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2-5 MINIMUM AND MAXIMUM COVER LIMITATIONS



Minimum Cover in Trafficked Applications

Pipe with diameters of 4" - 48" (100 - 1200mm) installed in trafficked areas (AASHTO H-25 or HS-25 loads) must have at least one foot (0.3m) of cover over the pipe crown, while 54" and 60" (1350 and 1500mm) pipes must have at least 18 inches (0.5m) of cover. In theory the pipe can be buried with slightly less cover, but application variables are such that 1' (0.3 m) or 18" (0.5m), depending on the diameter, are the conservative limits. The backfill envelope should provide a minimum E' value of 1000 psi (6,900 kPa). In Table 2-8, this condition is represented by a Class III material compacted to 90% standard Proctor density, although other material can provide similar strength at slightly lower levels of compaction. Structural backfill material should extend six inches (0.15m) over the crown of the pipe; the remaining cover should be appropriate for the installation. If settlement or rutting is a concern, it may be appropriate to extend the structural backfill to grade. Where pavement is involved, subbase material can be used.

Additional information that may affect the cover requirements in certain installations is included in Section 6. Some examples of what may need to be considered are heavy equipment loads that the pipe might experience only during the construction phase, paving equipment and similar loads that are lighter than the design load, and the possibility of pipe flotation.

Table 2-8 – Minimum Cover Requirements for Sure-Lok[®], Hi-Q[®], and AASHTO Pipe with AASHTO H-25 or HS-25 Load

Inside Diameter, ID, in.(mm)	Minimum Cover, H, ft. (m)	Inside Diameter, ID, in.(mm)	Minimum Cover, H, ft. (m)
3 (75)	1 (0.3)	24 (600)	1 (0.3)
4 (100)	1 (0.3)	30 (750)	1 (0.3)
6 (150)	1 (0.3)	36 (900)	1 (0.3)
8 (200)	1 (0.3)	42 (1050)	1 (0.3)
10 (250)	1 (0.3)	48 (1200)	1 (0.3)
12 (300)	1 (0.3)	54 (1350)	1.5 (0.5)
15 (375)	1 (0.3)	60 (1500)	1.5 (0.5)
18 (450)	1 (0.3)		

Note: Minimum covers presented here were calculated assuming Class III backfill material compacted to 90% standard Proctor density around the pipe and a minimum of 6-inches (0.15 m) over the pipe crown, as recommended in Section 6, with an additional layer of compacted native soil for a total cover as shown. In shallow trafficked installations, especially where pavement is involved, it may be best to use a good quality compacted material to grade to prevent surface settlement and rutting.

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