

Weld Ring Installation Procedure

1. After the hole in the tank shell has been cleaned and deburred, the weld ring should be placed in location, where the manhole will be below the overturn rail and will not affect the function of the clamp ring, and tack welded in place (4 to 6 tack welds).
2. A weld fixture should be installed on the weld ring. It should be a round piece made of 1/2" to 5/8" steel plate. Also, it should have 6 or 8 gussets that should be used to define the inside radius of the weld ring. These fixtures are usually held together with 3/4" bolts. If the weld ring is made of stainless steel, the weld fixture should also be made of stainless steel to prevent contaminations. The fixture plate should be bolted to the top of the weld ring flange to keep it flat during the welding process.
3. The first surface welded (inside or outside of the tank) should employ an 8 segment sealing weld. The segments should be laid down staggered, from one side of the weld ring to the other, keeping the heat build up to a minimum. Also, grinding of the starts and stops of the weld is recommended.
4. Allow the weld to cool fully.
5. Apply a 6 segment sealing weld to the remaining surface. As in step #3, this weld should also be staggered as it is laid down. Also, grinding of the starts and stops of the weld is recommended.
6. Allow the weld to cool fully.
7. Remove the fixture.

WARNING: THE WELD RING MUST BE FLAT WITHIN 1/16" AND ROUNDNESS SHOULD BE MAINTAINED TO WITHIN +/- 1/16". FAILURE TO KEEP THE WELD RING TO THIS FLATNESS TOLERANCE MAY AFFECT THE SET PRESSURE OF THE EMERGENCY FILL COVER VENT OR THE PRESSURE RATING OF THE MANHOLE ASSEMBLY.