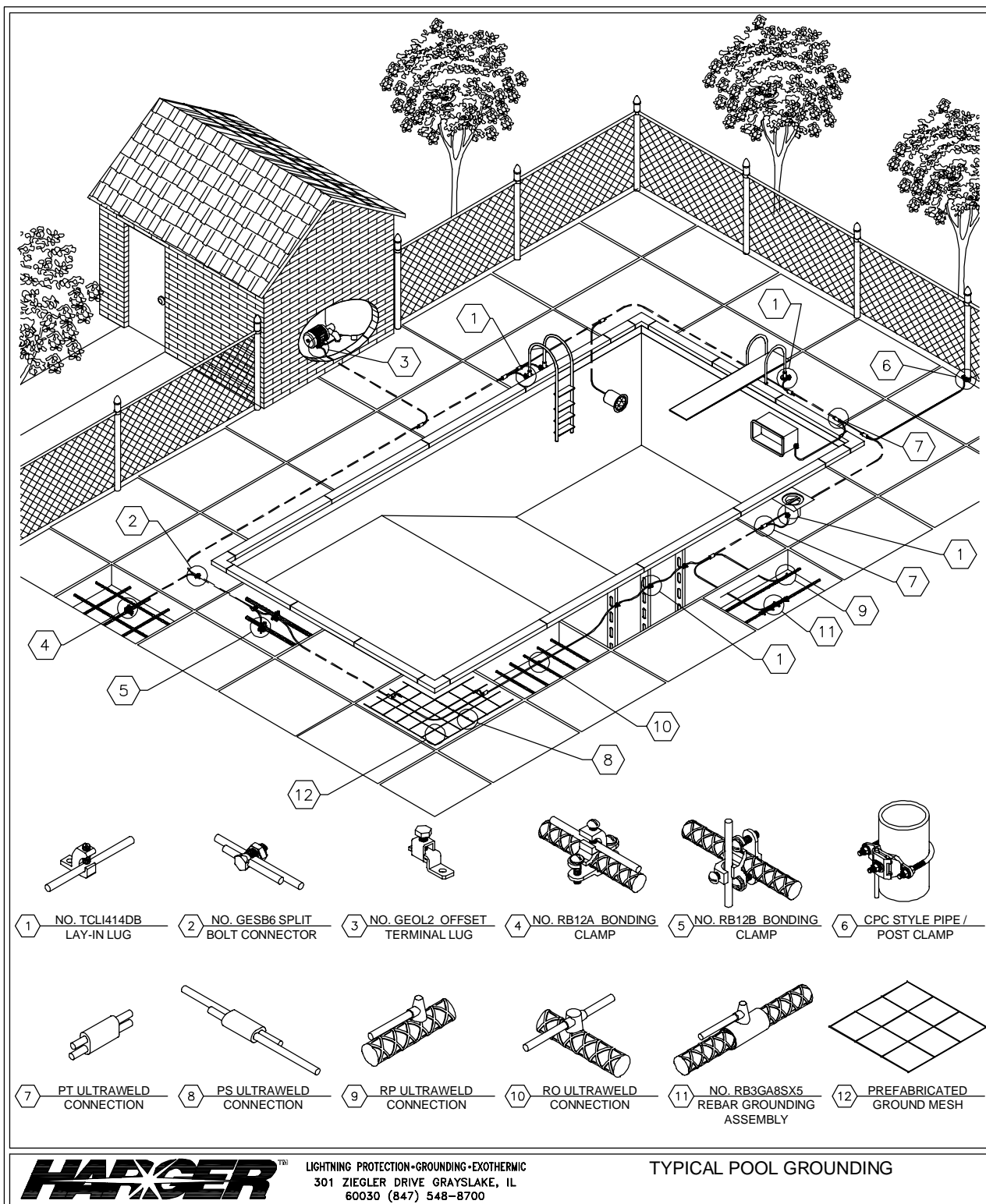
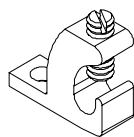


Section 1.10.1

HARGER[®]**Typical Pool Grounding Layout**

Pool Grounding Components

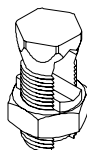


UL 486

1 - One-Hole Tinned Copper Lay-In Lug

Part No.	Wire Range	Bolt Hole Size
TCL1414DB	4 AWG - 14 AWG	#10

• Rated for direct burial.
See Page 122 for more information.



