

GROUNDING®

EXOTHERMIC ELECTRICAL CONNECTIONS



GROUNDING®

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GROUNDING®

EXOTHERMIC ELECTRICAL CONNECTIONS

MATERIAL PARA SOLDAR



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WELDING MATERIAL

GROUNDING®

EXOTHERMIC ELECTRICAL CONNECTIONS

Throughout the years, GROUNDING® has become the leading trademark to all experts in the field of grounding systems. Grounding's exothermic connection system provides the best known electric connections. Grounding's connections do not loosen because the bonds are molecular; therefore they're not affected by chemical or galvanic corrosion - thus conducting much more current than the conductor itself.

Grounding's exothermic connections include electrical molecular connections of various metal conductors, such as copper to copper, copper to steel and steel to steel.

Grounding's connections do not require an external source of heat.

Extracted from ANSI/IEEE Std 80-1986

The most common methods of making grounding connections use exothermic welds, brazed joints, and pressure type connectors. Provided these connectors are properly designed and installed, some of their application guidelines are:

1. If, for mechanical reasons, conductor annealing is a consideration, it may be prudent not to exceed 250°C, regardless of the type of connection used.
2. The temperature limit of 450° is a reasonable value for brazed connections, considering that in practise many copper - based eutelic brazing alloys will start to melt at temperatures of less than 600°.
3. Exothermic welded joints will automatically hook on to the cable with a connector or material that has the same fusing temperature, so that the entire connection can be viewed and rated as an integral part of one homogenous conductor.
4. Pressure type connectors exist in a variety of types and makes. The bolted, wedged, and compression types are the most common. In general, pressure connectors operate at lower temperatures than the conductor.

Due to the heat-sink effect caused by the presence of large connectors, the conductor may fuse before the joints fail. Presently, ANSI/IEEE Std 837 - 1984(6) provides detailed information about the application and testing of these connectors. If there is uncertainty or a lack of test data, designing for temperatures within the 250 - 350°C range is a conservative decision. In the previous editions of this guide, a 250°C limit was suggested for bolted connections.

Testing Joints

An exothermic welded connection may be tested by any of the non-destructive techniques applicable to other welding processes, including x - rays, ultrasonics, dyes, etc. None of these techniques can be used in compression or crimped connections, since the joint will show up as a crack, wich is actually what it is.

The exothermic welded connections can also be inspected visually since one can check immediately if welding has taken place. On the other hand one cannot "see" if a compression joint has been made correctly.

Conclusion

Mechanical connections can result in corrosion after a while. Corrosion causes resistance, and resistance causes heat. Exothermic connections avoid these problems

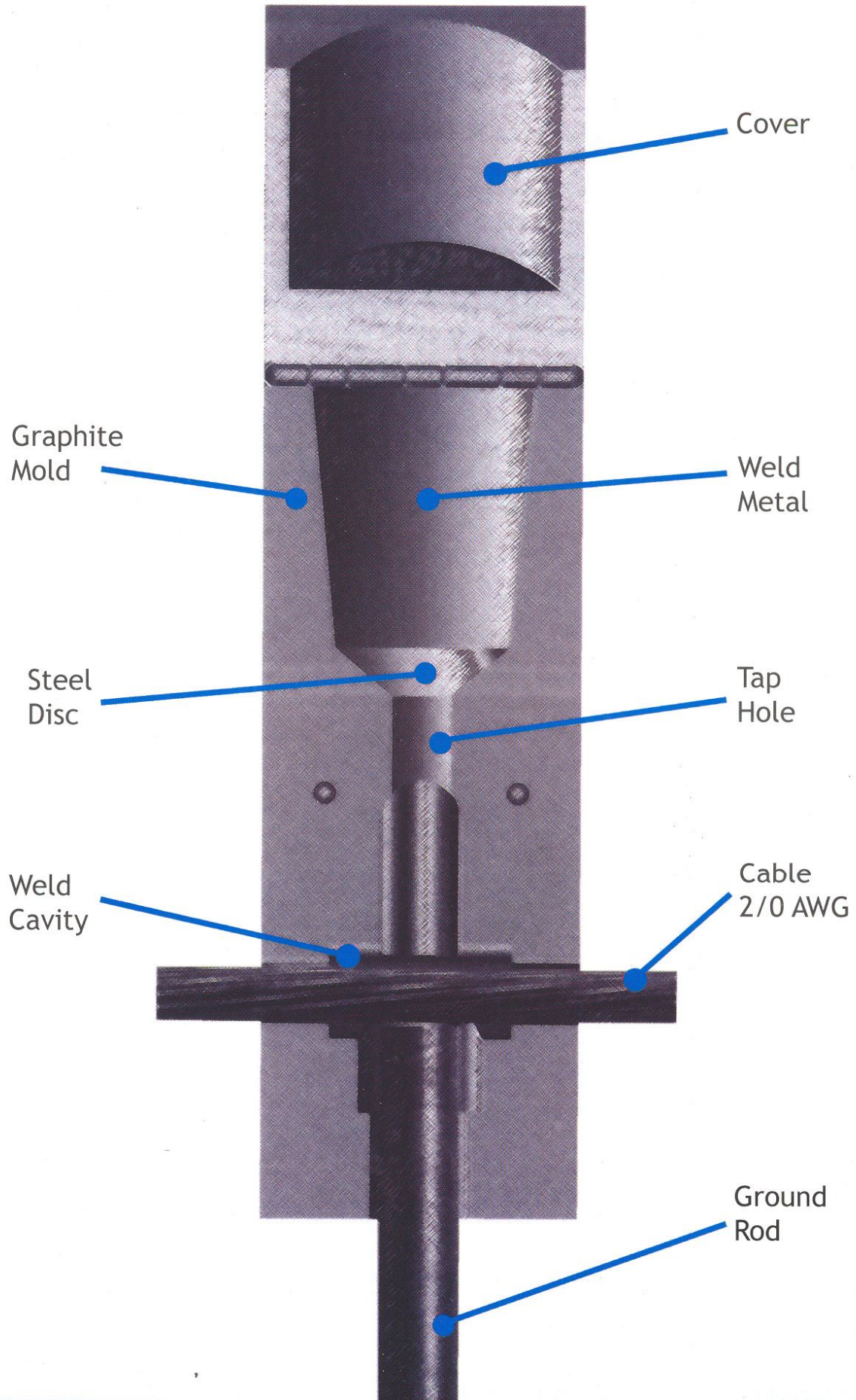
Type of connections

Maximum temperatures

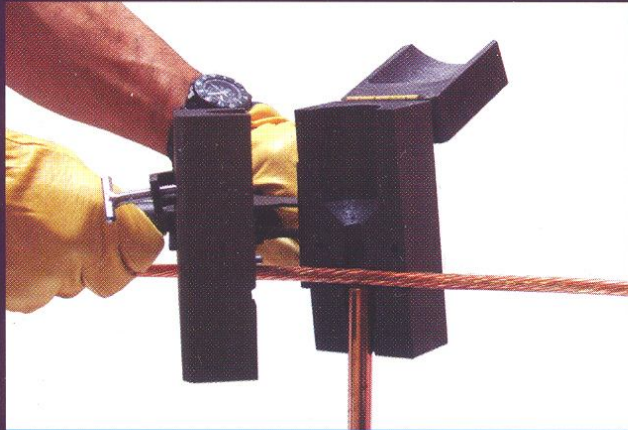
- | | |
|---|--------|
| 1. Mechanical and pressure type connections | 250°C |
| 2. Brazed connections | 450°C |
| 3. Exothermic connections | 1083°C |

NB: Copper melting point 1083°C

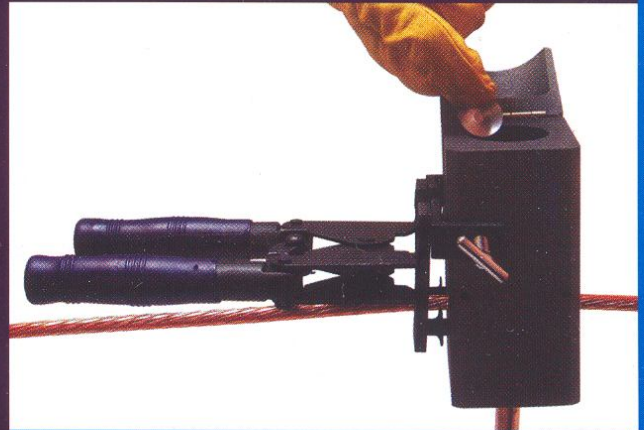
The **GROUNDING**® System



The **GROUNDING**[®] Exothermic Welding Process



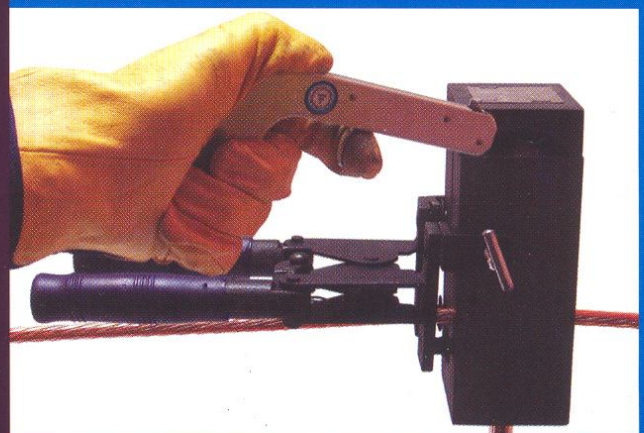
1 Place the dry and clean ground rod and conductor in the mold.



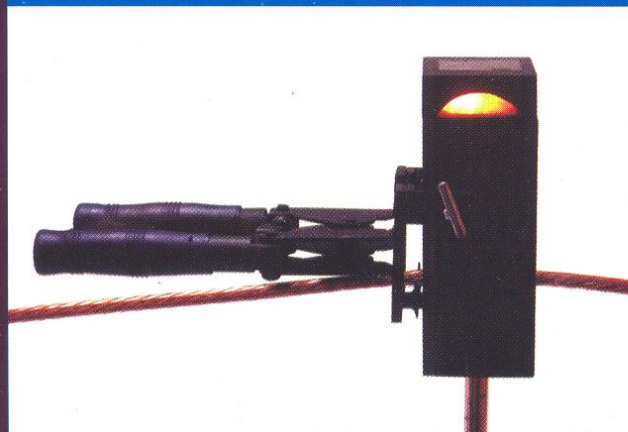
2 Lock mold with interchangeable handle, slide the metal disc into the mold.



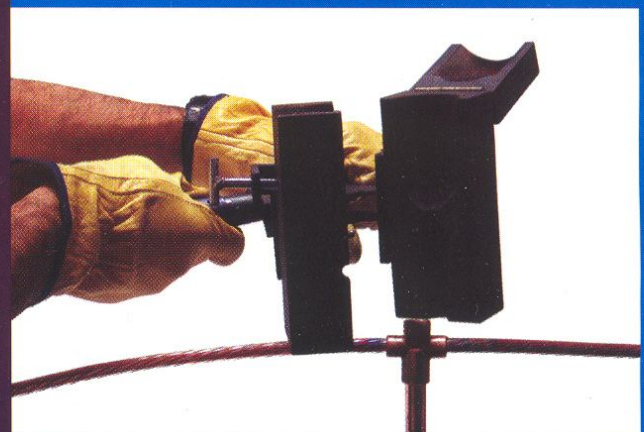
3 Pour weld metal granules into mold spreading some starting powder on edge of mold.



4 Close cover and ignite with flint firing spark on to the starting powder. After ignition, quickly move flint igniter away from mold.



5 Exothermic reaction takes place safely inside the mold.



6 Remove and clean mold for next connection. **Result:** The best available molecular connection.

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OTHER CONNECTIONS

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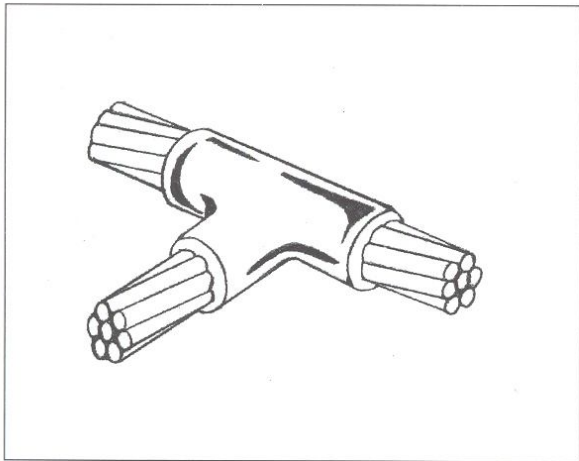
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SECTION 1**CABLE TO CABLE CONNECTIONS**

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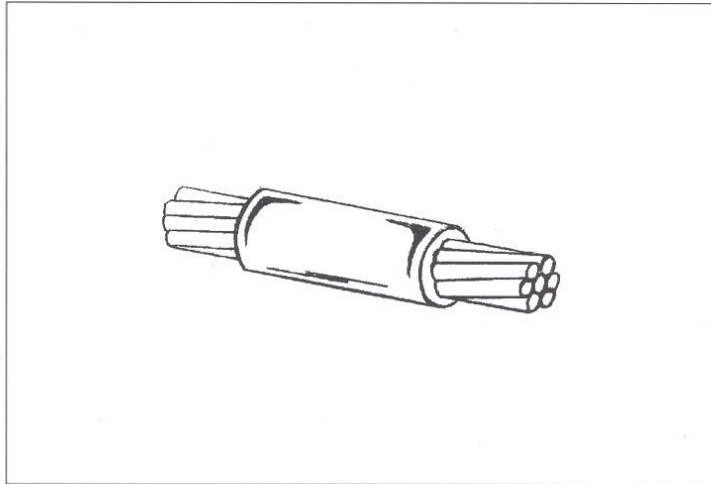
Horizontal T



CABLE SIZE		MOLD PART NUMBER	PRICE KEY	WELD METAL
RUN	TAP			
4	4	TEA-0404	A	32
	3	TEA-0303	A	32
2	2	TEA-0202	A	45
	4	TEA-0204	A	45
1	1	TEA-0101	A	45
	2	TEA-0102	A	45
	4	TEA-0104	A	45
1/0	1/0	TEA-1010	A	90
	1	TEA-1001	A	45
	2	TEA-1002	A	45
	4	TEA-1004	A	45
2/0	2/0	TEA-2020	A	90
	1/0	TEA-2010	A	90
	1	TEA-2001	A	45
	2	TEA-2002	A	45
3/0	4	TEA-2004	A	45
	3/0	TEA-3030	A	115
	2/0	TEA-3020	A	90
	1/0	TEA-3010	A	90
4/0	1	TEA-3001	A	45
	2	TEA-3002	A	45
	4	TEA-3004	A	45
	4/0	TEA-4040	A	150
4/0	3/0	TEA-4030	A	115
	2/0	TEA-4020	A	90
	1/0	TEA-4010	A	90
	1	TEA-4001	A	90
4/0	2	TEA-4002	A	90
	4	TEA-4004	A	90

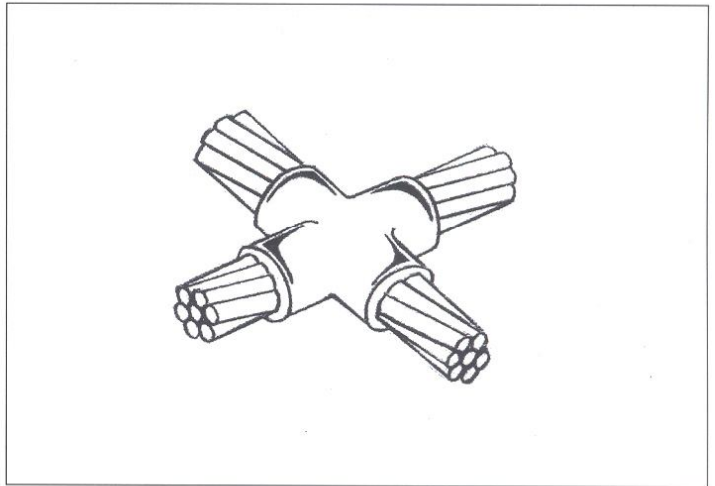
CABLE SIZE		MOLD PART NUMBER	PRICE KEY	WELD METAL
RUN	TAP			
250	250	TEA-250-250	A	150
	4/0	TEA-250-40	A	150
	3/0	TEA-250-30	A	150
	2/0	TEA-250-20	A	90
	1/0	TEA-250-10	A	90
	1	TEA-250-01	A	90
	2	TEA-250-02	A	90
	4	TEA-250-04	A	90
300	300	TEA-300-300	A	200
	250	TEA-300-250	A	150
	4/0	TEA-300-40	A	150
	3/0	TEA-300-30	A	150
	2/0	TEA-300-20	A	90
	1/0	TEA-300-10	A	90
	1	TEA-300-01	A	90
	2	TEA-300-02	A	90
350	4	TEA-300-04	A	90
	350	TEA-350-350	A	200
	300	TEA-350-300	A	200
	250	TEA-350-250	A	200
	4/0	TEA-350-40	A	150
	3/0	TEA-350-30	A	150
	2/0	TEA-350-20	A	90
	1/0	TEA-350-10	A	90
	1	TEA-350-01	A	90
	2	TEA-350-02	A	90
	4	TEA-350-04	A	90
	500	500	TEA-500-500	A
350		TEA-500-350	A	200
300		TEA-500-300	A	200
250		TEA-500-250	A	200
4/0		TEA-500-40	A	150
2/0		TEA-500-20	A	90
1/0		TEA-500-10	A	90
1		TEA-500-01	A	90
750	2	TEA-500-02	A	90
	4	TEA-500-04	A	90
	750	TEA-750-750	B	500
	500	TEA-750-500	B	2-200
	350	TEA-750-350	A	250
	300	TEA-750-300	A	200
	250	TEA-750-250	A	200
	4/0	TEA-750-40	A	150
1000	2/0	TEA-750-20	A	150
	1/0	TEA-750-10	A	150
	1000	TEA-1000-1000	B	500
	750	TEA-1000-750	B	500
	500	TEA-1000-500	B	2-200
	350	TEA-1000-350	A	250
	300	TEA-1000-300	A	200
	250	TEA-1000-250	A	200
1000	4/0	TEA-1000-40	A	150
	2/0	TEA-1000-20	A	150
	1/0	TEA-1000-10	A	150

