

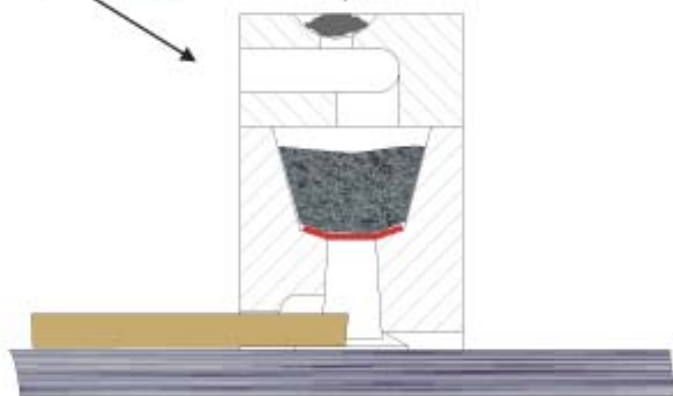
thermOweld®

EXOTHERMIC WELDS FOR CATHODIC PROTECTION

Featuring thermOweld's EZ Lite Molds

Emissions are reduced
by over 50% using
new port design.

Hole in lid makes it much easier
to ignite powder and extends
the life of the flint gun.



Patent Pending

01/01/2003

ELECTRICAL CONNECTIONS FOR CATHODIC PROTECTION

FEATURING A NEW IMPROVED POWDER WHICH PROVIDES:

Excellent bond with almost no penetration of pipe wall

Less heat affect on pipe

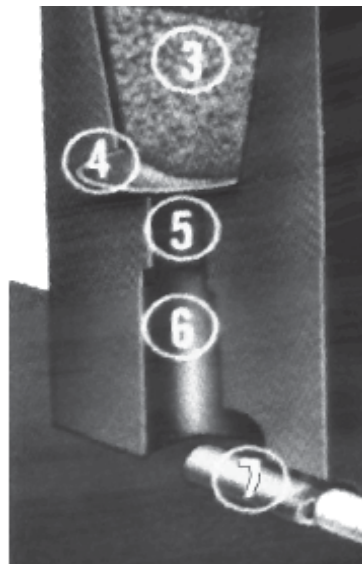
Softer slag • Easier cleaning

Sure fire starting powder

thermOweld® PROCESS

The THERMOWELD® cathodic connection process is a simple, efficient method of welding copper to copper, copper to steel or copper to cast iron. No outside source of power is required when using ThermOweld®. ThermOweld® connections use the high temperature reaction of powdered copper oxide and aluminum. The reaction takes place in a semi-permanent graphite mold (THERMOMOLD) that last for fifty or more welds if properly cared for. The ThermOweld® reaction takes place in a very few seconds therefore; the total amount of heat (calories or BTU's) applied to the conductors or surfaces is considerably less than that employed in brazing or soldering. This is an important consideration when welding to insulated cable or thin wall pipe.

ThermOweld® is ideal for field use, since it is light and portable and requires no outside power source. It requires very little time or skill to obtain an efficient, maintenance free electrical connection when using ThermOweld®.



THERMOWELD® GRAPHITE MOLD

1. Cutaway of mold
2. Starting powder
3. Weld powder
4. Metal disc
5. Tap hole
6. Weld cavity
7. Copper sleeve on bare conductor

THERMOWELD® CONNECTION

Because a ThermOweld® connection is a molecular weld having the same melting point as copper and with the increased cross section of the connection, ThermOweld® connections:

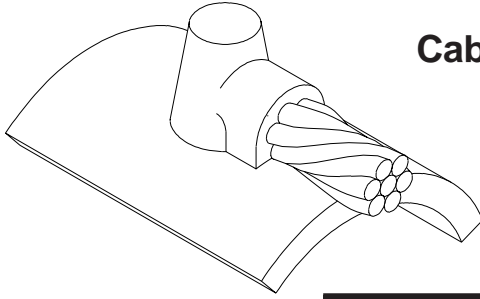
1. Will not be affected by a high current surge. Tests have shown that the electrical conductor will melt before the ThermOweld® connection when subjected to high short-

circuit current. Consult I.E.E.E. Standard 80-1989.

2. Will not loosen or corrode at the point of weld. There are no contact surfaces or mechanical pressures involved. A ThermOweld® connection becomes an integral part of the conductor.
3. Have a current-carrying capacity equal to or greater than that of the conductors.

TYPE CS-32

Cable to Horizontal Steel Surface



Type CS-32 ThermOwelders are for connecting copper cable to horizontal steel surfaces. When welding to steel pipe, each ThermOwelder fits a wide range of pipe sizes. When welding to pipe, the cable runs parallel to the pipe. For welding to ductile iron pipe, see note on welding to ductile iron pipe.

