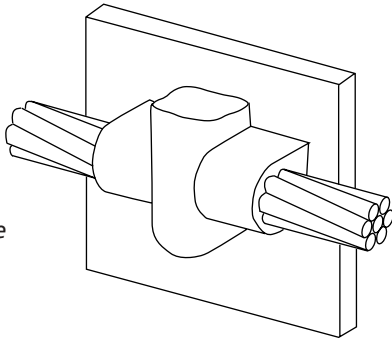
TYPE VB		
CABLE SIZE	MOLD PART NO.	WELD METAL
4	VBC -1L	65
2 SOL	VBC -1T	65
2	VBC -1V	65
1	VBC -1Y	90
1/0	VBC -2C	115
2/0	VBC -2G	115
3/0	VBC -2L	150
4/0	VBC -2Q	150
250	VBC -2V	200
300	VBC -3A	200
350	VBC -3D	250
500	VBR -3Q	2-150

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

VG

Cable on surface



VT

Cable off surface

VERTICAL STEEL SURFACE

- CADWELD through connections to vertical flat steel surface; cable to vertical side of horizontal pipe (Type VG only); cable to vertical steel pipe (Type VT only).
- **A test weld should be made to check the possibility of burn through on thin sections or thin wall pipe.**
- Concentric stranded copper cable is listed.
- Cable to steel pipe. Add nominal pipe size to flat surface mold part number. Examples: Horizontal Pipe, Use Type VG, add nominal pipe size suffix, for 2/0 to 6 in. pipe, VGC-2G-6, for Vertical Pipe, Use Type VT, add nominal pipe size suffix, Example for 1/0 to 4 in. pipe, VTC-2C-4
- **Bold letter** in mold part number is the price key.

REQUIRED TOOLS

Handle Clamps L160 for **C Price Key Molds**

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

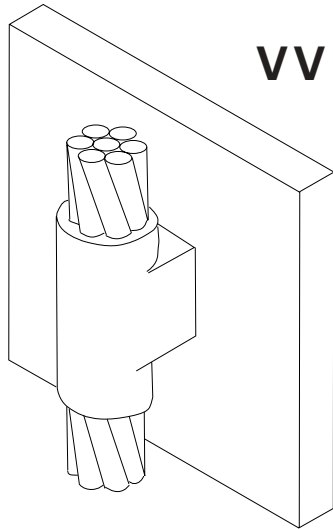
TYPE VG		
CABLE SIZE	MOLD PART NO.	WELD METAL
6*	VGC-1H	45
4	VGC-1L	45
2 SOL	VGC-1T	45
2	VGC-1V	45
1	VGC-1Y	65
1/0	VGC-2C	115
2/0	VGC-2G	115
3/0	VGC-2L	150
4/0	VGC-2Q	150
250	VGC-2V	150

*Requires B112 sleeve (2 per weld)

TYPE VT		
CABLE SIZE	MOLD PART NO.	WELD METAL
6*	VTC-1H	65
4	VTC-1L	65
2 SOL	VTC-1T	65
2	VTC-1V	65
1	VTC-1Y	90
1/0	VTC-2C	115
2/0	VTC-2G	115
3/0	VTC-2L	150
4/0	VTC-2Q	150
250	VTC-2V	150

*Requires B112 sleeve (2 per weld)





VERTICAL STEEL SURFACE

- Through connections to vertical flat 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 is listed.
- Cable to steel pipe. Add pipe orientation and nominal pipe size to flat surface mold part number. Examples: VVR-2G-V6, 2/0 conductor to vertical 6" pipe; VVR-1V-H6, #2 to horizontal 6" pipe
- **Bold letter** in mold part number is the price key.

REQUIRED TOOLS

Handle Clamps L160 for **C** and **R** 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	B136B
Mold Cleaning Brush	T394
Torch Head	T111

ACCESSORIES
















See Section A

TYPE VV		
CABLE SIZE	MOLD PART NO.	WELD METAL
6*	V V C-1H	90
4	V V C-1L	90
2 SOL	V V C-1T	115
2	V V C-1V	115
1	V V C-1Y	115
1/0	V V R-2C	200
2/0	V V R-2G	200
3/0	V V R-2L	250
4/0	V V R-2Q	250
250	V V R-2V	250

*Requires B112 sleeve (2 per weld)

OTHER CABLE TO STEEL OR CAST IRON

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

NAME	TYPE		EASE	SPLIT	NAME	TYPE		EASE	SPLIT
Tap Cast Iron	VH		1	V	Tap Steel	VA		1	V
	VJ		1	V		VC		1	V
	VK		1	V		VE		2	V
	VL		1	V	Thru Cast Iron	HE		1	*
	VR		1	V	Thru Steel	HH		2	*
Tap Steel	HF		1	*		HJ		2	*
	HG		2	*		HK		1	V
						VX		2	V