Horizontal Splice



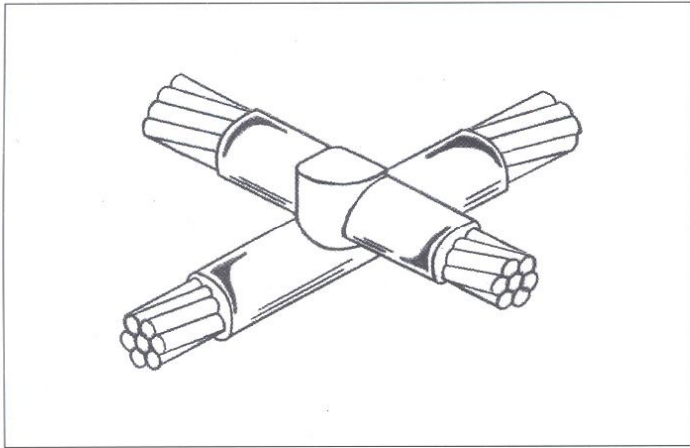
CABLE SIZE	MOLD PART NUMBER	PRICE KEY	WELD METAL
6	SEA-06	A	25
4	SEA-04	A	25
3	SEA-03	A	32
2	SEA-02	A	32
1	SEA-01	A	32
1/0	SEA-10	A	45
2/0	SEA-20	A	65
3/0	SEA-30	A	90
4/0	SEA-40	A	90
250	SEA-250	A	115
300	SEA-300	A	115
350	SEA-350	A	150
500	SEA-500	A	200
750	SEA-750	B	2-150
1000	SEA-1000	B	2-200

Horizontal X



CABLE SIZE		MOLD PART NUMBER	PRICE KEY	WELD METAL		
RUN	TAP					
4	4	XEA-0404	A	45		
	3	3	XEA-0303	A	45	
		2	2	XEA-0202	A	65
			4	XEA-0204	A	65
1	1	XEA-0101	A	65		
	2	XEA-0102	A	65		
	4	XEA-0104	A	65		
1/0	1/0	XEA-1010	A	90		
	1	XEA-1001	A	90		
	2	XEA-1002	A	90		
	4	XEA-1004	A	90		
2/0	2/0	XEA-2020	A	115		
	1/0	XEA-2010	A	115		
	1	XEA-2001	A	115		
	2	XEA-2002	A	115		
3/0	3/0	XEA-3030	A	150		
	2/0	XEA-3020	A	150		
	1/0	XEA-3010	A	115		
	1	XEA-3001	A	115		
4/0	2	XEA-3002	A	115		
	4/0	XEA-4040	A	200		
4/0	3/0	XEA-4030	A	200		
	2/0	XEA-4020	A	150		
	1/0	XEA-4010	A	150		
	1	XEA-4001	A	115		
	2	XEA-4002	A	115		

CABLE SIZE		MOLD PART NUMBER	PRICE KEY	WELD METAL
RUN	TAP			
250	250	XEA-250-250	A	200
	4/0	XEA-250-40	A	200
	3/0	XEA-250-30	A	200
	2/0	XEA-250-20	A	150
	1/0	XEA-250-10	A	150
	1	XEA-250-01	A	115
	2	XEA-250-02	A	115
300	300	XEA-300-300	A	250
	250	XEA-300-250	A	250
	4/0	XEA-300-40	A	200
	3/0	XEA-300-30	A	200
	2/0	XEA-300-20	A	150
	1/0	XEA-300-10	A	150
	1	XEA-300-01	A	115
2	XEA-300-02	A	115	
350	350	XEA-350-350	A	250
	300	XEA-350-300	A	250
	250	XEA-350-250	A	250
	4/0	XEA-350-40	A	200
	3/0	XEA-350-30	A	200
	2/0	XEA-350-20	A	200
	1/0	XEA-350-10	A	200
1	XEA-350-01	A	150	
2	XEA-350-02	A	150	
500	500	XEA-500-500	B	500
	350	XEA-500-350	B	2-200
	300	XEA-500-300	B	2-200
	250	XEA-500-250	B	2-150
	4/0	XEA-500-40	B	2-150
	3/0	XEA-500-30	B	2-150
	2/0	XEA-500-20	A	250
1/0	XEA-500-10	A	250	
1	XEA-500-01	A	200	
2	XEA-500-02	A	200	



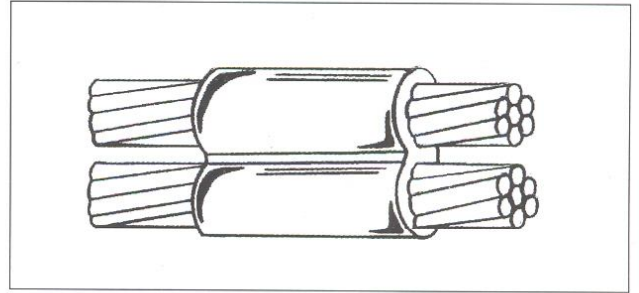
Horizontal X (Not Cut)

CABLE SIZE		MOLD PART NUMBER	PRICE KEY	WELD METAL	
RUN	TAP				
4	4	XNC-0404	A	65	
	3	3	XNC-0303	A	65
		2	XNC-0202	A	90
		4	XNC-0204	A	65
2	1	XNC-0101	A	115	
	2	XNC-0102	A	90	
	4	XNC-0104	A	90	
1	1/0	XNC-1010	C	150	
	1	XNC-1001	C	150	
	2	XNC-1002	C	115	
	4	XNC-1004	C	115	
1/0	2/0	XNC-2020	C	200	
	1/0	XNC-2010	C	200	
	1	XNC-2001	C	150	
	2	XNC-2002	C	150	
2/0	3/0	XNC-3030	C	250	
	2/0	XNC-3020	C	200	
	1/0	XNC-3010	C	200	
	1	XNC-3001	C	150	
3/0	2	XNC-3002	C	150	
	4/0	XNC-4040	C	250	
4/0	3/0	XNC-4030	C	250	
	2/0	XNC-4020	C	200	
	1/0	XNC-4010	C	200	
	1	XNC-4001	C	150	
	2	XNC-4002	C	150	

CABLE SIZE		MOLD PART NUMBER	PRICE KEY	WELD METAL
RUN	TAP			
250	250	XNC-250-250	C	2-150
	4/0	XNC-250-40	C	2-150
	3/0	XNC-250-30	C	2-150
	2/0	XNC-250-20	C	250
	1/0	XNC-250-10	C	250
	1	XNC-250-01	C	200
	2	XNC-250-02	C	150
300	300	XNC-300-300	C	2-200
	250	XNC-300-250	C	2-200
	4/0	XNC-300-40	C	2-150
	3/0	XNC-300-30	C	2-150
	2/0	XNC-300-20	C	250
	1/0	XNC-300-10	C	250
	1	XNC-300-01	C	200
2	XNC-300-02	C	150	
350	350	XNC-350-350	C	500
	300	XNC-350-300	C	500
	250	XNC-350-250	C	500
	4/0	XNC-350-40	C	2-200
	3/0	XNC-350-30	C	2-200
	2/0	XNC-350-20	C	2-150
	1/0	XNC-350-10	C	250
1	XNC-350-01	C	200	
2	XNC-350-02	C	200	
500	500	XNC-500-500	C	3-250
	350	XNC-500-350	C	3-200
	300	XNC-500-300	C	3-200
	250	XNC-500-250	C	500
	4/0	XNC-500-40	C	500
	3/0	XNC-500-30	C	500
	2/0	XNC-500-20	C	2-200
1/0	XNC-500-10	C	2-150	
1	XNC-500-01	C	250	
2	XNC-500-02	C	250	

XNC

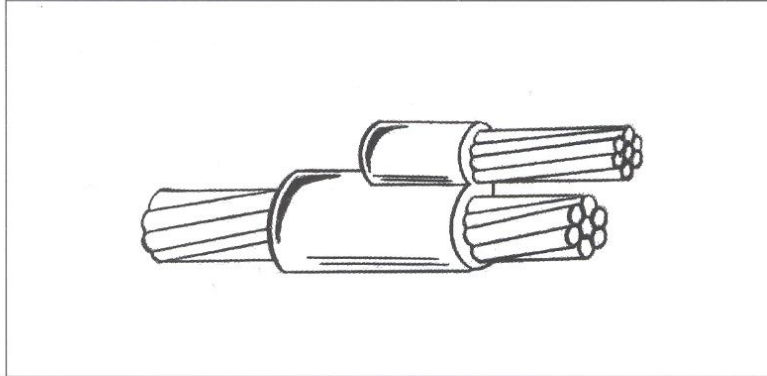
Parallel Horizontal



CABLE SIZE		MOLD PART NUMBER	PRICE KEY	WELD METAL
RUN	TAP			
4	4	PHA-0404	A	32
3	3	PHA-0303	A	45
2	2	PHA-0202	A	65
	4	PHA-0204	A	65
1	1	PHA-0101	A	65
	2	PHA-0102	A	65
	4	PHA-0104	A	65
1/0	1/0	PHA-1010	A	90
	1	PHA-1001	A	65
	2	PHA-1002	A	65
	4	PHA-1004	A	65
2/0	2/0	PHA-2020	A	115
	1/0	PHA-2010	A	115
	1	PHA-2001	A	90
	2	PHA-2002	A	90
	4	PHA-2004	A	90
3/0	3/0	PHA-3030	A	150
	2/0	PHA-3020	A	150
	1/0	PHA-3010	A	115
	1	PHA-3001	A	115
	2	PHA-3002	A	115
4/0	4	PHA-3004	A	115
	4/0	PHA-4040	A	200
	3/0	PHA-4030	A	200
	2/0	PHA-4020	A	150
	1/0	PHA-4010	A	150
250	1	PHA-4001	A	150
	2	PHA-4002	A	150
	4	PHA-4004	A	150
	250	PHA-250-250	A	250
	4/0	PHA-250-40	A	200
300	3/0	PHA-250-30	A	200
	2/0	PHA-250-20	A	150
	1/0	PHA-250-10	A	150
	1	PHA-250-01	A	150
	2	PHA-250-02	A	150
300	4	PHA-250-04	A	150
	300	PHA-300-300	B	2-150
	250	PHA-300-250	A	250
	4/0	PHA-300-40	A	200
	3/0	PHA-300-30	A	200
300	2/0	PHA-300-20	A	150
	1/0	PHA-300-10	A	150
	1	PHA-300-01	A	150
	2	PHA-300-02	A	150

CABLE SIZE		MOLD PART NUMBER	PRICE KEY	WELD METAL
RUN	TAP			
350	350	PHA-350-350	B	2-150
	300	PHA-350-300	B	2-150
	250	PHA-350-250	A	250
	4/0	PHA-350-40	A	200
	3/0	PHA-350-30	A	200
	2/0	PHA-350-20	A	150
	1/0	PHA-350-10	A	150
	1	PHA-350-01	A	150
	2	PHA-350-02	A	150
500	500	PHA-500-500	B	2-200
	350	PHA-500-350	B	2-150
	300	PHA-500-300	B	2-150
	250	PHA-500-250	A	250
	4/0	PHA-500-40	A	200
	2/0	PHA-500-20	A	200
	1/0	PHA-500-10	A	150
	1	PHA-500-01	A	150
	2	PHA-500-02	A	150
750	750	PHA-750-750	B	3-250
	500	PHA-750-500	B	500
	350	PHA-750-350	B	2-200
	300	PHA-750-300	B	2-150
	250	PHA-750-250	B	2-150
	4/0	PHA-750-40	A	250
	2/0	PHA-750-20	A	250
	1/0	PHA-750-10	A	250
	1000	1000	PHA-1000-1000	B
750		PHA-1000-750	B	3-250
500		PHA-1000-500	B	500
350		PHA-1000-350	B	2-150
300		PHA-1000-300	B	2-150
250		PHA-1000-250	B	2-150
4/0		PHA-1000-40	A	250
2/0		PHA-1000-20	A	250
1/0		PHA-1000-10	A	250

Parallel Tap Connections

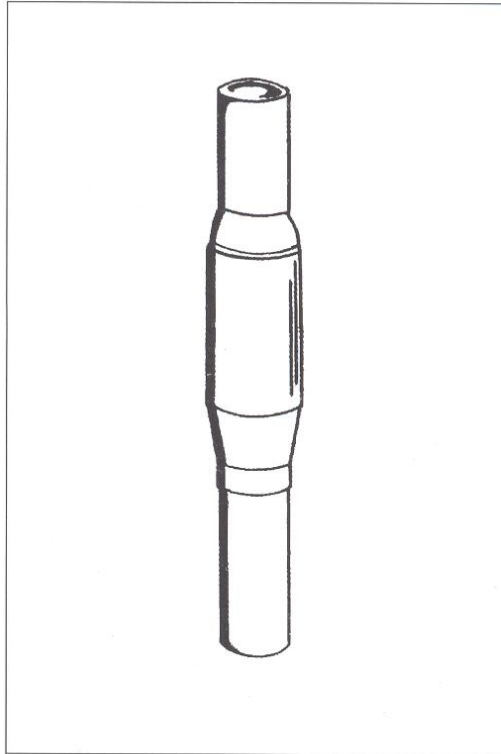


CABLE SIZE		MOLD PART NUMBER	PRICE KEY	WELD METAL
6	6	PTA-0606	A	25
	4	PTA-0404	A	32
4	6	PTA-0406	A	32
	2	PTA-0202	A	65
	4	PTA-0204	A	45
2	6	PTA-0206	A	32
	2	PTA-0102	A	65
	4	PTA-0104	A	45
1	6	PTA-0106	A	45
	2	PTA-1002	A	65
	4	PTA-1004	A	65
1/0	6	PTA-1006	A	45
	2	PTA-2002	A	90
	4	PTA-2004	A	65
2/0	6	PTA-2006	A	65
	1	PTA-4001	A	115
	2	PTA-4002	A	115
4/0	4	PTA-4004	A	90
	6	PTA-4006	A	90

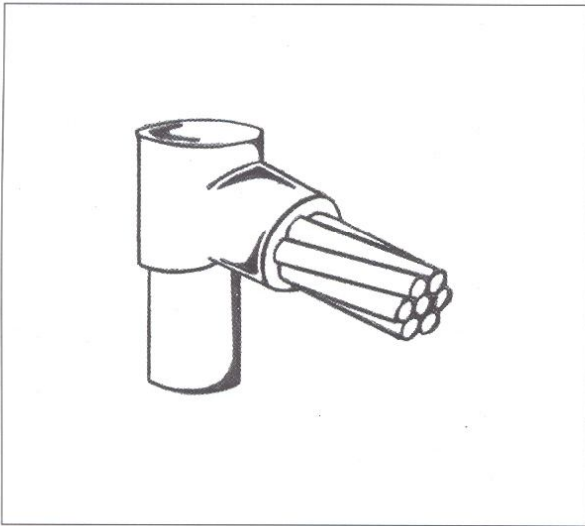
SECTION 2**CABLE TO GROUND ROD CONNECTIONS**

	REF.	PAG.
GROUND ROD SPLICE —————	GTG	22
SINGLE CABLE TO TOP OF GROUND ROD —————	G-ROD	23
THROUGH CABLE TO SIDE OF GROUND ROD —————	T-ROD	24
THROUGH CABLE TO SIDE OF GROUND ROD —————	Y-ROD	25
THROUGH CABLE PLUS TAP CABLE —————	3-ROD	26
TWO THROUGH CABLES TO TOP OF GROUND ROD ———	4-ROD	27