Cable Size	Surface	Mold Number†	Cartridge Size	Price Key
#6Sol◆	Flat (4" & Larger pipe)	M-100	15	2
	3/4" to 3 1/2" pipe	M-101	15	3
#6 Str	Flat (4" & Larger pipe)	M-102	15	2
	3/4" to 3 1/2"	M-103	15	3
#4 Sol	Flat (6" & larger pipe)	M-104	15	2
	3/4" to 3 1/2" pipe	M-105	15	3
	4" to 5" pipe	M-130	15	3
#4 Str	Flat (6" & larger pipe)	M-106	15	2
	3/4" to 3 1/2" pipe	M-107	15	3
	4" to 5" pipe	M-108	15	3
#2 Sol	Flat (10" & larger pipe)	M-109	25	3
	1" to 3 1/2" pipe	M-110	25	3
	4" to 8" pipe	M-111	25	3
#2 Str	Flat (16" & larger pipe)	M-112	32	3
	1" to 3 1/2" pipe	M-113	32	3
	4" to 8" pipe	M-114	32	3
	10" to 14" pipe	M-115	32	3
#1 Str	Flat (16" & larger pipe)	M-116	45	3
	1 1/2" to 3 1/2" pipe	M-117	45	3
	4" to 8" pipe	M-118	45	3
	10" to 14" pipe	M-119	45	3
1/0 Str	Flat (20" & larger pipe)	M-120	65	3
	2 1/2" to 3 1/2" pipe	M-121	65	3
	4" to 8" pipe	M-122	65	3
	10" to 18" pipe	M-123	65	3
2/0 Str	Flat (20" & larger pipe)	M-124	65	3
	2 1/2" to 3 1/2" pipe	M-125	65	3
	4" to 8" pipe	M-126	65	3
	10" to 18" pipe	M-127	65	3

◆ For wire size #14 to #10 solid, order (1) sleeve per weld.

† Sold with frame. If frame not required, specify mold number followed by suffix "-G"

Welding To Ductile Iron Pipe: When welding to ductile iron pipe, use weld metal and molds designated for cast iron.

CATHODIC HANDY PACK



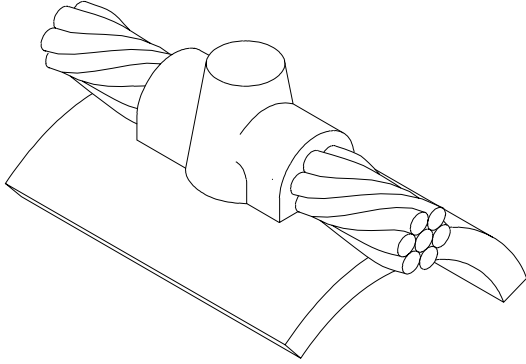
Each Cathodic Handy Pack Contains

Part Number
38-4350-00
(1) M-100 Mold
(80) #15P Cartridges
(80) Sleeves
Flint Gun
Mold Cleaner

Part Number
38-4351-00
(1) M-101 Mold
(80) #15P Cartridges
(80) Sleeves
Flint Gun
Mold Cleaner

TYPE CS-34

Cable to Horizontal Steel Surface



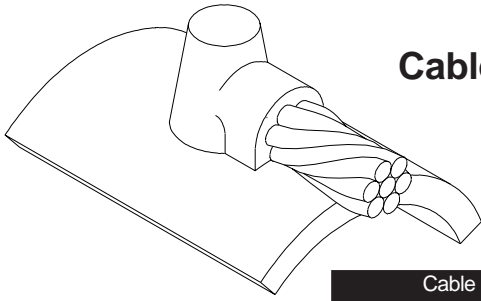
Type CS-34 ThermOwelders are for connecting copper cable to horizontal steel surfaces. When welding to steel pipe, each ThermOwelder fits a wide range of pipe sizes. When welding to pipe, the cable runs parallel to the pipe. For welding to ductile iron pipe, see note on welding to ductile iron pipe.

Cable Size	Surface	Mold Number†	Cartridge Size	Price Key
#6 Sol♦	Flat (12" & larger pipe)	M-1955	25	3
	3/4" to 2" pipe	M-5666	25	3
	2 1/2" to 5" pipe	M-3097	25	3
	6" to 10" pipe	M-3141	25	3
#6 Str	Flat (12" & larger pipe)	M-5661	25	3
	3/4" to 2" pipe	M-5662	25	3
	2 1/2" to 5" pipe	M-5663	25	3
	6" to 10" pipe	M-5664	25	3
#4 Sol	Flat (12" & larger pipe)	M-1956	25	3
	3/4" to 2" pipe	M-1957	25	3
	2 1/2" to 5" pipe	M-1958	25	3
	6" to 10" pipe	M-1966	25	3
#4 Str	Flat (12" & larger pipe)	M-6000	25	3
	3/4" to 2" pipe	M-1967	25	3
	2 1/2" to 5" pipe	M-5501	25	3
	6" to 10" pipe	M-5503	25	3
#2 Sol	Flat (14" & larger pipe)	M-5505	32	3
	2" to 3 1/2" pipe	M-5507	32	3
	4" to 6" pipe	M-5510	32	3
	8" to 10" pipe	M-5514	32	3
#2 Str	Flat (18" & larger pipe)	M-5518	45	3
	2" to 3 1/2" pipe	M-5986	45	3
	4" to 8" pipe	M-5605	45	3
	10" to 16" pipe	M-5988	45	3
#1 Str	Flat (18" & larger pipe)	M-5519	45	3
	2" to 3 1/2" pipe	M-5520	45	3
	4" to 8" pipe	M-5521	45	3
	10" to 16" pipe	M-5523	45	3
1/0 Str	Flat (30" & larger pipe)	M-5524	65	3
	3" to 4" pipe	M-5525	65	3
	5" to 6" pipe	M-5526	65	3
	8" to 10" pipe	M-5527	65	3
	12" to 28" pipe	M-5529	65	3
2/0 Str	Flat (30" & larger pipe)	M-6251	65	3
	3" to 4" pipe	M-5530	65	3
	5" to 6" pipe	M-5531	65	3
	8" to 10" pipe	M-5532	65	3
	12" to 28" pipe	M-5533	65	3

♦ For wire size #14 to #10 solid, order (2) sleeves per weld.