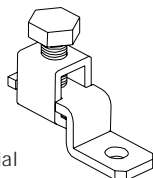
UL 486

UL 467

2 - Copper Split Bolt

Part No.	Range for Equal Main	Minimum Tap
GESB6	6 SOL - 8 SOL	14 SOL

• Rated for direct burial.
See Page 123 for more information.



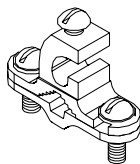
Not Rated
for Direct Burial

UL 486

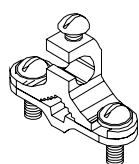
3 - Copper Offset Terminal Lug

Part No.	Wire Range	Bolt Hole Size
GEOL2	14 STR - 6 STR	#8

See Page 123 for more information.



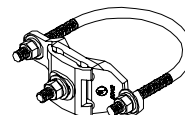
UL 467



4 & 5 - Rebar & Water Pipe Ground Clamp

Part No.	Pipe & Rebar Range	Wire Range
RB12A	3/8" - 1"	10 SOL - 2 STR
RB12B	3/8" - 1"	10 SOL - 2 STR

• Rated for direct burial.
See Page 126 for more information.



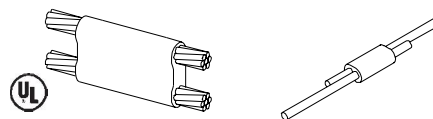
UL 96

UL 467

6 - CPC Pipe Clamps

Part No.	Material	Nom. Pipe Size Range	Pipe Outside Diameter
CPC1.5/2	Tinned Bronze	1.5" - 2"	1" - 2.4"
CPC2.5/3	Tinned Bronze	2.5" - 3"	2.25" - 3.5"

• Conductor Range #6 - 250 MCM.
• Other sizes available.
See Pages 128 & 207 for more information (Grounding & LP Sections).

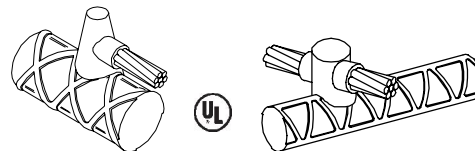


UL

7 & 8 - Cable to Cable Ultraweld Exothermic Connection Molds

Part No.	Weld Metal	Required Handle
PT8S8SB	UWM45	MH1
PS8S8SL	UWM15	MH3 (Included)
PS8S6SL	UWM15	MH3 (Included)

See Page 310 for more information.



UL

9 & 10 - Cable to Rebar Ultraweld Exothermic Connection Molds

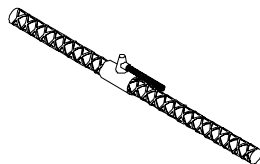
Part No.	Weld Metal	Required Handle	Packing Mat'l No.
RP38SB	UWM25	MH1	WRPSLV
RP4L8SA	UWM25	Included	CERPM1
RO38SB	UWM65	MH1	WRPSLV
RO48SB	UWM65	MH1	WRPSLV
RO58SB	UWM65	MH1	WRPSLV

See Pages 339 & 340 for more information.

Section 1.10.2 & 1.10.3



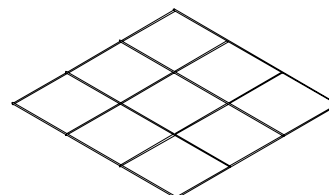
Pool Grounding Components



11 - Rebar Grounding Assembly

Part No.	Rebar Size	Conductor Type	Conductor Length (ft.)
RB3GA8SX5	3	8 SOL	5

- Prefabricated rebar grounding assembly with exothermically welded connection.
 - Standard 24" long rebar.
 - Can be wire tied or welded to rebar cage prior to concrete pour.
- See Page 200 for more information.



12 - UL Listed Prefabricated #8 Copper Ground Mesh

Part No.	Width (ft.)	Length (ft.)	Conductor Spacing	Approx. Wt. (lbs.)
GM350812	3	50	12	32
GM375812	3	75	12	42
GM3100812	3	100	12	51

- Other mesh sizes and wire gauges available.
- See Page 89 & 90 for more information.