Ground Rod Splice



CABLE SIZE	ROD SIZE	MOLD PART NUMBER	PRICE KEY	WELD METAL
1/2"	Steel or Sectional Copper 9/6" rolled Thread	G-TG-12	A	150
	Plain Copper Clad Unthreaded	G-TG-12	A	150
	Copper Clad sectional 1/2" rolled thread	G-TG-12	A	150
5/8"	Copper Clad 0,563" diameter	G-TG-58	A	200
	Full size 0,625" diameter	G-TG-58	A	200
3/4"	Copper Clad 0,682" diameter	G-TG-34	A	2-150
	Copper Clad 0,750" diameter	G-TG-34	A	2-150
1"	Copper Clad 0,914" diameter	G-TG-01	B	500
	Full size 1,00" diameter	G-RS-01	B	500



Cable to Ground Rod

Single Cable Top of Ground Rod

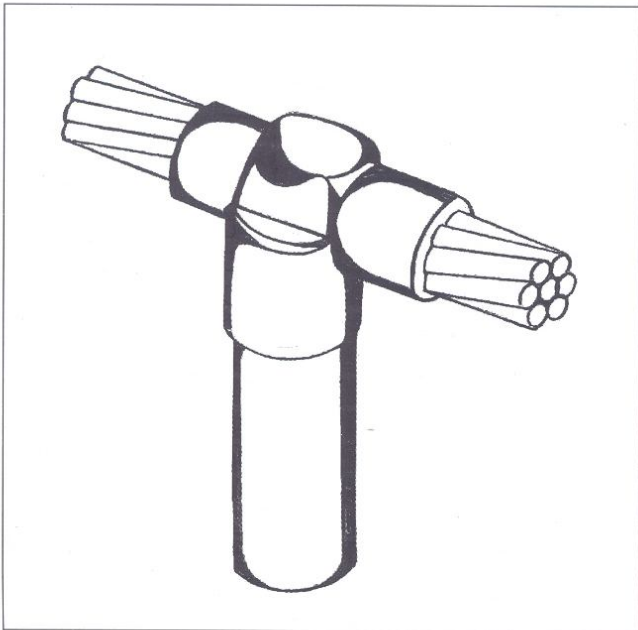
ROD SIZE	CABLE SIZE	MOLD PART NUMBER	PRICE KEY	WELD METAL
1/2	4	G-ROD-1204	A	65
	2	G-ROD-1202	A	65
	1	G-ROD-1201	A	65
	1/0	G-ROD-1210	A	90
	2/0	G-ROD-1220	A	90
	3/0	G-ROD-1230	A	90
	4/0	G-ROD-1240	A	90
	250	G-ROD-12-250	A	90
	300	G-ROD-12-300	A	90
	5/8	4	G-ROD-5804	A
2		G-ROD-5802	A	65
1		G-ROD-5801	A	65
1/0		G-ROD-5810	A	90
2/0		G-ROD-5820	A	90
3/0		G-ROD-5830	A	90
4/0		G-ROD-5840	A	90
250		G-ROD-58-250	A	90
300		G-ROD-58-300	A	115
350		G-ROD-58-350	A	115
500	G-ROD-58-500	A	150	

ROD SIZE	CABLE SIZE	MOLD PART NUMBER	PRICE KEY	WELD METAL
3/4	4	G-ROD-3404	A	90
	2	G-ROD-3402	A	90
	1	G-ROD-3401	A	90
	1/0	G-ROD-3410	A	90
	2/0	G-ROD-3420	A	90
	3/0	G-ROD-3430	A	90
	4/0	G-ROD-3440	A	90
	250	G-ROD-34-250	A	90
	300	G-ROD-34-300	A	115
	350	G-ROD-34-350	A	115
	500	G-ROD-34-500	A	150
	750	G-ROD-34-750	A	250
	1	4	G-ROD-0104	A
2		G-ROD-0102	A	150
1		G-ROD-0101	A	150
1/0		G-ROD-0110	A	150
2/0		G-ROD-0120	A	150
3/0		G-ROD-0130	A	150
4/0		G-ROD-0140	A	150
250		G-ROD-01-250	A	150
300		G-ROD-01-300	A	200
350		G-ROD-01-350	A	200
500		G-ROD-01-500	A	200
750		G-ROD-01-750	A	250
1000		G-ROD-01-1000	A	2-150

G-ROD

Cable To Ground Rod

Through Cable to Ground Rod

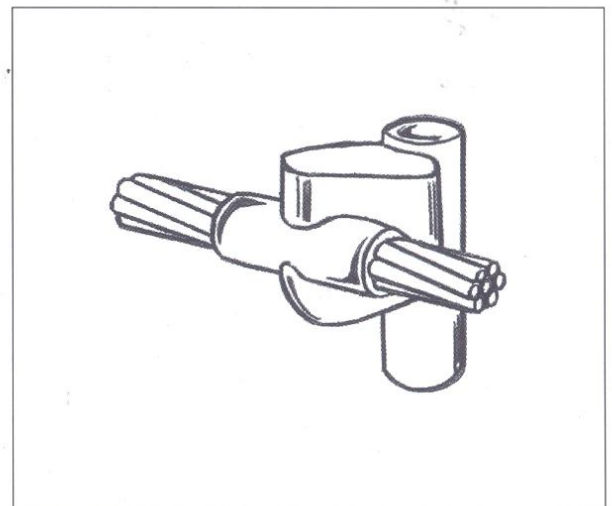


ROD SIZE	CABLE SIZE	MOLD PART NUMBER	PRICE KEY	WELD METAL
1/2	4	T-ROD-1204	A	90
	2	T-ROD-1202	A	90
	1	T-ROD-1201	A	90
	1/0	T-ROD-1210	A	90
	2/0	T-ROD-1220	A	90
	3/0	T-ROD-1230	A	115
	4/0	T-ROD-1240	A	115
	250	T-ROD-12-250	A	150
	300	T-ROD-12-300	A	200
5/8	4	T-ROD-5804	A	90
	2	T-ROD-5802	A	90
	1	T-ROD-5801	A	90
	1/0	T-ROD-5810	A	90
	2/0	T-ROD-5820	A	115
	3/0	T-ROD-5830	A	115
	4/0	T-ROD-5840	A	115
	250	T-ROD-58-250	A	150
	300	T-ROD-58-300	A	200
	350	T-ROD-58-350	A	200
	500	T-ROD-58-500	A	250
3/4	4	T-ROD-3404	A	90
	2	T-ROD-3402	A	90
	1	T-ROD-3401	A	90
	1/0	T-ROD-3410	A	115
	2/0	T-ROD-3420	A	115
	3/0	T-ROD-3430	A	115
	4/0	T-ROD-3440	A	115
	250	T-ROD-34-250	A	150
	300	T-ROD-34-300	A	200
	350	T-ROD-34-350	A	200
	500	T-ROD-34-500	A	250
	750	T-ROD-34-750	B	2-200
	1	4	T-ROD-0104	A
2		T-ROD-0102	A	150
1		T-ROD-0101	A	150
1/0		T-ROD-0110	A	150
2/0		T-ROD-0120	A	150
3/0		T-ROD-0130	A	150
4/0		T-ROD-0140	A	150
250		T-ROD-01-250	A	200
300		T-ROD-01-300	A	200
350		T-ROD-01-350	A	200
500		T-ROD-01-500	A	250
750		T-ROD-01-750	B	2-200
1000		T-ROD-01-1000	B	500

Cable to Ground Rod

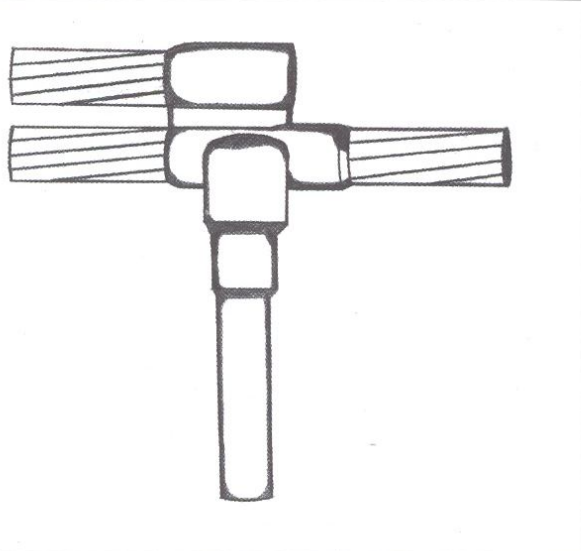
Through Cable to Side of Ground Rod

ROD SIZE	CABLE SIZE	MOLD PART NUMBER	PRICE KEY	WELD METAL
1/2	4	Y-ROD-1204		90
	2	Y-ROD-1202	B	90
	1	Y-ROD-1201	B	115
	1/0	Y-ROD-1210	B	115
	2/0	Y-ROD-1220	B	115
	3/0	Y-ROD-1230	B	150
	4/0	Y-ROD-1240	B	150
	250	Y-ROD-12-250	B	150
	300	Y-ROD-12-300	B	200
5/8	4	Y-ROD-5804	B	90
	2	Y-ROD-5802	B	90
	1	Y-ROD-5801	B	115
	1/0	Y-ROD-5810	B	115
	2/0	Y-ROD-5820	B	115
	3/0	Y-ROD-5830	B	150
	4/0	Y-ROD-5840	B	150
	250	Y-ROD-58-250	B	150
	300	Y-ROD-58-300	B	200
	350	Y-ROD-58-350	B	250
	500	Y-ROD-58-500	B	2-200
3/4	4	Y-ROD-3404	B	90
	2	Y-ROD-3402	B	90
	1	Y-ROD-3401	B	115
	1/0	Y-ROD-3410	B	115
	2/0	Y-ROD-3420	B	115
	3/0	Y-ROD-3430	B	150
	4/0	Y-ROD-3440	B	150
	250	Y-ROD-34-250	B	200
	300	Y-ROD-34-300	B	250
	350	Y-ROD-34-350	B	2-150
	500	Y-ROD-34-500	B	500
	750	Y-ROD-34-750	B	3-250
	1	4	Y-ROD-0104	B
2		Y-ROD-0102	B	90
1		Y-ROD-0101	B	115
1/0		Y-ROD-0110	B	115
2/0		Y-ROD-0120	B	115
3/0		Y-ROD-0130	B	150
4/0		Y-ROD-0140	B	150
250		Y-ROD-01-250	B	200
300		Y-ROD-01-300	B	250
350		Y-ROD-01-350	B	2-150
500		Y-ROD-01-500	B	500
750		Y-ROD-01-750	B	3-250
1000		Y-ROD-01-1000	B	3-250



Cable to Ground Rod
Through Cable Plus Tap Cable

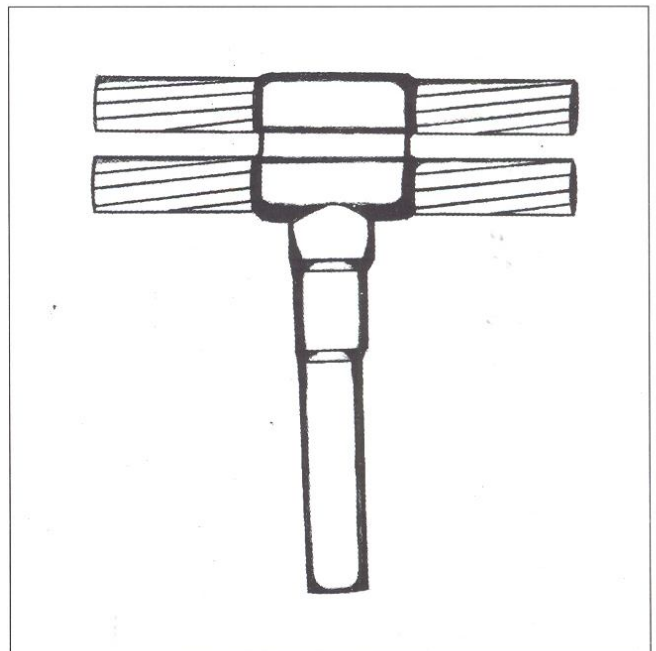
ROD SIZE	CABLE SIZE	MOLD PART NUMBER	PRICE KEY	WELD METAL
1/2	4	3-ROD-1204	B	90
	2	3-ROD-1202	B	90
	1	3-ROD-1201	B	90
	1/0	3-ROD-1210	B	115
	2/0	3-ROD-1220	B	150
	3/0	3-ROD-1230	B	200
	4/0	3-ROD-1240	B	200
5/8	4	3-ROD-5804	B	90
	2	3-ROD-5802	B	115
	1	3-ROD-5801	B	115
	1/0	3-ROD-5810	B	150
	2/0	3-ROD-5820	B	200
	3/0	3-ROD-5830	B	250
	4/0	3-ROD-5840	B	250
	250	3-ROD-58-250	B	2-150
3/4	4	3-ROD-3404	B	90
	2	3-ROD-3402	B	115
	1	3-ROD-3401	B	115
	1/0	3-ROD-3410	B	150
	2/0	3-ROD-3420	B	200
	3/0	3-ROD-3430	B	250
	4/0	3-ROD-3440	B	250
	250	3-ROD-34-250	B	2-150
	300	3-ROD-34-300	B	2-200
	350	3-ROD-34-350	B	2-200
1	4	3-ROD-0104	B	115
	2	3-ROD-0102	B	150
	1	3-ROD-0101	B	150
	1/0	3-ROD-0110	B	200
	2/0	3-ROD-0120	B	250
	3/0	3-ROD-0130	B	2-150
	4/0	3-ROD-0140	B	2-150
	250	3-ROD-01-250	B	2-200
	300	3-ROD-01-300	B	500
	350	3-ROD-01-350	B	500
	500	3-ROD-01-500	B	3-250
750	3-ROD-01-750	B	2-500	



Cable to Ground Rod

Two Through Cables to Top of Ground Rod

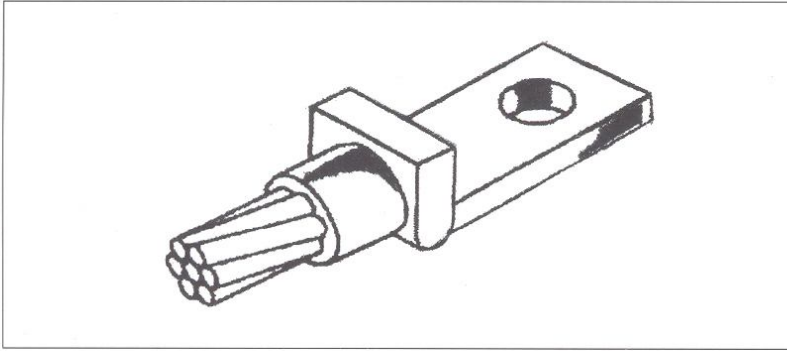
ROD SIZE	CABLE SIZE	MOLD PART NUMBER	PRICE KEY	WELD METAL
1/2	4	4-ROD-1204	B	115
	2	4-ROD-1202	B	115
	1	4-ROD-1201	B	115
	1/0	4-ROD-1210	B	150
	2/0	4-ROD-1220	B	200
	3/0	4-ROD-1230	B	250
	4/0	4-ROD-1240	B	250
5/8	4	4-ROD-5804	B	115
	2	4-ROD-5802	B	150
	1	4-ROD-5801	B	150
	1/0	4-ROD-5810	B	200
	2/0	4-ROD-5820	B	250
	3/0	4-ROD-5830	B	2-150
	4/0	4-ROD-5840	B	2-150
	250	4-ROD-58-250	B	2-200
	300	4-ROD-58-300	B	500
	350	4-ROD-58-350	B	500
500	4-ROD-58-500	B	3-250	
3/4	4	4-ROD-3404	B	115
	2	4-ROD-3402	B	150
	1	4-ROD-3401	B	150
	1/0	4-ROD-3410	B	200
	2/0	4-ROD-3420	B	250
	3/0	4-ROD-3430	B	2-150
	4/0	4-ROD-3440	B	2-150
	250	4-ROD-34-250	B	2-200
	300	4-ROD-34-300	B	500
	350	4-ROD-34-350	B	500
	500	4-ROD-34-500	B	3-250
	750	4-ROD-34-750	B	2-500
1	4	4-ROD-0104	B	150
	2	4-ROD-0102	B	200
	1	4-ROD-0101	B	200
	1/0	4-ROD-0110	B	250
	2/0	4-ROD-0120	B	2-150
	3/0	4-ROD-0130	B	2-200
	4/0	4-ROD-0140	B	2-200
	250	4-ROD-01-250	B	500
	300	4-ROD-01-300	B	3-200
	350	4-ROD-01-350	B	3-200
	500	4-ROD-01-500	B	2-500
	750	4-ROD-01-750	B	5-250