† Sold with frame. If frame not required, specify mold number followed by suffix "-G"

Welding To Ductile Iron Pipe: When welding to ductile iron pipe, use weld metal and molds designated for cast iron.



TYPE CS-33

Cable to Horizontal Cast Iron Surface

Type CS-33 ThermOwelders are for connecting copper cable to horizontal cast iron surfaces. When welding to cast iron pipe, each ThermOwelder is made to fit the specified pipe size. When welding to pipe, the cable runs parallel to the pipe. For welding to ductile iron pipe, see note on welding to ductile iron pipe.

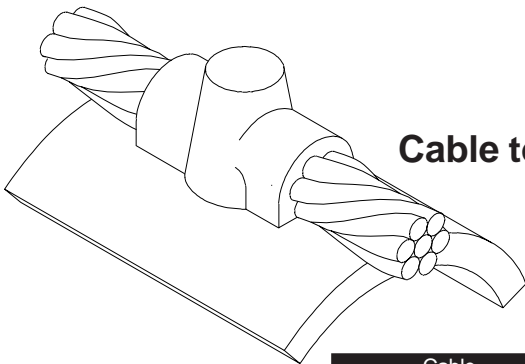
Cable Size	Surface	Mold Number†	Cartridge Size	Price Key
#6 Sol ♦	Flat (30" & larger pipe)	M-156	25Cl	3
#6 Str	Flat (30" & larger pipe)	M-157	25Cl	3
#4 Sol	Flat (30" & larger pipe)	M-158	45Cl	3
#4 Str	Flat (30" & larger pipe)	M-159	45Cl	3
#2 Sol	Flat (30" & larger pipe)	M-160	45Cl	3
#2 Str	Flat (30" & larger pipe)	M-161	45Cl	3
#1 Str	Flat (30" & larger pipe)	M-163	65Cl	3

♦ For wire size #14 to #10 solid, order (1) sleeve per weld.

† Sold with frame. If frame not required, specify mold number followed by suffix "-G"

Welding To Horizontal Pipe To weld to 4" to 24" horizontal pipe, add pipe size to mold number. To weld #1 str. cable to 6" horizontal pipe, the mold number would be M-163-6. To weld to pipe 30" and larger, use a flat surface mold.

Welding To Ductile Iron Pipe: When welding to ductile iron pipe, use weld metal and molds designated for cast iron.



TYPE CS-35

Cable to Horizontal Cast Iron Surface

Type CS-35 ThermOwelders are for connecting copper cable to horizontal cast iron surfaces. When welding to cast iron pipe, each ThermOwelder is made to fit the specified pipe size. When welding to pipe, the cable runs parallel to the pipe. For welding to ductile iron pipe, see note on welding to ductile iron pipe.

Cable Size	Surface	Mold Number†	Cartridge Size	Price Key
#6 Sol ♦	Flat (30" & larger pipe)	M-5316	32Cl	3
#6 Str	Flat (30" & larger pipe)	M-5535	32Cl	3
#4 Sol	Flat (30" & larger pipe)	M-5536	45Cl	3
#4 Str	Flat (30" & larger pipe)	M-5537	45Cl	3
#2 Sol	Flat (30" & larger pipe)	M-5538	45Cl	3
#2 Str	Flat (30" & larger pipe)	M-5540	45Cl	3
#1 Str	Flat (30" & larger pipe)	M-5542	65Cl	3

♦ For wire size #14 to #10 solid, order (2) sleeves per weld.

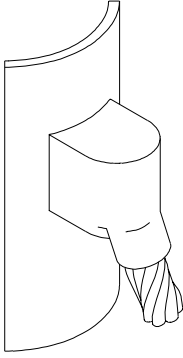
† Sold with frame. If frame not required, specify mold number followed by suffix "-G"

Welding To Horizontal Pipe To weld to 4" to 24" horizontal pipe, add pipe size to mold number. To weld #1 str. cable to 6" horizontal pipe, the mold number would be M-5542-6. To weld to pipe 30" and larger, use a flat surface mold.

Welding To Ductile Iron Pipe: When welding to ductile iron pipe, use weld metal and molds designated for cast iron.

TYPE CS-36

Cable to Vertical Steel Surface



Type CS-36 ThermOwelders are for connecting copper cable to vertical steel surfaces. When welding to steel pipe, each ThermOwelder fits a wide range of pipe sizes. For welding to ductile iron pipe, see note on welding to ductile iron pipe.