Pool Grounding Technical Notes

TECHNICAL NOTES:

• 680.26 Equipotential Bonding* (Summarized)

(A) Performance. The equipotential bonding required by this section shall be installed to eliminate voltage gradients in the pool area as prescribed.

(B) Bonded Parts. The parts specified in 680.26(B)(1) through (B)(5) shall be bonded together.

(1) Metallic Structural Components. All metallic parts of the pool structure, including the reinforcing metal of the pool shell, coping stones, and deck, shall be bonded. The usual steel tie wires shall be considered suitable for bonding the reinforcing steel together, and welding or special clamping shall not be required. These tie wires shall be made tight. If reinforcing steel is effectively insulated by an encapsulating nonconductive compound at the time of manufacture and installation, it shall not be required to be bonded. Where reinforcing steel of the pool shell or the reinforcing steel of coping stones and deck is encapsulated with a nonconductive compound or another conductive material is not available, provisions shall be made for an alternative means to eliminate voltage gradients that would otherwise be provided by unencapsulated, bonded reinforcing steel.

(2) Underwater Lighting.

(3) Metal Fittings.

(4) Electrical Equipment.

(5) Metal Wiring Methods and Equipment. Metal-sheathed cables and raceways, metal piping, and all fixed metal parts that are within the following distances of the pool, except those separated from the pool by a permanent barrier, shall be bonded.

(1) Within 1.5 m (5 ft) horizontally of the inside walls of the pool

(2) Within 3.7 m (12 ft) measured vertically above the maximum water level of the pool, or any observation stands, towers, or platforms, or any diving structures

*NEC 2005 Equipotential Bonding Article 680.26

Pool Grounding Technical Notes

TECHNICAL NOTES: (continued)

- **680.26 Equipotential Bonding* (Summarized)**

(C) Equipotential Bonding Grid. The parts specified in 680.26(B) shall be connected to an equipotential bonding grid with a solid copper conductor, insulated, covered, or bare, not smaller than 8 AWG or rigid metal conduit of brass or other identified corrosion-resistant metal conduit. Connection shall be made by exothermic welding or by listed pressure connectors or clamps that are labeled as being suitable for the purpose and are of stainless steel, brass, copper, or copper alloy. The equipotential common bonding grid shall extend under paved walking surfaces for 1 m (3 ft) horizontally beyond the inside walls of the pool and shall be permitted to be any of the following:

- (1) Structural Reinforcing Steel. The structural reinforcing steel of a concrete pool where the reinforcing rods are bonded together by the usual steel tie wires or the equivalent
- (2) Bolted or Welded Metal Pools. The wall of a bolted or welded metal pool
- (3) Alternate Means. This system shall be permitted to be constructed as specified in (a) through (c):
 - a. Materials and Connections. The grid shall be constructed of minimum 8 AWG bare solid copper conductors. Conductors shall be bonded to each other at all points of crossing. Connections shall be made as required by 680.26(D).
 - b. Grid Structure. The equipotential bonding grid shall cover the contour of the pool and the pool deck extending 1 m (3 ft) horizontally from the inside walls of the pool. The equipotential bonding grid shall be arranged in a 300 mm (12 in.) by 300 mm (12 in.) network of conductors in a uniformly spaced perpendicular grid pattern with tolerance of 100 mm (4 in.).
 - c. Securing. The below-grade grid shall be secured within or under the pool and deck media.

(D) Connections. Where structural reinforcing steel or the walls of bolted or welded metal pool structures are used as an equipotential bonding grid for nonelectrical parts, the connections shall be made in accordance with 250.8.

- **250.8 Connection of Grounding and Bonding Equipment***

Grounding conductors and bonding jumpers shall be connected by exothermic welding, listed pressure connectors, listed clamps, or other listed means. Connection devices or fittings that depend solely on solder shall not be used. Sheet metal screws shall not be used to connect grounding conductors or connection devices to enclosures.

*NEC 2005 Equipotential Bonding Article 680.26

*NEC 2005 Connection of Grounding and Bonding Equipment Article 250.8