SECTION 3

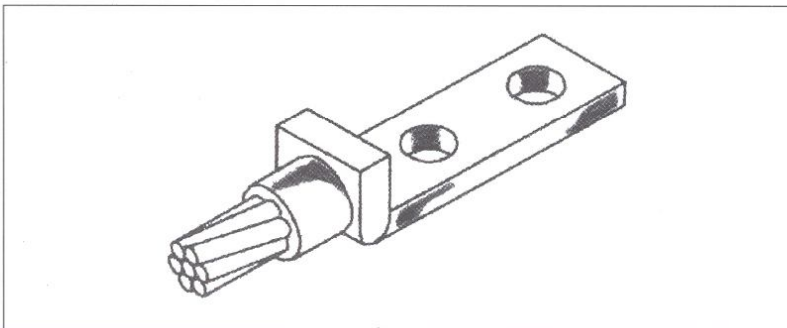
CABLE TO LUGS CONNECTIONS

	REF.	PAG.
COPPER LUGS _____	LUG	31
COPPER LUGS 2 _____	LUG	31



Copper Lugs










CABLE SIZE	MOLD PART NUMBER	PRICE KEY	WELD METAL	LUG SIZE
4	LUG-1804	A	32	1/8 X 1
2	LUG-1802	A	32	1/8 X 1
1	LUG-1801	A	32	1/8 X 1
1/0	LUG-1810	A	45	1/8 X 1
2/0	LUG-1820	A	45	1/8 X 1
3/0	LUG-1830	A	65	1/8 X 1
4/0	LUG-1840	A	65	3/16 X 1
250	LUG-18-250	A	65	1/4 X 1
300	LUG-18-300	A	90	1/4 X 1
350	LUG-18-350	A	90	1/4 X 1
500	LUG-18-500	A	150	1/4X1 1/2



Copper Lugs 2

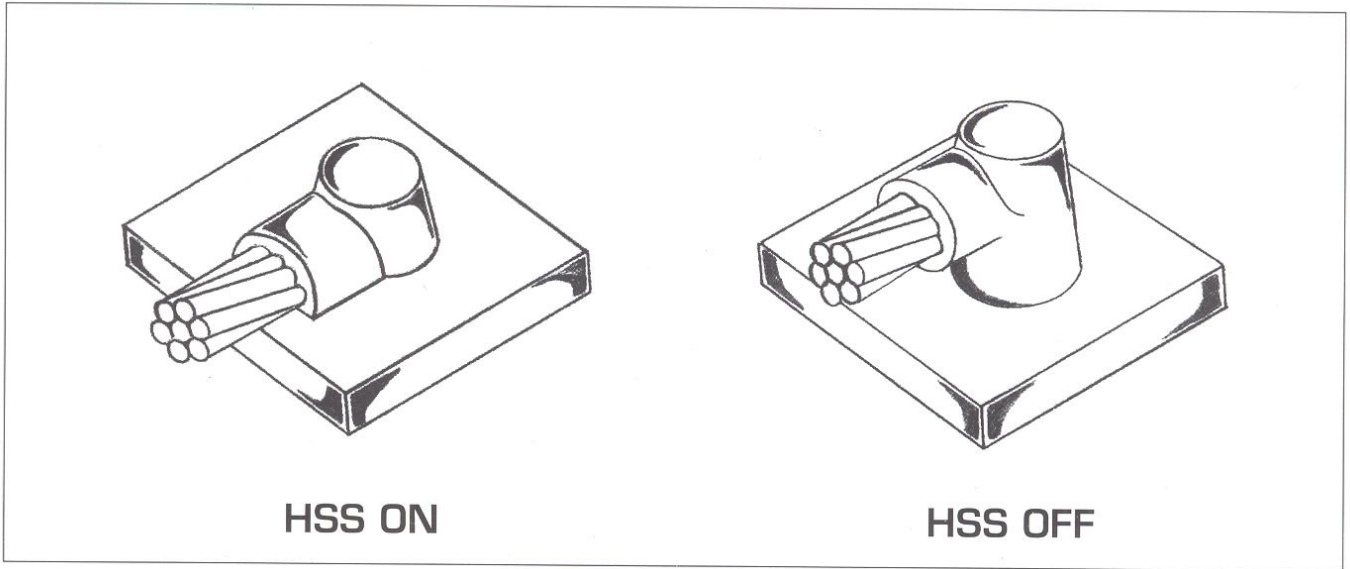
CABLE SIZE	MOLD PART NUMBER	PRICE KEY	WELD METAL	LUG SIZE
4	LUG-2-1804	A	32	1/8 X 1
2	LUG-2-1802	A	32	1/8 X 1
1	LUG-2-1801	A	32	1/8 X 1
1/0	LUG-2-1810	A	45	1/8 X 1
2/0	LUG-2-1820	A	45	1/8 X 1
3/0	LUG-2-1830	A	65	1/8 X 1
4/0	LUG-2-1840	A	65	3/16 X 1
250	LUG-2-18-250	A	65	1/4 X 1
300	LUG-2-18-300	A	90	1/4 X 1
350	LUG-2-18-350	A	90	1/4 X 1

LUGS

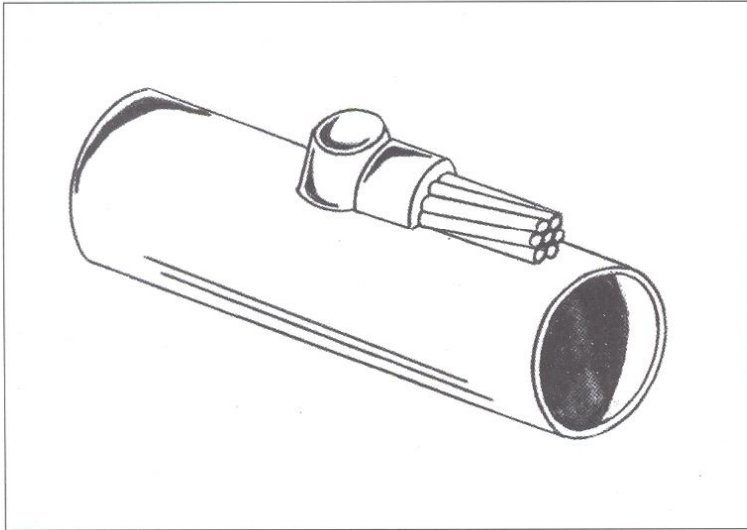
	REF.	PAG.
HORIZONTAL STEEL SURFACE COPPER CONDUCTOR TO FLAT STEEL SURFACE 	HSS	34
HORIZONTAL COPPER CONDUCTOR TO HORIZONTAL STEEL PIPE 	H-PIPE	35
CABLE DOWN AT 45° TO VERTICAL PIPES 	VPA	36
HORIZONTAL STEEL SURFACE CABLE ON & OFF SURFACE 	HTS	37
VERTICAL STEEL SURFACE CABLE DOWN AT 45° 	VSS	38
CABLE UP TO VERTICAL STEEL SURFACE 	VUA	39
CABLE DOWN TO VERTICAL STEEL SURFACE 	VDA	40
HORIZONTAL THROUGH CABLE TO FLAT STEEL SURFACE 	VHA	41
VERTICAL THROUGH CONNECTION TO VERTICAL STEEL SURFACE 	VUD	42

Horizontal Steel Surface

Copper Conductor to Flat Steel Surface



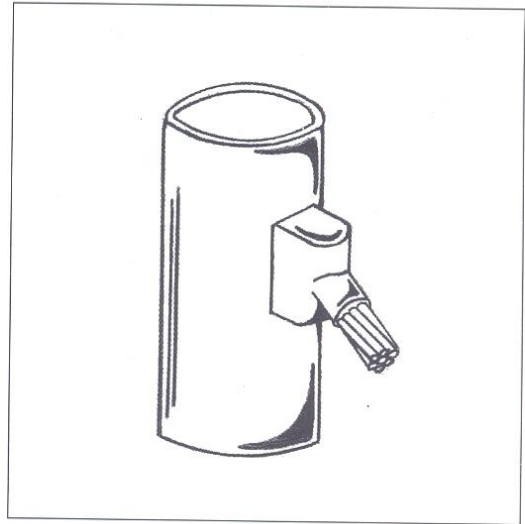
CABLE SIZE	MOLD PART NUMBER	PRICE KEY	WELD METAL
4	HSS -ON 04	A	45
2	HSS -ON 02	A	45
1	HSS -ON 01	A	65
1/0	HSS -OFF 10	A	90
2/0	HSS -OFF 20	A	90
3/0	HSS -OFF 30	A	115
4/0	HSS -OFF 40	A	115
250	HSS -OFF 250	A	115
300	HSS -OFF 300	A	150
350	HSS -OFF 350	A	200
500	HSS -OFF 500	A	200
750	HSS -OFF 750	B	2-150
1000	HSS -OFF1000	B	2-200



Horizontal Copper Conductor to Horizontal Steel Pipe

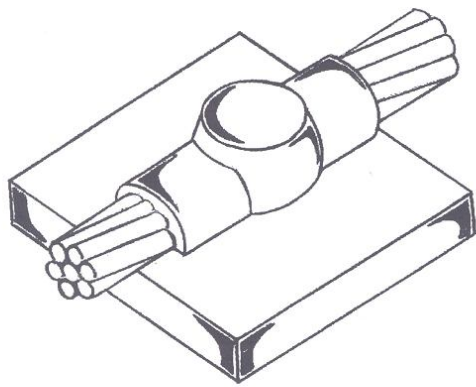
CABLE SIZE	NOMINAL PIPE SIZE	MOLD PART NUMBER	PRICE KEY	WELD METAL
4	1 1/4" TO 2"	H-PIPE- 2 - 04	A	45
	3/4" TO 4"	H-PIPE- 4 - 04	A	45
	6" TO 8	H-PIPE- 8 - 04	A	45
	10" TO 12"	H-PIPE- 12 - 04	A	45
	14" Pipe or Larger			
2	1 1/4" TO 2"	H-PIPE- 2 - 02	A	45
	3" TO 4"	H-PIPE- 4 - 02	A	45
	6" TO 8	H-PIPE- 8 - 02	A	45
	10" TO 12"	H-PIPE- 12 - 02	A	45
	14" Pipe or Larger			
1	2 1/2" TO 4"	H-PIPE- 4 - 01	A	65
	6" TO 8	H-PIPE- 8 - 01	A	65
	10" TO 12"	H-PIPE- 12 - 01	A	65
	14" Pipe or Larger			
1/0	3/4" TO 4"	H-PIPE- 4 - 10	B	90
	6" TO 10"	H-PIPE- 10 - 10	B	90
	12" TO 28"	H-PIPE- 28 - 10	B	90
	30" Pipe or Larger			
2/0	3/4" TO 4"	H-PIPE- 4 - 20	B	90
	6" TO 10"	H-PIPE- 10 - 20	B	90
	12" TO 28"	H-PIPE- 28 - 20	B	90
	30" Pipe or Larger			
3/0	3/4" TO 4"	H-PIPE- 4 - 30	B	115
	6" TO 10"	H-PIPE- 10 - 30	B	115
	12" TO 28"	H-PIPE- 28 - 30	B	115
	30" Pipe or Larger			
4/0	3/4" TO 4"	H-PIPE- 4 - 40	B	115
	6" TO 10"	H-PIPE- 10 - 40	B	115
	12" TO 28"	H-PIPE- 28 - 40	B	115
	30" Pipe or Larger			

Cable Down at 45° to Vertical Pipes

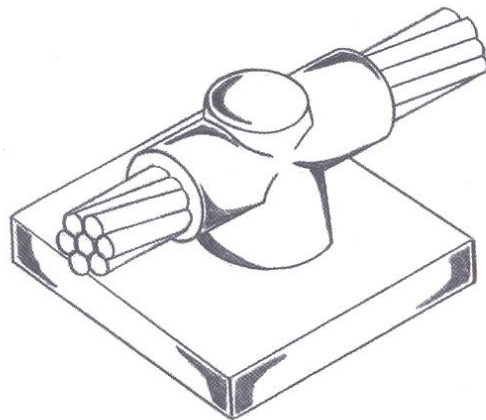


CABLE SIZE	NOMINAL PIPE SIZE	MOLD PART NUMBER	PRICE KEY	WELD METAL
4	1 1/2" TO 4"	VPA- 4 - 04	A	45
	4" TO 6"	VPA- 6 - 04	A	45
	6" TO 10	VPA- 10 - 04	A	45
	12" TO 30"	VPA- 30 - 04	A	45
	32" Pipe or Larger	VPA- 32 - 04	A	45
2	1 1/2" TO 4"	VPA- 4 - 02	A	45
	4" TO 6"	VPA- 6 - 02	A	45
	6" TO 10	VPA- 10 - 02	A	45
	12" TO 30"	VPA- 30 - 02	A	45
	32" Pipe or Larger	VPA- 32 - 02	A	45
1	1 1/2" TO 4"	VPA- 4 - 01	A	65
	4" TO 6"	VPA- 6 - 01	A	65
	6" TO 10	VPA- 10 - 01	A	65
	12" TO 30"	VPA- 30 - 01	A	65
	32" Pipe or Larger	VPA- 32 - 01	A	65
1/0	1 1/2" TO 4"	VPA- 4 - 10	A	90
	4" TO 6"	VPA- 6 - 10	A	90
	6" TO 10	VPA- 10 - 10	A	90
	12" TO 30"	VPA- 30 - 10	A	90
	32" Pipe or Larger	VPA- 32 - 10	A	90
2/0	1 1/2" TO 4"	VPA- 4 - 20	A	90
	4" TO 6"	VPA- 6 - 20	A	90
	6" TO 10	VPA- 10 - 20	A	90
	12" TO 30"	VPA- 30 - 20	A	90
	32" Pipe or Larger	VPA- 32 - 20	A	90
3/0	1 1/2" TO 4"	VPA- 4 - 30	A	115
	4" TO 6"	VPA- 6 - 30	A	115
	6" TO 10	VPA- 10 - 30	A	115
	12" TO 30"	VPA- 30 - 30	A	115
	32" Pipe or Larger	VPA- 32 - 30	A	115
4/0	1 1/2" TO 4"	VPA- 4 - 40	A	115
	4" TO 6"	VPA- 6 - 40	A	115
	6" TO 10	VPA- 10 - 40	A	115
	12" TO 30"	VPA- 30 - 40	A	115
	32" Pipe or Larger	VPA- 32 - 40	A	115

Horizontal Steel Surface
Cable On and Off Surface



HTS ON



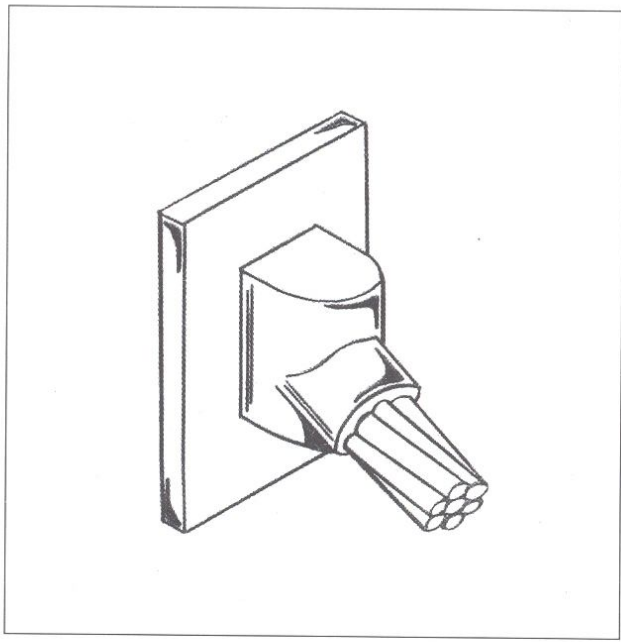
HTS OFF

HTS ON / HTS OFF

CABLE SIZE	MOLD PART NUMBER	PRICE KEY	WELD METAL
4	HTS-ON 04	A	45
2	HTS-ON 02	A	45
1	HTS-ON 01	A	65
1/0	HTS-OFF 10	A	90
2/0	HTS-OFF 20	A	115
3/0	HTS-OFF 30	A	115
4/0	HTS-OFF 40	A	150
250	HTS-OFF 250	A	150
300	HTS-OFF 300	A	200
350	HTS-OFF 350	A	250
500	HTS-OFF 500	B	2-150

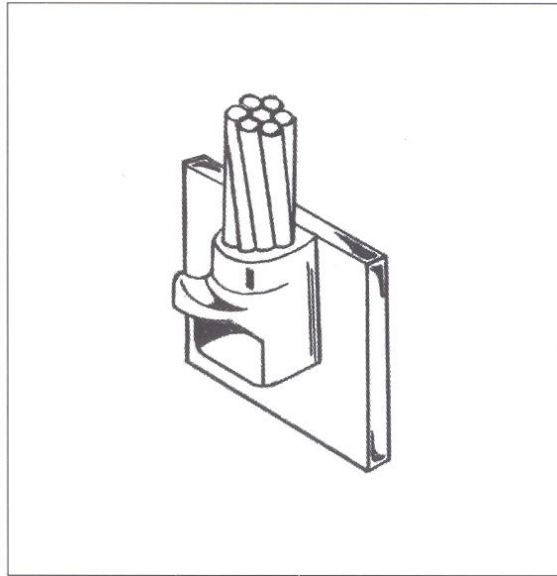
Vertical Steel Surface

Cable down at 45°



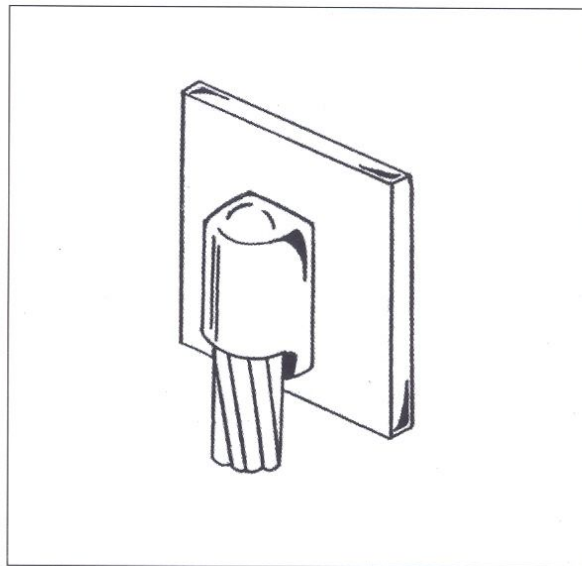
CABLE SIZE	MOLD PART NUMBER	PRICE KEY	WELD METAL
4	VSS-45 04	A	45
2	VSS-45 02	A	45
1	VSS-45 01	A	65
1/0	VSS-45 10	A	90
2/0	VSS-45 20	A	90
3/0	VSS-45 30	A	115
4/0	VSS-45 40	A	115
250	VSS-45 250	A	115
300	VSS-45 300	A	150
350	VSS-45 350	A	200
500	VSS-45 500	A	200
750	VSS-45 750	B	2-150
1000	VSS-45 1000	B	2-200