Cable Size	Surface	Mold Number†	Cartridge Size	Price Key
#6 Sol◆	Flat (12" & larger pipe)	M-142	15	18
	3/4" to 3-1/2" pipe	M-150	15	18
	4" to 10" pipe	M-151	15	18
#6 Str	Flat (12" & larger pipe)	M-144	15	18
	3/4" to 3-1/2" pipe	M-152	15	18
	4" to 10" pipe	M-153	15	18
#4 Sol	Flat (12" & larger pipe)	M-145	25	18
	3/4" to 1-1/2" pipe	M-186	25	18
	2" to 4" pipe	M-187	25	18
	5" to 10" pipe	M-188	25	18
#4 Str	Flat (12" & larger pipe)	M-146	25	18
	3/4" to 3-1/2" pipe	M-189	25	18
	2" to 4" pipe	M-190	25	18
	5" to 10" pipe	M-191	25	18
#2 Sol	Flat (14" & larger pipe)	M-147	25	18
	1" to 1-1/2" pipe	M-192	25	18
	2" to 4" pipe	M-193	25	18
	5" to 12" pipe	M-194	25	18
#2 Str	Flat (14" & larger pipe)	M-148	32	18
	1" to 1-1/2" pipe	M-195	32	18
	2" to 3" pipe	M-196	32	18
	4" to 6" pipe	M-197	32	18
	8" to 12" pipe	M-198	32	18
#1 Str	Flat (18" & larger pipe)	M-6117	45	19
	1-1/2" to 2-1/2" pipe	M-6118	45	19
	3" to 4" pipe	M-6119	45	19
	5" to 10" pipe	M-6120	45	19
	12" to 16" pipe	M-6121	45	19
1/0 Str	Flat (18" & larger pipe)	M-2586	65	19
	2-1/2" to 4" pipe	M-2587	65	19
	5" to 10" pipe	M-2588	65	19
	12" to 16" pipe	M-2589	65	19
2/0 Str	Flat (18" & larger pipe)	M-2590	65	19
	3" to 4" pipe	M-2591	65	19
	5" to 10" pipe	M-2592	65	19
	12" to 16" pipe	M-2953	65	19

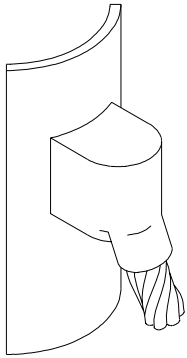
◆ For wire size #14 to #10 solid, order (1) sleeve per weld.

† Sold with handle clamps. If not required, specify mold number followed by suffix "-G"

Welding To Ductile Iron Pipe: When welding to ductile iron pipe, use weld metal and molds designated for cast iron.

TYPE CS-37

Cable to Vertical Cast Iron



Type CS-37 ThermOwelders are for connecting copper cable to vertical cast iron surfaces. When welding to cast iron pipe, each ThermOwelder fits a wide range of pipe sizes. For welding to ductile iron pipe, see note on welding to ductile iron pipe.

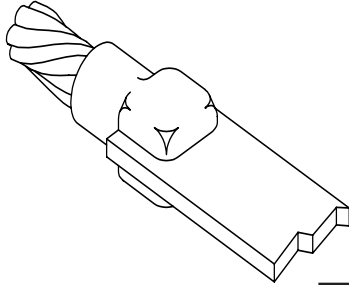
Cable Size	Surface	Mold Number†	Cartridge Size	Price Key
#6 Sol◆	Flat (30" & Larger Pipe)	M-2594-S	25Cl	18
#6 Str	Flat (30" & Larger Pipe)	M-2594	25Cl	18
#4 Sol	Flat (30" & Larger Pipe)	M-2595-S	32Cl	18
#4 Str	Flat (30" & Larger Pipe)	M-2595	32Cl	18
#2 Sol	Flat (30" & Larger Pipe)	M-2596-S	45Cl	19
#2 Str	Flat (30" & Larger Pipe)	M-2596	45Cl	19
#1 Str	Flat (36" & Larger Pipe)	M-2597	65Cl	19

◆ For wire size #14 to #10 solid, order (1) sleeve per weld.

† Sold with handle clamps. If not required, specify mold number followed by suffix "-G"

Welding To Vertical Pipe To weld to 4" to 24" vertical pipe, add pipe size to mold number. To weld #2 str. cable to 6" vertical pipe, the mold number would be M-2596-V6. To weld to pipe 30" and larger, use a flat surface mold for all cable sizes except #1 str. For #1 str., to weld to pipe 36" and larger, use a flat surface mold.

Welding To Ductile Iron Pipe: When welding to ductile iron pipe, use weld metal and molds designated for cast iron.



TYPE CB-1

Cable to Lug

Type CB-1 ThermOwelders are for connecting copper cable to copper lugs

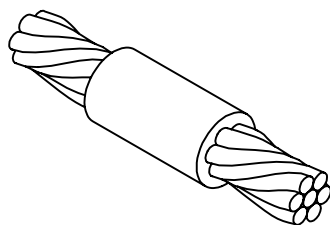
Cable Size	Lug Size	Mold Number†	Cartridge Size	Price Key
#6 Sol◆	1/16 X 1/2	M-8391-S	25	18
#6 Str▲	1/16 X 1/2	M-8391	25	18
#4 Sol	1/16 X 1/2	M-8393-S	25	18
#4 Str	1/16 X 1/2	M-8393	25	18
#2 Sol	1/16 X 1/2	M-8395-S	32	18
#2 Str	1/16 X 1/2	M-8395	32	18
#1 Str	1/16 X 1/2	M-8397	32	18
1/0 Str	1/16 X 1/2	M-8398	45	19
2/0 Str	1/8 X 1	M-8399	45	19

† Sold with handle clamps. If not required, specify MOLD NUMBER followed by suffix "-G".

◆ Requires (1) 38-0201-00 sleeve per weld.

▲ Requires (1) 38-0202-00 sleeve per weld.

