



5'-0" DIAMETER MANHOLE SPECIFICATIONS

Revised: January 22, 2001

This specification covers precast reinforced concrete manhole base sections, riser sections, eccentric cone sections, flat slab tops and grade rings. All sections are manufactured according to ASTM C-478-90b which may be referred to for more detailed specifications.

CONCRETE

1. Concrete shall have a minimum 28 day compressive strength of 4000 psi.
2. Unless otherwise specified, Type I cement shall be used.
3. Air content shall be 6 percent, plus or minus 2 percent.

REINFORCING STEEL

1. Riser and cone reinforcement is one layer of 3x8-W4/W2.9 (.16/.045) placed in the center third of the wall. In no case will the total steel area per vertical foot be less than .15 square inches.
2. Flat slab tops are reinforced with two layers of mesh. The reinforcement shall be located one inch from the lower side of the top.
3. Grade rings have circumferential reinforcement of one ring of .276 BRT wire or equivalent. In no case will the total steel area have an equivalent area of less than 0.07 square inches / vertical foot and not less than 0.024 square inches in any one grade ring.
4. Precast base sections: Walls and base monolithically poured. Reinforcement for walls is one layer of 3x8-W3/W2.1 (.12/.03) placed in the center third of wall. Bottom section has two layers of 3x8-W3/W2.1 at 90° of each other placed above the midpoint.

DIMENSIONS

1. Inside diameter of risers shall be 60".
2. Risers are manufactured in vertical heights of 24", 36", 48", 60" and 72".
3. Bases are manufactured in vertical heights of 24", 36", 48", 60" and 72".
4. Wall thickness shall be 6" on 60" diameter manhole components and 5" for 48" diameter manhole components.
5. Grade rings are manufactured in vertical heights of 2", 3", 4", 6" and 8" with a wall thickness of 8".



MANHOLE STEPS

1. American Step Company, Inc. ML-10 high impact copolymer polypropylene steps with .5" diameter ASTM A 496 D20 deformed steel bar or equal.
2. Steps are attached to riser or conical sections so as to form a continuous ladder of rungs spaced vertically at 12". Installer must align sections so as to form a continuous ladder.

JOINTS

1. The base, riser and cone (excepting grade rings) shall be formed with male and female ends, so when the base, riser and top are assembled they will make a continuous and uniform manhole.
2. The joints shall be sealed with Concrete Sealant's ConSeal CS-102 Controlled Expansion Waterstop Sealant.

OTHER SPECIFICATIONS

1. When required, inverts or flow channels will be placed by a secondary pour of the base. The concrete at the lowest point of the flow channel shall be a minimum of 2" for the sanitary manholes and 1" for the storm manholes.
2. When required for sanitary sewer, pipe to manhole gasket systems will be Press-Seal Gasket Corporation PSX positive seal gasket with power sleeve expansion or equal.