Cable up to Vertical Steel Surface



CABLE SIZE	MOLD PART NUMBER	PRICE KEY	WELD METAL
4	VUA- 04	A	65
2	VUA- 02	A	65
1	VUA- 01	A	90
1/0	VUA- 10	A	150
2/0	VUA- 20	A	150
3/0	VUA- 30	B	200
4/0	VUA- 40	B	200
250	VUA- 250	B	200
300	VUA- 300	B	250
350	VUA- 350	B	2-150
500	VUA- 500	B	2-200

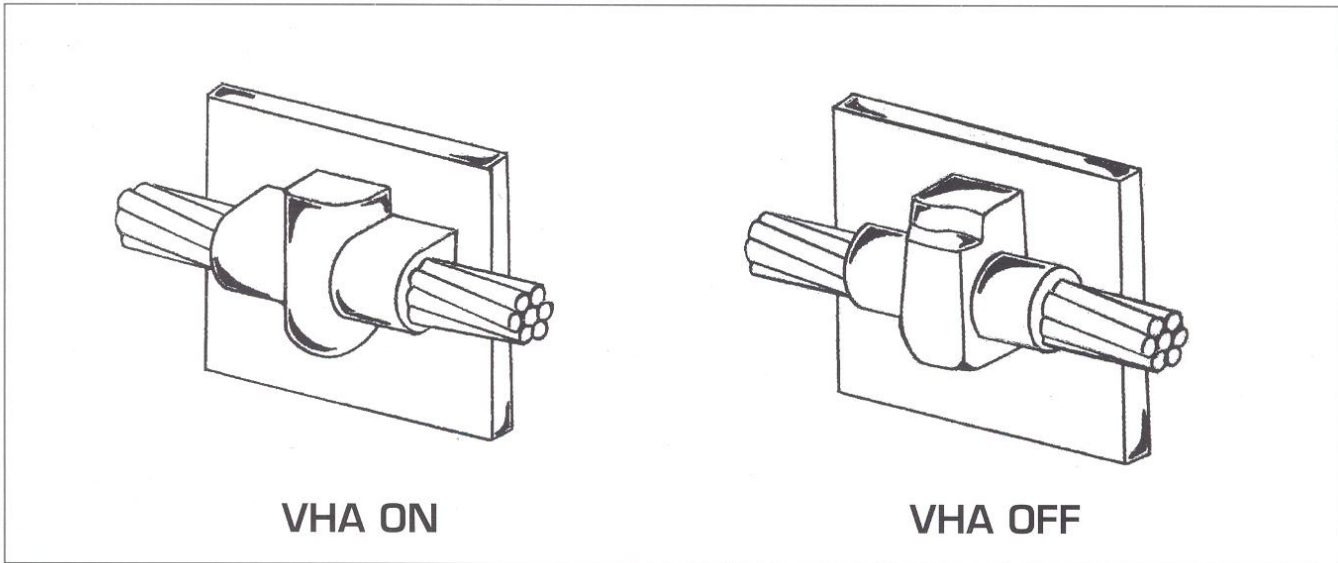
Cable down to Vertical Steel Surface



CABLE SIZE	MOLD PART NUMBER	PRICE KEY	WELD METAL
4	VDA- 04	A	65
2	VDA- 02	A	65
1	VDA- 01	A	90
1/0	VDA- 10	A	115
2/0	VDA- 20	A	115
3/0	VDA- 30	A	150
4/0	VDA- 40	A	150
250	VDA- 250	A	200
300	VDA- 300	A	200
350	VDA- 350	A	250
500	VDA- 500	B	2-150

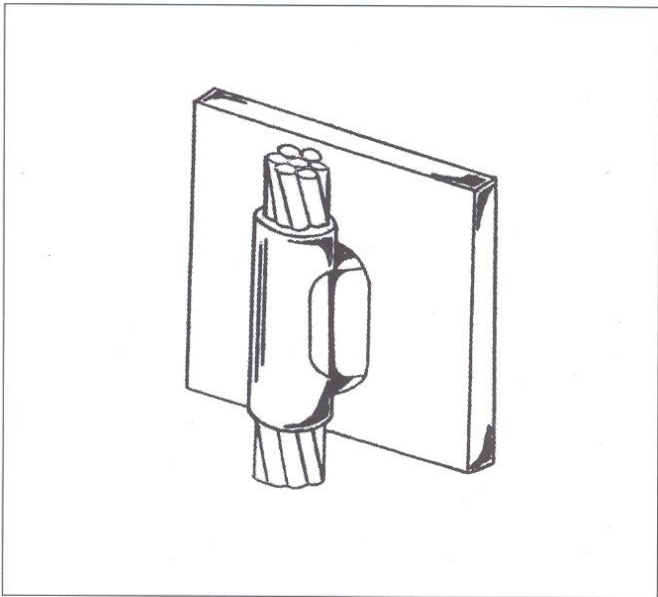
Horizontal Through Cable to Flat Steel Surface

VHA ON / VHA OFF



CABLE SIZE	MOLD PART NUMBER	PRICE KEY	WELD METAL
6	VHA- 06	A	45
4	VHA- 04	A	45
2	VHA- 02	A	45
1	VHA- 01	A	65
1/0	VHA- 10	A	115
2/0	VHA- 20	A	115
3/0	VHA- 30	A	150
4/0	VHA- 40	A	150
250	VHA- 250	A	150

Vertical Through Connection to Vertical Steel Surface



CABLE SIZE	MOLD PART NUMBER	PRICE KEY	WELD METAL
6	VUD- 06	A	90
4	VUD- 04	A	90
2	VUD- 02	A	115
1	VUD- 01	A	115
1/0	VUD- 10	B	200
2/0	VUD- 20	B	200
3/0	VUD- 30	B	250
4/0	VUD- 40	B	250
250	VUD- 250	B	250

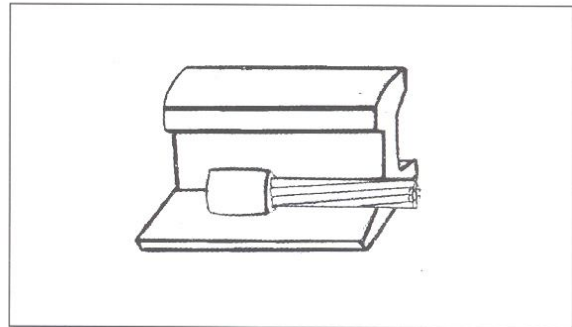
SECTION 5

CABLE TO RAIL CONNECTIONS

	REF.	PAG.
RAIL CONNECTIONS	RAIL	46
RAIL CONNECTIONS	RAIL T	46
RAIL CONNECTIONS	RAIL V	47
RAIL CONNECTIONS	RAIL VT	47

Rail Connections

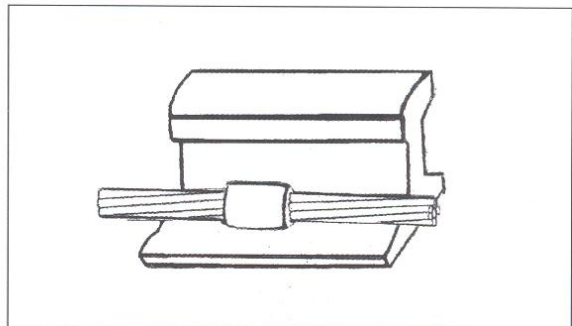
Cable to Rail



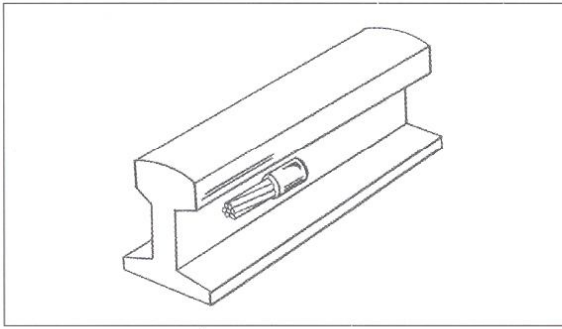
CABLE SIZE	MOLD PART NUMBER	PRICE KEY	WELD METAL
4	RAIL- 04	B	65RS
2	RAIL- 02	B	65RS
1	RAIL- 01	B	65RS
1/0	RAIL- 10	B	90RS
2/0	RAIL- 20	B	90RS
4/0	RAIL- 40	B	115RS

Rail Connections

Cable to Rail



CABLE SIZE	MOLD PART NUMBER	PRICE KEY	WELD METAL
4	RAIL T- 04	B	90RS
2	RAIL T- 02	B	90RS
1	RAIL T- 01	B	90RS
1/0	RAIL T- 10	B	115RS
2/0	RAIL T- 20	B	115RS
4/0	RAIL T- 40	B	150RS

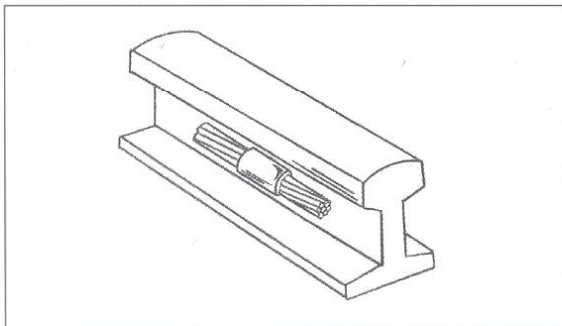


Rail Connections

Cable to Rail

CABLE SIZE	MOLD PART NUMBER	PRICE KEY	WELD METAL
4	RAIL V- 04	B	65RS
2	RAIL V- 02	B	65RS
1	RAIL V- 01	B	65RS
1/0	RAIL V- 10	B	90RS
2/0	RAIL V- 20	B	90RS
4/0	RAIL V- 40	B	115RS

RAIL V / RAIL VT



Rail Connections

Cable to Rail

CABLE SIZE	MOLD PART NUMBER	PRICE KEY	WELD METAL
4	RAIL VT- 04	B	90RS
2	RAIL VT- 02	B	90RS
1	RAIL VT- 01	B	90RS
1/0	RAIL VT- 10	B	115RS
2/0	RAIL VT- 20	B	115RS
4/0	RAIL VT- 40	B	150RS

SECTION 6

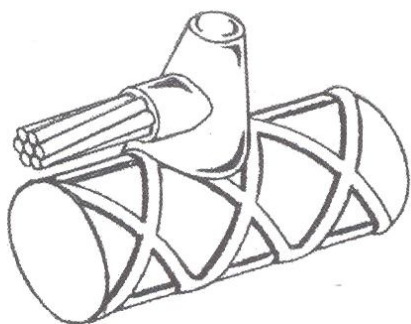
CABLE TO REBAR CONNECTIONS

	REF	PAG.
CABLE TAP CONNECTION TO HORIZONTAL REBAR —————	REB DH	50
THROUGH CABLE X CONNECTION TO HORIZONTAL REBAR —————	REB XH	51

Cable to Rebar

Cable Tap Connection to Horizontal Rebar

CABLE SIZE	REBAR SIZE	MOLD PART NUMBER	PRICE KEY	WELD METAL
6	3	REB DH-06-3	A	25
4		REB DH-04-3	A	32
2		REB DH-02-3	A	45
1		REB DH-01-3	A	65
1/0		REB DH-10-3	A	90
2/0		REB DH-20-3	A	90
3/0		REB DH-30-3	A	115
4/0		REB DH-40-3	A	115
6	4	REB DH-06-4	A	25
4		REB DH-04-4	A	32
2		REB DH-02-4	A	45
1		REB DH-01-4	A	65
1/0		REB DH-10-4	A	90
2/0		REB DH-20-4	A	90
3/0		REB DH-30-4	A	115
4/0		REB DH-40-4	A	115
6	5	REB DH-06-5	A	25
4		REB DH-04-5	A	32
2		REB DH-02-5	A	45
1		REB DH-01-5	A	65
1/0		REB DH-10-5	A	90
2/0		REB DH-20-5	A	90
3/0		REB DH-30-5	A	115
4/0		REB DH-40-5	A	115
6	6	REB DH-06-6	A	25
4		REB DH-04-6	A	32
2		REB DH-02-6	A	45
1		REB DH-01-6	A	65
1/0		REB DH-10-6	B	90
2/0		REB DH-20-6	B	90
3/0		REB DH-30-6	B	115
4/0		REB DH-40-6	B	115
4	7	REB DH-04-7	A	32
2		REB DH-02-7	A	45
1		REB DH-01-7	A	65
1/0		REB DH-10-7	B	90
2/0		REB DH-20-7	B	90
3/0		REB DH-30-7	B	115
4/0		REB DH-40-7	B	115
2	8	REB DH-02-8	A	45
1		REB DH-01-8	A	65
1/0		REB DH-10-8	B	90
2/0		REB DH-20-8	B	90
3/0		REB DH-30-8	B	115
4/0		REB DH-40-8	B	115

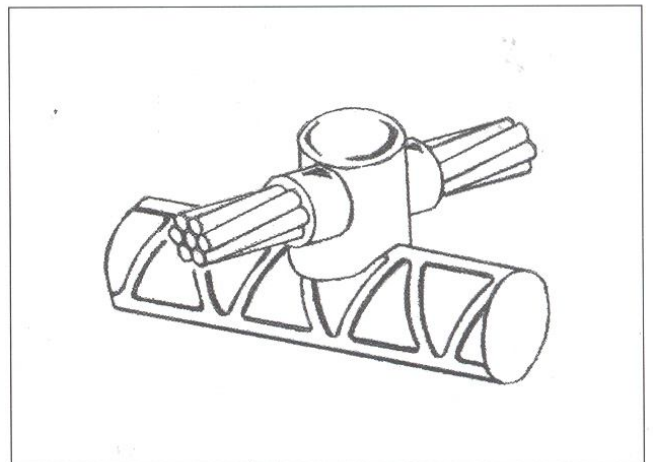


Cable to Rebar

Through Cable X Connection to Horizontal Rebar

REB XH

CABLE SIZE	REBAR SIZE	MOLD PART NUMBER	PRICE KEY	WELD METAL
6	3	REB XH-06-3	A	65
4		REB XH-04-3	A	65
2		REB XH-02-3	A	90
1		REB XH-01-3	A	90
1/0		REB XH-10-3	C	115
2/0		REB XH-20-3	C	115
3/0		REB XH-30-3	C	150
4/0		REB XH-40-3	C	150
6	4	REB XH-06-4	A	65
4		REB XH-04-4	A	65
2		REB XH-02-4	A	90
1		REB XH-01-4	C	90
1/0		REB XH-10-4	C	115
2/0		REB XH-20-4	C	115
3/0		REB XH-30-4	C	150
4/0		REB XH-40-4	C	150
6	5	REB XH-06-5	A	65
4		REB XH-04-5	A	65
2		REB XH-02-5	A	90
1		REB XH-01-5	C	90
1/0		REB XH-10-5	C	115
2/0		REB XH-20-5	C	115
3/0		REB XH-30-5	C	150
4/0		REB XH-40-5	C	150
6	6	REB XH-06-6	B	65
4		REB XH-04-6	B	65
2		REB XH-02-6	B	90
1		REB XH-01-6	B	90
1/0		REB XH-10-6	B	115
2/0		REB XH-20-6	B	115
3/0		REB XH-30-6	B	150
4/0		REB XH-40-6	B	150
4	7	REB XH-04-7	B	65
2		REB XH-02-7	B	90
1		REB XH-01-7	B	90
1/0		REB XH-10-7	B	115
2/0		REB XH-20-7	B	115
3/0		REB XH-30-7	B	150
4/0	REB XH-40-7	B	150	
2	8	REB XH-02-8	B	90
1		REB XH-01-8	B	90
1/0		REB XH-10-8	B	115
2/0		REB XH-20-8	B	115
3/0		REB XH-30-8	B	150
4/0		REB XH-40-8	B	150

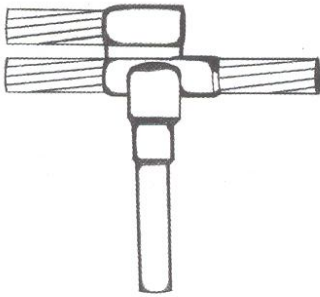


TYPES	REF.	PAG.
CABLE TO GROUND ROD	3-ROD	54
	4-ROD	54
	RCU	54
	RCV	54
CABLE TO CABLE	T2C	54
	S2C	54
	YSC	54
CABLE TO REBAR	RYC	54
	RTC	54
BAR TO BAR	BVB	55
	BLB	55
	BSB	55
	BTB	55
	BXB	55
	BHB	55
CABLE TO BAR	BCD	55
	BTC	55
	BDC	55
BAR TO STEEL	BSC	56
	BDB	56
BAR TO GROUND ROD	RTB	56
	RBL	56

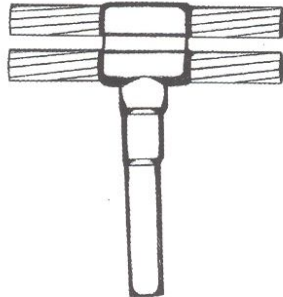
GROUNDING®

For further information regarding welds shown below or any other application required, please contact GROUNDING® for assistance.