▼ Lug part number: 1/16"x1/2" 38-4709-00
1/8"x1" 38-4200-00



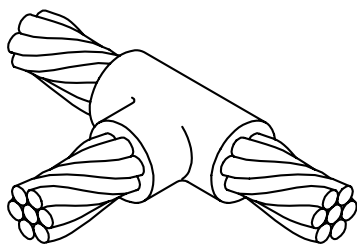
TYPE CC-1

Cable to Cable

Type CC-1 ThermOwelders are for connecting horizontal copper cable end to end.

Cable Size		Mold Number†	Cartridge Size	Price Key
Run	Tap			
#12 Sol	#12 Sol	M-8224-S	15	18
#10 Sol	#10 Sol	M-8225-S	15	18
#8 Sol	#8 Sol	M-8228-S	15	18
#6 Sol	#6 Sol	M-8229-S	25	18
#6 Str	#6 Str	M-8229	25	18
#4 Sol	#4 Sol	M-8232-S	25	18
#4 Str	#4 Str	M-8232	25	18
#2 Sol	#2 Sol	M-8235-S	32	18
#2 Str	#2 Str	M-8235	32	18
#1 Sol	#1 Sol	M-8239-S	32	18
#1 Str	#1 Str	M-8239	32	18
1/0 Str	1/0 Str	M-8242	45	19
2/0 Str	2/0 Str	M-8244	65	19

† Sold with handle clamps. If not required, specify mold number followed by suffix "-G"



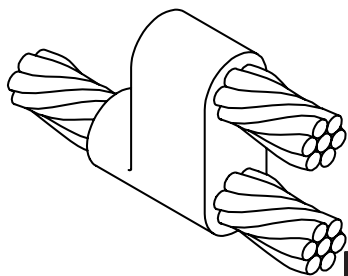
TYPE CC-2

Cable to Cable

Type CC-2 ThermOwelders are for connecting horizontal copper cable run to horizontal cable tap.

Cable Size		Mold Number†	Cartridge Size	Price Key
Run	Tap			
#2 Str	#2 Str	M-8245	45	20
	#4 Str	M-8246	45	20
#1 Str	#1 Str	M-8247	45	20
	#2 Str	M-8248	45	20
	#4 Str	M-8249	45	20
1/0 Str	#1 Str	M-8250	45	20
	#2 Str	M-8251	45	20
	#4 Str	M-8252	45	20
2/0 Str	#1 Str	M-8253	45	20
	#2 Str	M-8256	45	20
	#4 Str	M-8260	45	20

† Sold with handle clamps. If not required, specify mold number followed by suffix "-G"



TYPE CC-6

Cable to Cable

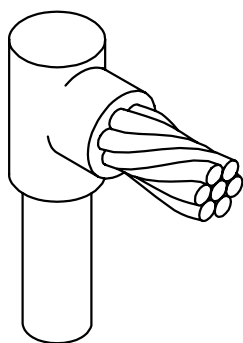
Type CC-6 ThermOwelders are for connecting a parallel horizontal cable tap to horizontal cable run.

Cable Size		Mold Number†	Cartridge Size	Price Key
Run	Tap			
#6 Str	#6 Str	M-8261	25	18
	#6 Sol	M-8264	25	18
	#8 Str	M-8265	25	18
	#8 Sol	M-8266	25	18
#4 Str	#4 Str	M-8267	32	18
	#6 Str	M-8268	32	18
	#6 Sol	M-8269	32	18
	#8 Str	M-8274	32	18
	#8 Sol	M-8275	32	18
#2 Str	#2 Str	M-8276	65	19
	#4 Str	M-8280	45	19
	#6 Str	M-8281	32	18
	#6 Sol	M-8283	32	18
	#8 Str	M-8284	32	18
	#8 Sol	M-8285	32	18
#1 Str	#2 Str	M-8286	65	19
	#4 Str	M-8287	45	19
	#6 Str	M-8288	45	19
	#6 Sol	M-8291	45	19
	#8 Str	M-8292	45	19
	#8 Sol	M-8293	45	19
1/0 Str	#2 Str	M-8295	65	19
	#4 Str	M-8297	65	19
	#6 Str	M-8299	45	19
	#6 Sol	M-8300	45	19
	#8 Str	M-8301	45	19
	#8 Sol	M-8304	45	19
2/0 Str	#2 Str	M-8306	2-45	20
	#4 Str	M-8307	65	19
	#6 Str	M-8310	65	19
	#6 Sol	M-8311	65	19
	#8 Str	M-8313	65	19
	#8 Sol	M-8316	65	19

† Sold with handle clamps. If not required, specify mold number followed by suffix "-G"

TYPE CR-1

Cable to Ground Rod



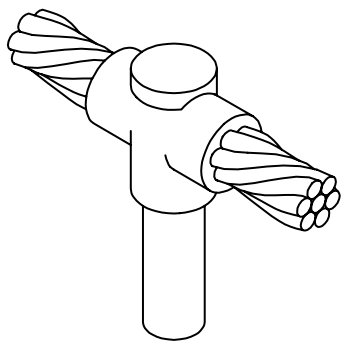
Type CR-1 ThermOwelders are for connecting horizontal copper cable to a ground rod.