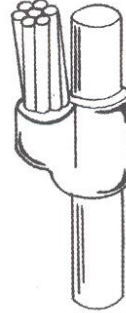
Cable to Ground Rod



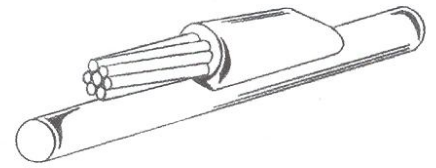
3-ROD



4-ROD

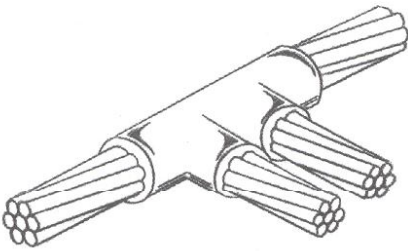


RCU

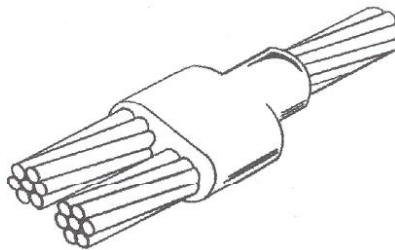


RCV

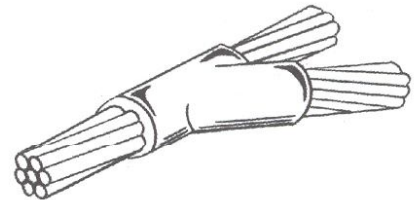
Cable to Cable



T2C

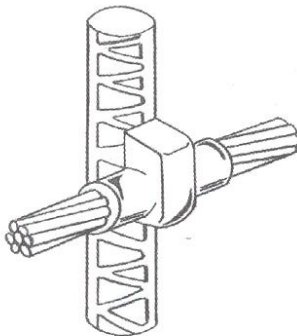


S2C

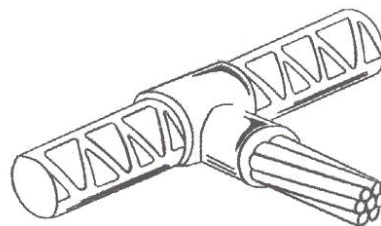


YSC

Cable to rebar



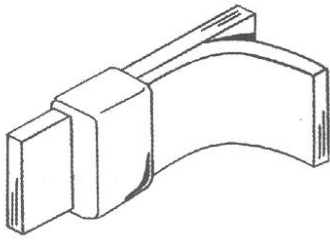
RYC



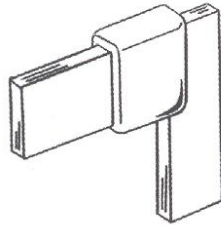
RTC

For further information regarding welds shown below or any other application required, please contact GROUNDING® for assistance.

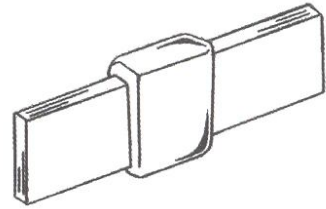
Bar to Bar



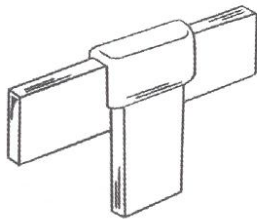
BVB



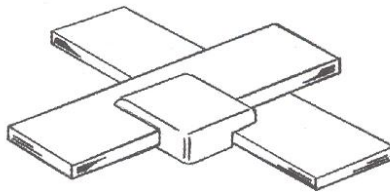
BLB



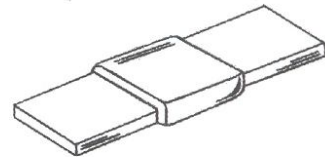
BSB



BTB

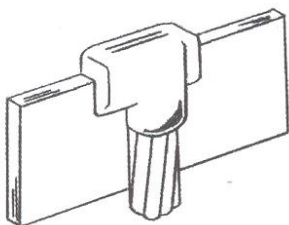


BXB

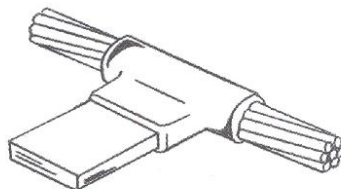


BHB

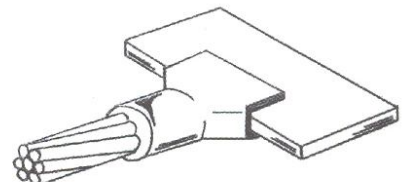
Cable to Bar



BCD



BTC

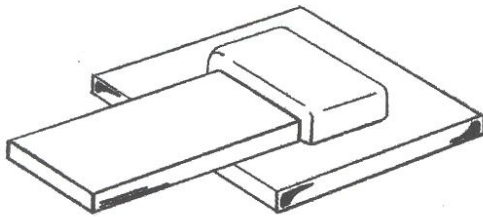


BDC

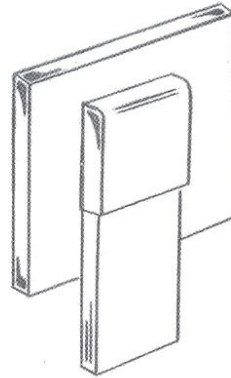
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Bar to Steel

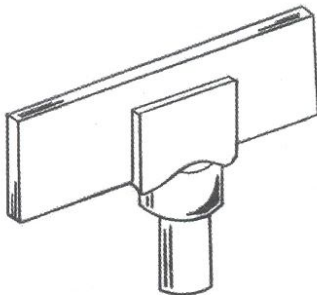


BSD

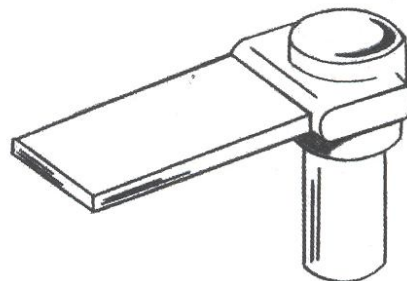


BDB

Bar to Ground Rod



RTB



RBL

GROUNDING®

SECTION 8

TOOLS AND ACCESSORIES

CROSS REFERENCE

**Grounding
Thermoweld
Cadweld**

Grounding Cat. No.	Thermoweld Cat.No.	Cadweld Cat.No.
SEA 40	M-208	SSC-2Q
—————	M-208-S	SSC-2P
SEA 500	M-213	SSC-3Q
SEA 1000	M-215	SSD-4Y
SEA 750	M-214	SSD-4L
TEA 0101	M-225	TAC-1Y1Y
TEA 0102	M-226	TAC-1Y1V
—————	M-5879	TAC-1Y1T
TEA 0104	M-227	TAC-1Y1L
TEA 0202	M-223	TAC-1V1V
—————	M-5869	TAC-1V1T
—————	M-224	TAC-1T1L
TEA 0204	M-5859	TAC-1V1L
—————	M-5856	TAC-1T1V
—————	M-223-S	TAC-1T1T
TEA 0404	M-221	TAC-1L1L
TEA 2001	M-229	TAC-2C1Y
TEA 1002	M-230	TAC-2C1V
—————	M-5311	TAC-2C1T
TEA 1004	M-231	TAC-2C1L
TEA 1010	M-228	TAC-2C2C
TEA 1000-10	M-308	TAC-4Y2C
TEA 1000-20	M-307	TAC-4Y2G
TEA 1000-250	M-305	TAC-4Y2V
TEA 1000-300	M-304	TAC-4Y3A
TEA 1000-350	M-303	TAC-4Y3D
TEA 1000-40	M-306	TAC-4Y2Q
TEA 2001	M-234	TAC-2G1Y
TEA 2002	M-235	TAC-2G1V
—————	M-8093	TAC-2G1T
TEA 2004	M-5475	TAC-2G1L

Grounding Cat. No.	Thermoweld Cat.No.	Cadweld Cat.No.
TEA 2010	M-233	TAC-2G2C
TEA 2020	M-232	TAC-2G2G
TEA 250-01	M-252	TAC-2V1Y
TEA 250-02	M-253	TAC-2V1V
—————	M-5889	TAC-2V1T
TEA 250-04	M-5425	TAC-2V1L
TEA 250-10	M-251	TAC-2V2C
TEA 250-20	M-250	TAC-2V2G
TEA 250-250	M-247	TAC-2V2V
TEA 250-30	M-249	TAC-2V2L
TEA 250-40	M-248	TAC-2V2Q
TEA 30-01	M-239	TAC-2L1Y
TEA 30-02	M-240	TAC-2L1V
—————	M-5884	TAC-2L1T
TEA 30-04	M-5574	TAC-2L1L
TEA 30-10	M-238	TAC-2L2C
TEA 30-20	M-237	TAC-2L2G
TEA 30-30	M-236	TAC-2L2L
TEA 300-01	M-260	TAC-3A1Y
TEA 300-02	M261	TAC-3A1V
—————	M-5903	TAC-3A1T
TEA 300-04	M-6397	TAC-3A1L
TEA 300-10	M-259	TAC-3A2C
TEA 300-20	M-258	TAC-3A2G
TEA 300-250	M-255	TAC-3A2V
TEA 300-30	M-257	TAC-3A2L
TEA 300-300	M-254	TAC-3A3A
TEA 300-40	M-256	TAC-3A2Q
TEA 350-01	M-269	TAC-3D1Y
TEA 350-02	M-270	TAC-3D1V
TEA 350-04	M-6398	TAC-3D1L

Grounding Cat. No.	Thermoweld Cat.No.	Cadweld Cat.No.
TEA 350-10	M-268	TAC-3D2C
TEA 350-20	M-267	TAC-3D2G
TEA 350-250	M-264	TAC-3D2V
TEA 350-30	M-266	TAC-3D2L
TEA 350-300	M-263	TAC-3D3A
TEA 350-350	M-262	TAC-3D3D
TEA 350-40	M-265	TAC-3D2Q
TEA 4001	M-245	TAC-2Q1Y
TEA 4002	M-246	TAC-2Q1V
—————	M-5348	TAC-2Q1T
TEA 4004	M-5021	TAC-2Q1L
TEA 4010	M-244	TAC-2Q2C
TEA 4020	M-243	TAC-2Q2G
TEA 4030	M-242	TAC-2Q2L
TEA 4040	M-241	TAC-2Q2Q
TEA 500-01	M-288	TAC-3Q1Y
TEA 500-02	M-289	TAC-3Q1V
TEA 500-04	M-8113	TAC-3Q1L
TEA 500-10	M-287	TAC-3Q2C
TEA 500-20	M-286	TAC-3Q2G
TEA 500-250	M-284	TAC-3Q2V
TEA 500-300	M-283	TAC-3Q3A
TEA 500-350	M-282	TAC-3Q3D
TEA 500-40	M-285	TAC-3Q2Q
TEA 500-500	M-280	TAC-3Q3Q
TEA 750-10	M-298	TAC-4L2C
TEA 750-20	M-297	TAC4L2G
TEA 750-250	M-295	TAC-4L2V
TEA 750-300	M-294	TAC-4L3A
TEA 750-350	M-293	TAC-4L3D
TEA 750-40	M-296	TAC-4L2Q

Grounding Cat. No.	Thermoweld Cat.No.	Cadweld Cat.No.
TEA 1000-1000	M-299	TAD-4Y4Y
TEA 1000-500	M-301	TAD-4Y3Q
TEA 1000-750	M-300	TAD-4Y4L
TEA 1000-30	M-291	TAD-4L3Q
T-ROD 1230	M-541-T	GTC-142L
T-ROD 12-300	M-544-T	GTC-143A
T-ROD 1240	M-542-T	GTC-142Q
T-ROD 5801	M-546	GTC-161Y
T-ROD 5802	M-545	GTC-161V
—————	—————	GTC-161T
T-ROD 5810	M-547	GTC-162C
—————	M-547-S	GTC-162B
T-ROD 5820	M-548	GTC-162G
T-ROD 58-250	M-551	GTC-162V
T-ROD 5830	M-549	GTC-162L
T-ROD 58-300	M-552	GTC-163A
T-ROD 58-350	M-553	GTC-163D
T-ROD 5840	M-550	GTC-162Q
T-ROD 58-500	M-555	GTC-163Q
T-ROD 3401	M-557	GTC-181Y
T-ROD 3402	M-556	GTC-181V
—————	—————	GTC-181T
T-ROD 3410	M-558	GTC-182C
—————	M-558-S	GTC-182B
T-ROD 3420	M-559	GTC-182G
T-ROD 34-250	M-562	GTC-182V
T-ROD 3430	M-560	GTC-182L
T-ROD 34-300	M-563	GTC-183A
T-ROD 34-350	M-564	GTC-183D
T-ROD 3440	M-561	GTC-182Q
T-ROD 34-500	M-566	GTC-183Q

CROSS REFERENCE

Grounding Cat. No.	Thermoweld Cat.No.	Cadweld Cat.No.
XEA 250-250	M-449	XAC-2V2V
XEA 250-30	M-451	XAC-2V2L
XEA 250-40	M-450	XAC-2V2Q
XEA 3001	M-441	XAC-2L1Y
XEA 3002	M-442	XAC-2L1V
XEA 3010	M-440	XAC-2L2C
XEA 3020	M-439	XAC-2L2G
XEA 3030	M-438	XAC-2L2I
XEA 300-01	M-462	XAC-3A1Y
XEA 300-02	M-463	XAC-3A1V
XEA 300-10	M-461	XAC-3A2C
XEA 300-20	M-460	XAC-3A2G
XEA 300-250	M-457	XAC-3A2V
XEA 300-30	M-459	XAC-3A2L
XEA 300-300	M-456	XAC-3A3A
XEA 300-40	M-458	XAC-3A2Q
XEA 350-01	M-471	XAC-3D1Y
XEA 350-02	M-472	XAC-3D1V
XEA 350-10	M-470	XAC-3D2C
XEA 350-20	M-469	XAC-3D2G
XEA 350-250	M-466	XAC-3D2V
XEA 350-30	M-468	XAC-3D2L
XEA 350-300	M-465	XAC-3D3A
XEA 350-350	M-464	XAC-3D3D
XEA 350-40	M-467	XAC-3D2Q
XEA 4001	M-447	XAC-2Q1Y
XEA 4002	M-448	XAC-2Q1V
XEA 4010	M-446	XAC 2Q2C
XEA 4020	M-445	XAC 2Q2G
XEA 4030	M-444	XAC 2Q2L
XEA 4040	M-443	XAC 2Q2Q

Grounding Cat. No.	Thermoweld Cat.No.	Cadweld Cat.No.
XEA 500-10	M-491	XAC 3Q2C
XEA 500-20	M-490	XAC-3Q2G
XEA 500-250	M-487	XAD-3Q2V
XEA 500-30	M-489	XAD-3Q2L
XEA 500-300	M-486	XAD-3Q3A
XEA 500-350	M-485	XAD-3Q3D
XEA 500-40	M-488	XAD-3Q2Q
XEA 500-500	M-489	XAD-3Q3Q
PTA 0102	M-1282	PCC-1Y1V
PTA 0104	M-1283	PCC-1Y1L
PTA 0106	M-1284	PCC-1Y1H
—————	M-1285	PCC-1Y1G
—————	M-1286	PCC-1Y1D
PTA 0202	M-1276	PCC-1V1V
PTA 0204	M-1277	PCC-1V1L
PTA 0206	M-1278	PCC-1V1H
—————	M-1279	PCC-1V1G
—————	M-1280	PCC-1V1D
—————	—————	PCC-1T1V
—————	—————	PCC-1T1T
—————	—————	PCC-1T1H
—————	—————	PCC-1T1G
—————	—————	PCC-1T2C
—————	—————	PCC-1T2G
PTA 0404	—————	PCC-1L1L
PTA 0406	—————	PCC-1L1H
—————	—————	PCC-1L1G
—————	—————	PCC-1L1D
PTA 1002	M-1289	PCC-2C1V
PTA 1004	M-1290	PCC-2C1L
PTA 1006	M-1291	PCC-2C1H

Grounding Cat. No.	Thermoweld Cat.No.	Cadweld Cat.No.
BDC	—————	LJC-JG1V
BDC	—————	LJC-EG1V
BDC	—————	LJC-GG1V
BDC	—————	LJC-JG1T
BDC	—————	LJC-EG1T
BDC	—————	LJC-GG1T
BDC	M-1671	LJC-JG2C
BDC	M-1651	LJC-EG2C
BDC	M-1660	LJC-GG2C
BDC	M-1672	LJC-JG2G
BDC	M-1652	LJC-EG2G
BDC	M-1661	LJC-GG2G
BDC	M-1675	LJC-JG2V
BDC	M-1655	LJC-EG2V
BDC	M-1664	LJC-GG2V
BDC	M-1673	LJC-JG2L
BDC	M-1653	LJC-EG2L
BDC	M-1662	LJC-GG2L
BDC	M-1676	LJC-JG3A
BDC	M-1656	LJC-EG3A
BDC	M-1665	LJC-GG3A
BDC	M-1677	LJC-JG3D
BDC	M-1657	LJC-EG3D
BDC	M-1666	LJC-GG3D
BDC	M-1674	LJC-JG2Q
BDC	M-1654	LJC-EG2Q
BDC	M-1663	LJC-GG2Q
BDC	M-1659	LJC-EG3Q
BDC	M-1668	LJC-GG3Q
BDC	M-1681	LJD-JG4Y
BDC	M-1670	LJD-GG4Y

Grounding Cat. No.	Thermoweld Cat.No.	Cadweld Cat.No.
BDC	M-1679	LJD-JG3Q
BDC	M-1680	LJD-JG4L
BDC	M-1669	LJD-GG4L
XNC 0101	M-2691	XBC-1Y1Y
XNC 0102	M-2692	XBC-1Y1V
XNC 0104	M-2693	XBC-1Y1L
XNC 0202	M-2689	XBC-1V1V
XNC 0204	M-2690	XBC-1V1L
—————	M-2689-S	XBC-1T1T
XNC 0404	M-2687	XBC-1L1L
XNC 0606	M-5432	XBP-1H1H
—————	M-5432-S	XBP-1G1G
XNC 1001	M-2695	XBM-2C1Y
XNC 1002	M-2696	XBM-2C1V
XNC 1004	M-2697	XBM-2C1L
XNC 1010	M-2694	XBM-2C2C
XNC 2001	M-2700	XBM-2G1Y
XNC 2002	M-2701	XBM-2G1V
XNC 2010	M-2699	XBM-2G2C
XNC 2020	M-2698	XBM-2G2G
XNC 250-01	M-2718	XBM-2V1Y
XNC 250-02	M-2719	XBM-2V1V
XNC 250-10	M-2717	XBM-2V2C
XNC 250-20	M-2716	XBM-2V2G
XNC 250-250	M-2713	XBM-2V2V
XNC 250-30	M-2715	XBM-2V2L
XNC 250-40	M-2714	XBM-2V2Q
XNC 3001	M-2705	XBM-2L1Y
XNC 3002	M-2706	XBM-2L1V
XNC 3010	M-2704	XBM-2L2C
XNC 3020	M-2703	XBM-2L2G

CROSS REFERENCE

Grounding Cat. No.	Thermoweld Cat.No.	Cadweld Cat.No.
Y-ROD 58-500	M-1593	GYJ-163Q
Y-ROD 34-350	M-1599	GYJ-183D
Y-ROD 34-500	M-1601	GYJ-183Q
Y-ROD 1210	M-1581	GYE-152C
—————	M-1581-S	GYE-152B
Y-ROD 1220	M-1582	GYE-152G
Y-ROD 12-250	M-1584	GYE-152V
Y-ROD 1230	M-6267	GYE-152L
Y-ROD 12-300	M-1585	GYE-153A
Y-ROD 1240	M-1583	GYE-152Q
Y-ROD 1210	M-1581-T	GYE-142C
—————	M-1581-ST	GYE-142B
Y-ROD 1220	M-1582-T	GYE-142G
Y-ROD 12-250	M-1584-T	GYE-142V
Y-ROD 1230	M-6267-T	GYE-142L
Y-ROD 12-300	M-1585-T	GYE-143A
Y-ROD 1240	M-1583-T	GYE-142Q
Y-ROD 5810	M-1586	GYE-162C
—————	M-1586-S	GYE-162B
Y-ROD 5820	M-1587	GYE-162G
Y-ROD 58-250	M-1589	GYE-162V
Y-ROD 5830	M-8305	GYE-162L
Y-ROD 58-300	M-1590	GYE-163A
Y-ROD 58-350	M-1591	GYE-163D
Y-ROD 5840	M-1588	GYE-162Q
Y-ROD 3410	M-1594	GYE-182C
—————	M-1594-S	GYE-182B
Y-ROD 3420	M-1595	GYE-182G
Y-ROD 34-250	M-1597	GYE-182V
Y-ROD 3430	M-6608	GYE-182L
Y-ROD 34-300	—————	GYE-183A

Grounding Cat. No.	Thermoweld Cat.No.	Cadweld Cat.No.
Y-ROD 3440	M-1596	GYE-182Q
REB - XH 01-3	M-7503	RRC-511Y
REB - XH 02-3	M-7502	RRC-511V
—————	—————	RRC-511T
REB DH 04-3	M-7501	RRC-511L
REB DH 10-3	M-7504	RRC-512C
REB DH 20-3	M-7505	RRC-512G
REB DH 30-3	M-7506	RRC-512L
REB DH 40-3	M-7507	RRC-512Q
REB	—————	RR
RYC	—————	RC
TEA 750-750	M-290	TAD-4L4L
XEA 0101	M-427	XAC-1Y1Y
XEA 0102	M-428	XAC-1Y1V
XEA 0104	M-429	XAC-1Y1L
XEA 0202	—————	XAC-1V1V
XEA 0204	—————	XAC-1V1L
—————	—————	XAC-1T1T
XEA 0404	—————	XAC-1L1L
XEA 1001	M-431	XAC-2C1Y
XEA 1002	M-432	XAC-2C1V
XEA 1004	M-433	XAC-2C1L
XEA 1010	M-430	XAC-2C2C
XEA 2001	M-436	XAC-2G1Y
XEA 2002	M-437	XAC-2G1V
XEA 2010	M-435	XAC-2G2C
XEA 2020	M-434	XAC-2G2G
XEA 250-01	M-454	XAC-2V1Y
XEA 250-02	M-455	XAC-2V1V
XEA 250-10	M-453	XAC-2V2C
XEA 250-20	M-452	XAC-2V2G

Grounding Cat. No.	Thermoweld Cat.No.	Cadweld Cat.No.
—————	M-1320-S	PTC-2B1T
—————	M-6026	PTC-2B1L
—————	M-6806	PTC-2B1H
—————	M-5462-S	PTC-2B1G
—————	M-6028	PTC-2B1E
—————	M-5644-S	PTC-2B1D
—————	M-6727	PTC-2B2C
—————	M-1318-S	PTC-2B2B
PHA 2001	M-1324	PTC-2G1Y
—————	M-6052	PTC-2G1X
PHA 2002	M-1325	PTC-2G1V
PHA 2004	M-5659	PTC-2G1L
PHA 2006	M-5342	PTC-2G1H
—————	M-5652	PTC-2G1G
PHA 2008	M-5668	PTC-2G1E
—————	M-5943	PTC-2G1D
PHA 1020	M-1323	PTC-2G2C
—————	M-6047	PTC-2G2B
PHA 2020	M-1322	PTC-2G2G
PHA 3001	M-1329	PTC-2L1Y
—————	M-6064	PTC-2L1X
PHA 3002	M-1330	PTC-2L1V
—————	M-6065	PTC-2L1T
PHA 3004	M-6046	PTC-2L1L
PHA 3006	M-5676	PTC-2L1H
—————	M-5679	PTC-2L1G
PHA 3008	M-5680	PTC-2L1E
—————	M-5682	PTC-2L1D
PHA 3010	M-1328	PTC-2L2C
—————	M-6062	PTC-2L2B
PHA 3020	M-1327	PTC-2L2G

Grounding Cat. No.	Thermoweld Cat.No.	Cadweld Cat.No.
PHA 3030	M-1326	PTC-2L2L
PHA 4001	M-1335	PTC-2Q1Y
—————	M-6804	PTC-2Q1X
PHA 4002	M-1336	PTC-2Q1V
—————	M-6805	PTC-2Q1T
PHA 4004	M-5340	PTC-2Q1L
PHA 4006	M-5684	PTC-2Q1H
—————	M-6552	PTC-2Q1G
PHA 4008	M-5686	PTC-2Q1E
—————	M-5688	PTC-2Q1D
PHA 4010	M-1334	PTC-2Q2C
—————	M-2551	PTC-2Q2B
PHA 4020	M-1333	PTC-2Q2G
PHA 4030	M-1332	PTC-2Q2L
PHA 4040	M-1331	PTC-2Q2Q
—————	M-6803	PTC-2Q2P
—————	M-6089	PTC-2P1Y
—————	M-1335-S	PTC-2P1X
—————	M-6090	PTC-2P1V
—————	M-1336-S	PTC-2P1T
—————	M-6109	PTC-2P1L
—————	M-6111	PTC-2P1H
—————	M-5684-S	PTC-2P1G
—————	M-6112	PTC-2P1E
—————	M-5686-S	PTC-2P1D
—————	M-6085	PTC-2P2C
—————	M-1334-S	PTC-2P2B
—————	M-6082	PTC-2P2G
—————	M-6081	PTC-2P2L
—————	M-6071	PTC-2P2Q
—————	M-1331-S	PTC-2P2P

Grounding Cat. No.	Thermoweld Cat.No.	Cadweld Cat.No.
G-ROD 1202	—————	GRT-14A1V
—————	—————	GRT-14A1T
G-ROD 1204	M-8403	GRT-14A1L
—————	M-8403-S	GRT-14A1K
G-ROD 1206	M-8402	GRT-14A1H
—————	M-8402-S	GRT-14A1G
G-ROD 1202	—————	GRT-14B1V
—————	—————	GRT-14B1T
G-ROD 1204	M-8403-T	GRT-14B1L
—————	M-8403-ST	GRT-14B1K
G-ROD 1206	M-8402-T	GRT-14B1H
—————	M-8402-ST	GRT-14B1G
G-ROD 5804	M-8415	GRT-161L
—————	M-8415-S	GRT-161K
G-ROD 5806	M-8414	GRT-161H
—————	M-8414-S	GRT-161G
G-ROD 3404	M-8426	GRP-181L
—————	M-8426-S	GRP-181K
G-ROD 3406	M-8422	GRT-181H
—————	M-8422-S	GRT-181G
G-ROD 1201	M-496	GRC-151Y
G-ROD 1210	M-497	GRC-152C
—————	M-497-S	GRC-152B
G-ROD 1220	M-498	GRC-152G
G-ROD 12-250	M-501	GRC-152V
G-ROD 1230	M-499	GRC-152L
G-ROD 12-300	M-502	GRC-153A
G-ROD 1240	M-500	GRC-152Q
G-ROD 1201	M-496-T	GRC-141Y
G-ROD 1210	M-497-T	GRC-142C
—————	M-497-ST	GRC-142B

Grounding Cat. No.	Thermoweld Cat.No.	Cadweld Cat.No.
G-ROD 1220	M-498-T	GRC-142G
G-ROD 12-250	M-501-T	GRC-142V
G-ROD 1230	M-499-T	GRC-142L
G-ROD 12-300	M-502-T	GRC-143A
G-ROD 1240	M-500-T	GRC-142Q
G-ROD 5801	M-504	GRC-161Y
G-ROD 5802	M-503	GRC-161V
—————	—————	GRC-161T
G-ROD 5810	M-505	GRC-162C
—————	M-505-S	GRC-162B
G-ROD 5820	M-506	GRC-162G
G-ROD 58-250	M-509	GRC-162V
G-ROD 5830	M-507	GRC-162L
G-ROD 58-300	M-510	GRC-163A
G-ROD 58-350	M-511	GRC-163D
G-ROD 5840	M-508	GRC-162Q
G-ROD 58-500	M-513	GRC-163Q
G-ROD 3401	M-514	GRC-181Y
G-ROD 3402	M-5781	GRC-181V
—————	—————	GRC-181T
G-ROD 3410	M-515	GRC-182C
—————	M-515-S	GRC-182B
G-ROD 3420	M-516	GRC-182G
G-ROD 34-250	M-519	GRC-182V
G-ROD 3430	M-517	GRC-182L
G-ROD 34-300	M-520	GRC-183A
G-ROD 34-350	M-521	GRC-183D
G-ROD 3440	M-518	GRC-182Q
G-ROD 34-500	M-523	GRC-183Q
G-ROD 1204	M-8435	GTT-14A1L
—————	M-8435-S	GTT-14A1K

CROSS REFERENCE

Grounding Cat. No.	Thermoweld Cat.No.	Cadweld Cat.No.
G-ROD 1206	M-8434	GTT-14A1H
—————	M-8434-S	GTT-14A1G
G-ROD 1204	M-8435-T	GTT-14B1L
—————	M-8435-ST	GTT-14B1K
G-ROD 1206	M-8434-T	GTT-14B1H
—————	M-8434-ST	GTT-14B1G
G-ROD 5804	M-8442	GTT-161L
—————	M-8442-S	GTT-161K
G-ROD 5806	M-8441	GTT-161H
—————	M-8441-S	GTT-161G
G-ROD 3404	M-8454	GTP-181L
—————	M-8454-S	GTP-181K
G-ROD 3406	M-8452	GTP-181H
—————	M-8452-S	GTP-181G
G-ROD 1201	M-538	GTC-151Y
G-ROD 1202	M-537	GTC-151V
—————	—————	GTC-151T
G-ROD 1210	M-539	GTC-152C
—————	M-539-S	GTC-152B
G-ROD 1220	M-540	GTC-152G
G-ROD 12-250	M-543	GTC-152V
G-ROD 1230	M-541	GTC-152L
G-ROD 12-300	M-544	GTC-153A
G-ROD 1240	M-542	GTC-152Q
G-ROD 1201	M-538-T	GTC-141Y
G-ROD 1202	M-537-T	GTC-141V
—————	—————	GTC-141T
G-ROD 1210	M-539-T	GTC-142C
—————	—————	GTC-142B
G-ROD 1220	M-540-T	GTC-142G
G-ROD 12-250	M-543-T	GTC-142V

Grounding Cat. No.	Thermoweld Cat.No.	Cadweld Cat.No.
RYC	—————	RC
RYX	—————	RD
RYV	—————	RJ
HSS 10	M-644	HSC-2C
HSS 1000	M-654	HSD-4Y
HSS 20	M-645	HSC-2G
HSS 250	M-648	HSC-2V
HSS 30	M-646	HSC-2L
HSS 300	M-649	HSC-3A
HSS 350	M-650	HSC-3D
HSS 40	M-647	HSC-2Q
HSS 500	M-652	HSC-3Q
HSS 750	M-653	HSD-4L
HTS 10	M-616	HTC-2C
HTS 20	M-617	HTC-2G
HTS 250	M-620	HTC-2V
HTS 30	M-618	HTC-2L
HTS 300	M-621	HTC-3A
HTS 350	M-622	HTC-3D
HTS 40	M-619	HTC-2Q
VDA 01	M-5361	VBC-1Y
VDA 01	—————	VBC-1Y-V3
VDA 01	—————	VBC-1Y-V5
VDA 01	—————	VBC-1Y-V8
VDA 02	M-2781	VBC-1V
VDA 02	—————	VBC-1V-V3
VDA 02	—————	VBC-1V-V5
VDA 02	—————	VBC-1V-V8
VDA 02	—————	VBC-1V-V21C
—————	—————	VBC-1T
—————	—————	VBC-1T-V3

Grounding Cat. No.	Thermoweld Cat.No.	Cadweld Cat.No.
VHA-ON 20	—————	VGC-2G-V8
VHA-ON 20	—————	VGC-2G-V20
VHA-ON 250	M-2520	VGC-2V
VHA-ON 30	M-6195	VGC-2L
VHA-ON 30	—————	VGC-2L-V3
VHA-ON 30	—————	VGC-2L-V5
VHA-ON 30	—————	VGC-2L-V8
VHA-ON 30	—————	VGC-2L-V20
VHA-ON 40	M-2177	VGC-2Q
VHA-ON 40	—————	VGC-2Q-V3
VHA-ON 40	—————	VGC-2Q-V5
VHA-ON 40	—————	VGC-2Q-V3
VHA-ON 40	—————	VGC-2Q-V5
VHA-ON 40	—————	VGC-2Q-V8
VHA-ON 40	—————	VGC-2Q-V20
VRL 01	M-6060	VNC-1Y
VRL 01	—————	VNC-1Y-V3
VRL 01	—————	VNC-1Y-V5
VRL 01	—————	VNC-1Y-V8
VRL 01	—————	VNC-1Y- V21C
VRL 02	M-2569	VNC-1V
VRL 02	—————	VNC-1V-V3
VRL 02	—————	VNC-1V-V5
VRL 02	—————	VNC-1V-V8
VRL 02	—————	VNC-1V- V21C
—————	—————	VNC-1T
—————	—————	VNC-1T-V3
—————	—————	VNC-1T-V5
—————	—————	VNC-1T-V8
—————	—————	VNC-1T-V21
VRL 04	M-2761	VNC-1L