GROUND ROD SIZE‡	CABLE SIZE	MOLD NUMBER†	CARTRIDGE SIZE	PRICE KEY
1/2"	#6 Sol◆	M-1960-S	25	18
	#6 Str	M-1960	25	18
	#4 Sol	M-1961-S	25	18
	#4 Str	M-1961	25	18
	#2 Sol	M-1962-S	32	18
	#2 Str	M-1962	32	18
	#1 Str	M-1963	45	19
	1/0 Str	M-1964	65	19
	2/0 Str	M-1965	65	19
5/8"	#6 Sol◆	M-1968-S	32	18
	#6 Str	M-1968	32	18
	#4 Sol	M-1969-S	32	18
	#4 Str	M-1969	32	18
	#2 Sol	M-1970-S	45	19
	#2 Str	M-1970	45	19
	#1 Str	M-1971	45	19
	1/0 Str	M-1972	65	19
	2/0 Str	M-1973	65	19
3/4"	#6 Sol◆	M-1976-S	32	18
	#6 Str	M-1976	32	18
	#4 Sol	M-1977-S	45	19
	#4 Str	M-1977	45	19
	#2 Sol	M-1978-S	45	19
	#2 Str	M-1978	45	19
	#1 Str	M-1979	45	19
	1/0 Str	M-1980	65	19
	2/0 Str	M-1981	65	19

† Sold with handle clamps. If not required, specify MOLD NUMBER followed by suffix "-G".

◆ For wire size #14 to #10 solid, order (1) 38-0200-00 sleeve per weld.

‡ For welding to steel, stainless steel or galvanized ground rods, add suffix "-N" to end of MOLD NUMBER.



TYPE CR-2

Cable to Ground Rod

Type CR-2 ThermOwelders are for connecting horizontal through copper cable to a ground rod.

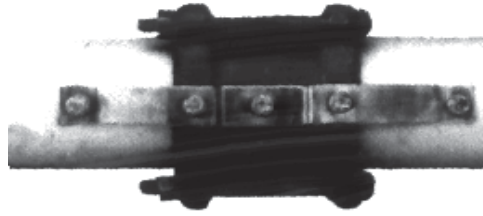
GROUND ROD SIZE‡	CABLE SIZE	MOLD NUMBER†	CARTRIDGE SIZE	PRICE KEY
1/2"	#6 Sol◆	M-1984-S	32	18
	#6 Str	M-1984	32	18
	#4 Sol	M-1985-S	32	18
	#4 Str	M-1985	32	18
	#2 Sol	M-1986-S	45	19
	#2 Str	M-1986	45	19
	#1 Str	M-1987	65	19
	1/0 Str	M-1988	65	19
	2/0 Str	M-1989	65	19
5/8"	#6 Sol◆	M-1992-S	45	19
	#6 Str	M-1992	45	19
	#4 Sol	M-1993-S	65	19
	#4 Str	M-1993	65	19
	#2 Sol	M-1994-S	65	19
	#2 Str	M-1994	65	19
	#1 Str	M-1995	65	19
	1/0 Str	M-1996	2-45	20
	2/0 Str	M-1997	2-45	20
3/4"	#6 Sol◆	M-2000-S	45	19
	#6 Str	M-2000	45	19
	#4 Sol	M-2001-S	65	19
	#4 Str	M-2001	65	19
	#2 Sol	M-2002-S	65	19
	#2 Str	M-2002	65	19
	#1 Str	M-2003	65	19
	1/0 Str	M-2004	2-45	20
	2/0 Str	M-2005	2-45	20

† Sold with handle clamps. If not required, specify MOLD NUMBER followed by suffix "-G".

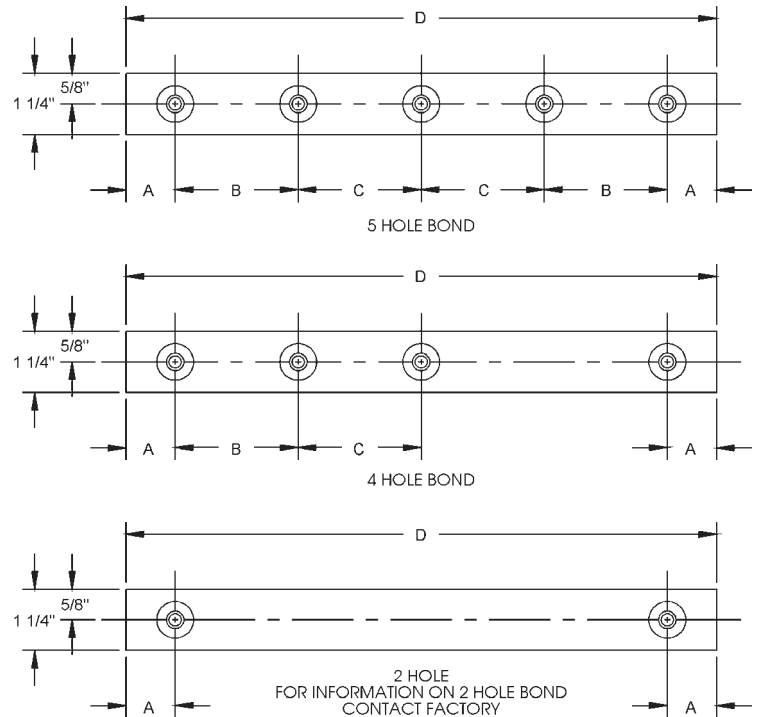
◆ For wire size #14 to #10 solid, order (2) 38-0200-00 sleeves per weld.

‡ For welding to steel, stainless steel or galvanized ground rods, add suffix "-N" to end of MOLD NUMBER.