Grounding Cat. No.	Thermoweld Cat.No.	Cadweld Cat.No.
VRL 04	—————	VNC-1L-V3
VRL 04	—————	VNC-1L-V5
VRL 04	—————	VNC-1L-V8
VRL 04	M-5910	VNC-1L-V21
VRL 10	M-5419	VNC-2C
VRL 10	—————	VNC-2C-V3
VRL 10	—————	VNC-2C-V5
VRL 10	—————	VNC-2C-V8
VRL 10	—————	VNC-2C-V20
VRL 20	—————	VNC-2G
VRL 20	—————	VNC-2G-V3
VRL 20	—————	VNC-2G-V5
VRL 20	—————	VNC-2G-V8
VRL 20	—————	VNC-2G-V20
VRL 250	M-2568	VNC-2V
VRL 30	M-6072	VNC-2L
VRL 30	—————	VNC-2L-V3
VRL 30	—————	VNC-2L-V5
VRL 30	—————	VNC-2L-V8
VRL 30	—————	VNC-2L-V20
VRL 300	M-6061	VNC-3A
VRL 350	M-6067	VNC-3D
VRL 40	M-9253	VNC-2Q
VRL 40	—————	VNC-2Q-V3
VRL 40	—————	VNC-2Q-V5
VRL 40	—————	VNC-2Q-V8
VRL 40	—————	VNC-2Q-V20
VRL 500	M-8359	VNC-3Q
H-PIPE-4-01	M-6269	HAA-1Y-325C
H-PIPE-8-01	M-6270	HAA-1Y-7C
H-PIPE-12-01	M-6271	HAA-1Y-11C

CROSS REFERENCE

Grounding Cat. No.	Thermoweld Cat.No.	Cadweld Cat.No.
BSV	M-6376	CFC-DH
BSV	M-1067	CFC-GE
BSV	M-6382	CFC-GG
BSV	M-6383	CFD-JG
BSV	M-1070	CFD-JH
BSV	M-1066	CFD-EH
BSV	M-1068	CFD-GH
LUG 2 1801	M-977	LAC-1YCE
LUG 2 1802	M-975	LAC-1VCE
—————	—————	LAC-1TCE
LUG 2 1804	M-971	LAC-1LCE
LUG 2 1410	M-979	LAC-2CEE
LUG 2 1810	M-978	LAC-2CCE
LUG 2 31610	M-6075	LAC-2CDE
LUG 2 1420	M-981	LAC-2GEE
LUG 2 1820	M-980	LAC-2GCE
LUG 2 31620	M-6579	LAC-2GDE
LUG 2 14250	M-988	LAC-2VEE
LUG 2 14250	M-990	LAC-2VEG
LUG 2 14250	M-8784	LAC-2VEH
LUG 2 14250	M-1916	LAC-2VEK
LUG 2 316250	M-8277	LAC-2VDE
LUG 2 1430	M-983	LAC-2LEE
LUG 2 1830	M-6284	LAC-2LCE
LUG 2 31630	M-982	LAC-2LDE
LUG 2 14300	M-991	LAC-3AEE
LUG 2 14300	M-993	LAC-3AEG
LUG 2 14300	M-6288	LAC-3AEH
LUG 2 14300	M-1917	LAC-3AEK
LUG 2 14350	M-994	LAC-3DEE
LUG 2 14350	M-996	LAC-3DEG

Grounding Cat. No.	Thermoweld Cat.No.	Cadweld Cat.No.
LUG 2 14350	M-6289	LAC-3DEH
LUG 2 14350	M-1918	LAC-3DEK
LUG 2 1440	M-985	LAC-2QEE
LUG 2 1440	M-987	LAC-2QEG
LUG 2 1440	M-5657	LAC-2QEH
LUG 2 1440	M-1915	LAC-2QEK
LUG 2 31640	M-984	LAC-2QDE
LUG 2 14500	M-1001	LAC-3QEG
LUG 2 14500	M-1002	LAC-3QEH
LUG 2 14500	M-1920	LAC-3QEK
LUG 2 38500	M-1004	LAC-3QGG
LUG 2 121000	M-1011	LAD-4YJH
LUG 2 121000	M-6295	LAD-4YJK
LUG 2 141000	M-6292	LAD-4YEK
LUG 2 381000	M-1009	LAD-4YGH
LUG 2 381000	M-1922	LAD-4YGK
LUG 2 14750	M-1006	LAD-4LEH
LUG 2 14750	M-1921	LAD-4LEK
LUG 2 38750	M-1007	LAD-4LGG
LUG 2 38750	M-1008	LAD-4LGH
LUG 2 38750	M-6291	LAD-4LGK
VQT	—————	LQJ-JH1Y
VQT	—————	LQJ-EH1Y
VQT	—————	LQJ-GH1Y
VQT	—————	LQJ-JH1V
VQT	—————	LQJ-JH1T
VQT	—————	LQJ-JH2C
VQT	—————	LQJ-EH2C
VQT	—————	LQJ-GH2C
VQT	—————	LQJ-JH2G
VQT	—————	LQJ-EH2G

CROSS REFERENCE

Grounding Cat. No.	Thermoweld Cat.No.	Cadweld Cat.No.
HTS ON-04	—————	HCA-1L-350C
HTS ON-04	—————	HCA-1L-7C
HTS ON-04	—————	HCA-1L-11C
VSS 4520	M-591	VSC-2G
VPA 4-20	M-8833	VSC-2G-V3C
VPA 6-20	M-2490	VSC-2G-V5C
VPA 10-20	M-2491	VSC-2G-V8C
VPA 30-20	M-2492	VSC-2G-V21C
VSS 45-250	M-594	VSC-2V
VSS 4530	M-592	VSC-2L
VPA 4-30	M-2493	VSC-2L-V3C
VPA 6-30	M-2494	VSC-2L-V5C
VPA 10-30	M-2495	VSC-2L-V8C
VPA 30-30	M-2496	VSC-2L-V21C
VSS 45-300	M-595	VSC-3A
VSS 45-350	M-596	VSC-3D
VSS 4540	M-593	VSC-2Q
VPA 4-40	M-9021	VSC-2Q-V3C
VPA 6-40	M-2497	VSC-2Q-V5C
VPA 10-40	M-2498	VSC-2Q-V8C
VPA 30-40	M-2499	VSC-2Q-V21C
HTS-OFF 10	—————	HTC-2C350C
HTS-OFF 10	—————	HTC-2C8C
HTS-OFF 10	—————	HTC-2C20C
HTS-OFF 20	—————	HTC-2G-350C
HTS-OFF 20	—————	HTC-2G-8C
HTS-OFF 20	—————	HTC-2G-20C
HTS-OFF 30	—————	HTC-2L-350C
HTS-OFF 30	—————	HTC-2L-8C
HTS-OFF 30	—————	HTC-2L-20C
HTS-OFF 40	—————	HTC-2Q-350C

Grounding Cat. No.	Thermoweld Cat.No.	Cadweld Cat.No.
HTS-OFF 40	—————	HTC-2Q-8C
HTS-OFF 40	—————	HTC-2Q-20C
VSS 45-500	M-598	VSC-3Q
VSS 45-1000	M-600	VSD-4Y
VSS 45-750	M-599	VSD-4L
VUD 01	M-1219	VVC-1Y
VUD 01	—————	VVC-1Y-V3
VUD 01	—————	VVC-1Y-V5
VUD 01	—————	VVC-1Y-V8
VUD 01	—————	VVC-1Y-V21
VUD 02	M-1218	VVC-1V
VUD 02	—————	VVC-1V-V3
VUD 02	—————	VVC-1V-V5
VUD 02	—————	VVC-1V-V8
VUD 02	—————	VVC-1V-V21
—————	—————	VVC-1T
—————	—————	VVC-1T-V3
—————	—————	VVC-1T-V5
—————	—————	VVC-1T-V8
—————	—————	VVC-1T-V21
VUD 04	M-1216	VVC-1L
VUD 04	—————	VVC-1L-V3
VUD 04	—————	VVC-1L-V5
VUD 04	—————	VVC-1L-V8
VUD 04	—————	VVC-1L-V21
VUD 06	M-1215	VVC-1H
VUD 10	M-1220	VVR-2C
VUD 10	—————	VVR-2C-V3
VUD 10	—————	VVR-2C-V5
VUD 10	—————	VVR-2C-V8
VUD 10	—————	VVR-2C-V20

CROSS REFERENCE

Grounding Cat. No.	Thermoweld Cat. No.	Cadweld Cat. No.
—————	M-1292	PCC-2C1G
—————	M1293	PCC-2C1D
PTA 2002	M-1297	PCC-2G1V
PTA 2004	M-1298	PCC-2G1L
PTA 2006	M-1299	PCC-2G1H
—————	M-1300	PCC-2G1G
—————	M-1301	PCC-2G1D
PTA 4001	M-1305	PCC-2Q1Y
PTA 4002	M-1306	PCC-2Q1V
PTA 4004	M-1307	PCC-2Q1L
PTA 4006	M-1308	PCC-2Q1H
—————	M-1309	PCC-2Q1G
—————	M-1310	PCC-2Q1D
PHA 0101	M-1315	PTC-1Y1Y
—————	M-6013	PTC-1Y1X
PHA 0102	M-1316	PTC-1Y1V
—————	M-6017	PTC-1Y1T
PHA 0104	M-1317	PTC-1Y1L
PHA 0106	M-5636	PTC-1Y1H
—————	M-5637	PTC-1Y1G
PHA 0108	M-5638	PTC-1Y1E
—————	M-5639	PTC-1Y1D
—————	M-5998	PTC-1X1Y
—————	M-6001	PTC-1X1V
—————	M-1316-S	PTC-1X1T
—————	M-6008	PTC-1X1L
—————	M-6010	PTC-1X1H
—————	M-5636-S	PTC-1X1G
—————	M-6012	PTC-1X1E
—————	M-5638-S	PTC-1X1D
PHA 0202	M-1313	PTC-1V1V

Grounding Cat. No.	Thermoweld Cat. No.	Cadweld Cat. No.
PHA 0204	M-1314	PTC-1V1L
PHA 0206	M-5631	PTC-1V1H
—————	M-5632	PTC-1V1G
PHA 0208	M-M-5634	PTC-1V1E
—————	M-5635	PTC-1V1D
—————	M-5973	PTC-1T1V
—————	M-1313-S	PTC-1T1T
—————	M-5987	PTC-1T1L
—————	M-5989	PTC-1T1H
—————	M-5631-S	PTC-1T1G
—————	M-5993	PTC-1T1E
—————	M-5634-S	PTC-1T1D
PHA 0404	M-1311	PTC-1L1L
PHA 0406	M-5627	PTC-1L1H
—————	M-8882	PTC-1L1G
PHA 0408	M-5629	PTC-1L1E
—————	M-5630	PTC-1L1D
PHA 1001	M-1319	PTC-2C1Y
—————	M-6036	PTC-2C1X
PHA 1002	M-1320	PTC-2C1V
—————	M-6044	PTC-2C1T
PHA 1004	M-1321	PTC-2C1L
PHA 1006	M-5642	PTC-2C1H
—————	M-1208	PTC-2C1G
PHA 1008	M-5644	PTC-2C1E
—————	M-5645	PTC-2C1D
PHA 1010	M-1318	PTC-2C2C
—————	M-6035	PTC-2C2B
—————	M-6019	PTC-2B1Y
—————	M-1319-S	PTC-2B1X
—————	M-6023	PTC-2B1V

CROSS REFERENCE

Grounding Cat. No.	Thermoweld Cat.No.	Cadweld Cat.No.
_____	_____	VBC-1T-V5
_____	_____	VBC-1T-V8
_____	_____	VBC-1T-V21
VDA 04	M-5359	VBC-1L
VDA 04	_____	VBC-1L-V3
VDA 04	_____	VBC-1L-V5
VDA 04	_____	VBC-1L-V8
VDA 04	_____	VBC-1L-V21
VDA 10	M-2189	VBC-2C
VDA 10	_____	VBC-2C-V3
VDA 10	_____	VBC-2C-V5
VDA 10	_____	VBC-2C-V8
VDA 10	_____	VBC-2C-V20
VDA 20	M-2540	VBC-2G
VDA 20	_____	VBC-2G-V3
VDA 20	_____	VBC-2G-V5
VDA 20	_____	VBC-2G-V8
VDA 20	_____	VBC-2G-V20
VDA 250	M-8165	VBC-2V
VDA 30	M-5362	VBC-2L
VDA 30	_____	VBC-2L-V3
VDA 30	_____	VBC-2L-V5
VDA 30	_____	VBC-2L-V8
VDA 30	_____	VBC-2L-V20
VDA 300	M-5363	VBC-3A
VDA 350	M-9029	VBC-3D
VDA 40	M-8718	VBC-2Q
VDA 40	_____	VBC-2Q-V3
VDA 40	_____	VBC-2Q-V5
VDA 40	_____	VBC-2Q-V8
VDA 40	_____	VBC-2Q-V20

Grounding Cat. No.	Thermoweld Cat.No.	Cadweld Cat.No.
VDA 500	M-8512	VBR-3Q
HTS-OFF 500	M-624	HTD-3Q
VHA-ON 01	M-6279	VGC-1Y
VHA-ON 01	_____	VGC-1Y-V3
VHA-ON 01	_____	VGC-1Y-V5
VHA-ON 01	_____	VGC-1Y-V8
VHA-ON 01	_____	VGC-1Y-V2C1
VHA-ON 02	M-5822	VGC-1V
VHA-ON 02	_____	VGC-1V-V3
VHA-ON 02	_____	VGC-1V-V5
VHA-ON 02	_____	VGC-1V-V8
VHA-ON 02	_____	VGC-1V-V21C
_____	_____	VGC-1T
_____	_____	VGC-1T-V3
_____	_____	VGC-1T-V5
_____	_____	VGC-1T-V8
_____	_____	VGC-1T-V21
VHA-ON 06	M-5245	VGC-1H
VHA-ON 04	M-5816	VGC-1L
VHA-ON 04	_____	VGC-1L-V3
VHA-ON 04	_____	VGC-1L-V5
VHA-ON 04	_____	VGC-1L-V8
VHA-ON 04	_____	VGC-1L-V21
VHA-ON 10	M-1168	VGC-2C
VHA-ON 10	_____	VGC-2C-V3
VHA-ON 10	_____	VGC-2C-V5
VHA-ON 10	_____	VGC-2C-V8
VHA-ON 10	_____	VGC-2C-V20
VHA-ON 20	M-9242	VGC-2G
VHA-ON 20	_____	VGC-2G-V3
VHA-ON 20	_____	VGC-2G-V5

Grounding Cat. No.	Thermoweld Cat.No.	Cadweld Cat.No.
—————	—————	HAA-1T
HSS ON-04	M-629	HAA-1L
HSS ON-06	M-628	HAA-1H
HTS ON-01	M-605	HCA-1Y
HTS ON-02	M-604	HCA-1V
—————	—————	HCA-1T
HTS ON-04	M-603	HCA-1L
HTS ON-06	M-602	HCA-1H
15	15	15
25	25	25
32	32	32
45	45	45
65	65	65
90	90	90
115	115	115
150	150	150
200	200	200
250	250	250
HC-60	40-0106-00	L160
HC-59	40-0107-00	L159
B2-40	38-0135-00	T314
B2-40R	38-0135-01	T314A
B-40	38-0306-00	T313
E-500	38-0309-00	T320
B-39	38-3922-00	T-394
S-30	40-0319- 01/3/5/6	B136A/B

CROSS REFERENCE

GROUNDING[®]

EXOTHERMIC ELECTRICAL CONNECTIONS

The company

Since the beginning of the Twentieth Century the family of our President, Roberto Abuchaibe, has been involved in electrical generation activities over vast sectors in Colombia.

Since its founding in 1978, **GROUNDING Ltda**, has played a role in many country's major generation, transmission and distribution projects. It has also a leading manufacturer and technical marketer of electrical supplies in South America.

This is why **GROUNDING** is proud to have been part of Colombia's electrical sector during the last 27 years.

Through its wide range of components and services **GROUNDING**, has contribute to the progres of Colombia's electrical sector - specially with regards to **GROUNDING** systems, Lightning and surge protection.

In fact, **GROUNDING** pioneered in the application of the exothermic system to electrical connections in Colombia. Furthermore, over 27 years of technology transference directly from the system's inventors have kept **GROUNDING** at the foremost Colombia's electrical sector.

Quality and Service above all

GROUNDING Ltda. Now offers a total solution to your electrical protection Whether for power substations, telecommunications towers, systems centers, or any other industrial application.

GROUNDING Ltda. Is now a recognized standard in the field of electrical and services for industrial applications. Its network of distributors provide coverage throughout South America.