STRAP BONDS



The strap bond is a method of bonding across joints. It is particularly suited for providing electrical contact across Dresser® Couplers. The strap is made of soft copper strip available in size equivalent to 1/0 str. copper and supplied to desired length. The soft copper allows easy hand forming of the strap to the coupler contour. Normal application requires 5 welds, 2 on the pipe and 3 on the coupler. Welds are made with mold M-128 sold complete with handle, cleaning tool and flint gun. Requires #15 cartridge for each weld.



COPPER STRAP BONDS						
COUPLING SIZE	CATALOG NO.	# OF HOLES	A	B	C	D
5" & LARGER PIPE STYLE 38	# 27-0180-00	4	1"	3 3/4"	5 1/4"	20"
5" & LARGER PIPE STYLE 38	# 27-0181-00	4	1"	3 3/4"	6 1/4"	22"
5" & LARGER PIPE STYLE 38	# 27-0182-00	5	1"	3 3/4"	5 1/4"	20"
5" & LARGER PIPE STYLE 38	# 27-0183-00	5	1"	3 3/4"	6 1/4"	22"
UNDER 5" & LIGHT PATTERN STYLE 38	# 27-0184-00	4	1"	3 1/4"	4 1/4"	17"
UNDER 5" & LIGHT PATTERN STYLE 38	# 27-0185-00	4	1"	3 1/4"	5 1/4"	19"
UNDER 5" & LIGHT PATTERN STYLE 38	# 27-0186-00	5	1"	3 1/4"	4 1/4"	17"
UNDER 5" & LIGHT PATTERN STYLE 38	# 27-0187-00	5	1"	3 1/4"	5 1/4"	19"
FOR ALL STYLE 40 COUPLINGS USE (2) 27-0188-00 BONDS	# 27-0188-00	3	1"	3 3/4"	--	9 1/2"

Current capacity of the copper strap bonds is equivalent to 1/0 STR copper cable.
Use mold M-128 to attach bonds with #15 cartridge.

THERMOMOLDS

The copper thermite reaction takes place within a specially designed, fine graphite THERMOMOLD that permits free flow of molten metal to all sections of the weld cavity. The weld cavity is designed to allow easy removal of the THERMOMOLD from the finished joint to increase mold life. The average life of a THERMOMOLD is 50 to 100 welds depending on the care and treatment it receives. A set of instructions is packaged with each THERMOMOLD.



THERMOWELD® WELD METAL

THERMOWELD® Powder is packed in moisture-resistant plastic cartridges that have tight fitting caps. These cartridges and the necessary steel discs are then packed in boxes that are hermetically-sealed. This insures the powder arriving in good condition, always dry and ready for fast positive ignition. THERMOWELD® Powder comes in two types; one for welding copper to copper, copper to steel and copper to rail and one for welding copper to cast iron. The size and weight (in grams) of the cartridge are marked on each individual cartridge.

STANDARD CARTRIDGE	CAST IRON CARTRIDGE	PACKED PER BOX
SIZE	SIZE	
#15	—	20
#25	#25CI	20
#32	#32CI	20
#45	#45CI	20
#65	#65CI	20



ThermOweld® Powder is sold in box quantities only.

THERMOWELD® ACCESSORIES**THERMOWELD® TOOL KIT**

38-0302-00	Tool Kit with Tools Shown except Rasp
38-0302-02	Tool Kit with Tools Shown and Rasp
38-0303-00	Tool Box only

THERMOWELD® TOOLS

38-0309-00	Flint Gun
38-0304-00	8" File
38-0307-00	Crimping Tool
38-3922-00	Mold Cleaning Brush
38-0308-00	6" Screwdriver
38-0305-00	Wire Brush
38-0101-00	Rasp
38-0306-00	Card Cloth Brush

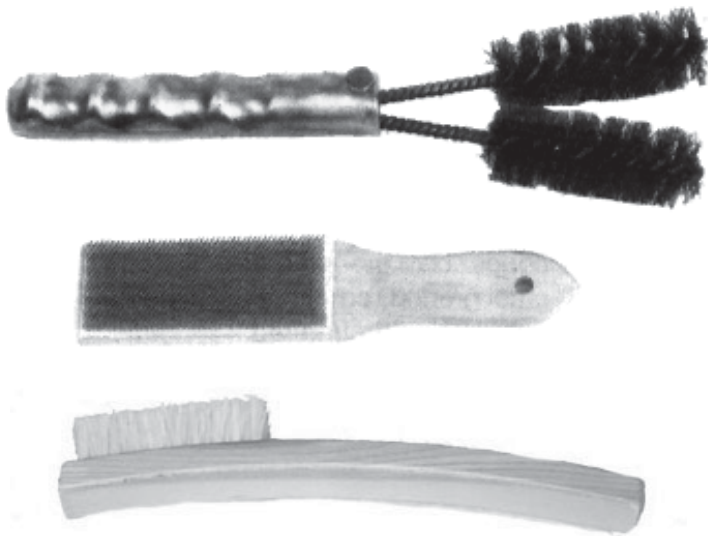
**38-0101-00 RASP**

This tempered steel, curved rasp is recommended for removing rust and mill scale from steel and cast iron surfaces. The blade is replaceable. To order replacement rasp blade, specify part # 38-0101-01. Not recommended for use on galvanized surfaces.

**38-0309-00 FLINT GUN**

The 38-0309-00 Flint Gun is used to ignite the starting powder. Each mold that is sold with a frame has a flint gun included. To order replacement flints, specify part # 38-0309-01.

THERMOWELD® ACCESSORIES



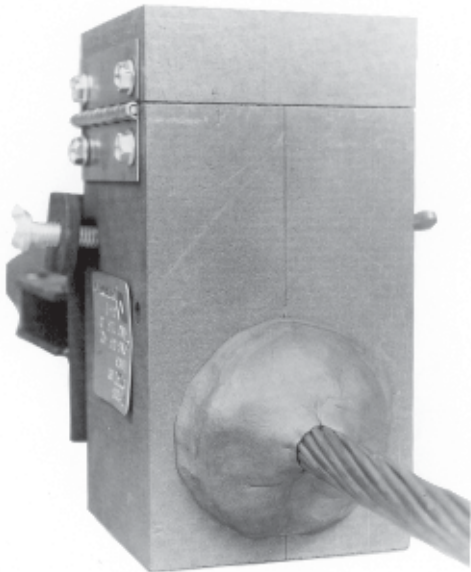
CABLE CLEANING AND CARD CLOTH BRUSH

The Cable Cleaning Brush is recommended for cleaning heavily oxidize cables. The V-shape brushes permit their use over a wide range of cable sizes. The brush assembly consists of a handle with two stiff wire bristle brushes that are rotatable, for longer life and are replaceable. The Card Cloth Brush is used for cleaning large conductors and bus bar. It has short stiff bristles. These brushes are for cleaning cable only, not for cleaning molds.

Cable Cleaning Brush	38-0135-00
Replacement Brush	38-0135-01
Card Cloth Brush	38-0306-00
Mold Cleaning Brush	38-3922-00

MOLD CLEANERS

Mold Cleaners are used to clean the slag from molds that are not split through the crucible.
40-0319-01for cartridge sizes #15 thru #65



PACKING MATERIAL

Packing material is used to prevent the molten weld metal from leaking out of the mold. When the cable opening becomes worn from heavy use, the packing material may be used to prolong mold use. It is also used around 7 strand cable to prevent leaking. Packing material comes in a 1 lb or 5 lb package.

PART #	DESCRIPTION
38-4129-00	1 lb package
38-4129-05	5 lb package

THERMOWELD® ACCESSORIES



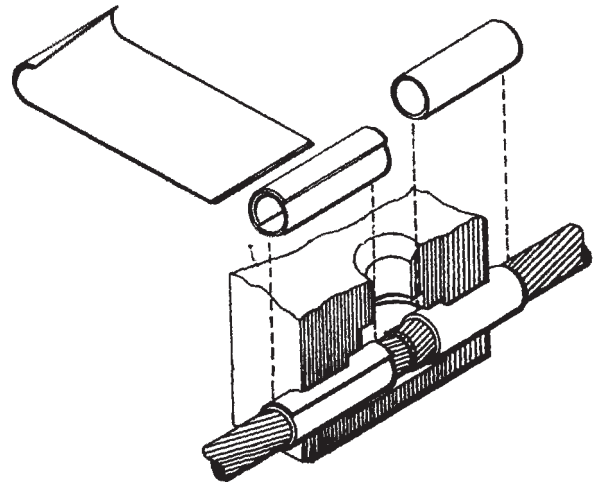
GROUND ROD DRIVING SLEEVES

Ground Rod Driving Sleeves are placed over the top of a ground rod while driving it into the ground. This prevents the top from mushrooming or flaring out. Ground rod driving sleeves come in sizes to fit all standard unthreaded ground rods.

Part #	Description
38-3662-01	1/2" copper clad or steel ground rod
38-3662-02	5/8" copper clad ground rod
38-3662-05	5/8" steel ground rod
38-3662-03	3/4" copper clad ground rod
38-3662-06	3/4" steel ground rod
38-3662-04	1" copper clad ground rod
38-3662-07	1" steel ground rod

SHIM STOCK AND ADAPTER SLEEVES

ThermOweld ThermOmolds designed for larger cable sizes can be used on smaller diameter cables if copper adapter sleeves or shim stock are utilized. Copper adapter sleeves allow small diameter conductors to be used in molds cut for larger cables. For example, a No. 6 Stranded conductor with an A-202 sleeve will fit a mold cut for No. 2 Stranded cable. The copper shim stock, .014" x 1-1/2" x 3", is normally wrapped around cable until the diameter is about equal to the ThermOmold opening. A tight fit is not necessary as the shim stock will unwrap slightly and prevent leakage of weld metal. To order shim stock, use part # 38-0329-00. Shim stock comes 100 pieces per box.



FOR USE ON CABLE SIZE		PART NO.	USE IN MOLD SIZE	SLEEVE DIMENSIONS		
STRANDED	SOLID			O.D.	I.D.	LENGTH
#12, #14	#10, #12, #14	A-200	#6 str & sol	.156	.111	1.00
#9, #10	#8, #9, #10	A-208	#4 sol	.203	.140	1.00
#7, #8, #10	#6, #8	A-201	#4	.227	.177	1.00
#6	#5	A-202	#2	.292	.198	1.00
#2	#1	A-203	1/0	.370	.307	1.00
#1	1/0	A-209	2/0	.420	.359	1.00
1/0, #1	2/0	A-205	3/0 & 4/0 sol	.469	.385	1.00
2/0	—	A-206	4/0 str	.515	.455	1.00