Heights of Cover

3" x 1" Pipe-Arch Height of Cover Limits for Corrugated Steel Pipe-Arch

H 20 and H 25 Live Loads

Size		Minimum Thickness (Inches)	Minimum Cover (Inches)	Maximum Cover (Feet)
Round Equivalent (Inches)	Span x Rise (Inches)			2 Tons/Ft.² Corner Bearing Pressure
48	53 x 41	0.079	12	25
54	60 x 46	0.079	15	25
60	66 x 51	0.079	15	25
66	73 x 55	0.079	18	24
72	81 x 59	0.079	18	21
78	87 x 63	0.079	18	20
84	95 x 67	0.079	18	20
90	103 x 71	0.079	18	20
96	112 x 75	0.079	21	20
102	117 x 79	0.109	21	19
108	128 x 83	0.109	24	19
114	137 x 87	0.109	24	19
120	142 x 91	0.138	24	19

Larger sizes are available in some areas of the United States. Check with your local Contech Sales Representative.

Some minimum heights of cover for pipe-arches have been increased to take into account allowable "plus" tolerances on the manufactured rise.

E 80 Live Loads, Pipe-Arch

Size		Minimum Thickness (Inches)	Minimum Cover (Inches)	Maximum Cover (Feet)
Round Equivalent (Inches)	Span x Rise (Inches)			2 Tons/Ft.² Corner Bearing Pressure
48	53 x 41	0.079	24	25
54	60 x 46	0.079	24	25
60	66 x 51	0.079	24	25
66	73 x 55	0.079	30	24
72	81 x 59	0.079	30	21
78	87 x 63	0.079	30	18
84	95 x 67	0.079	30	18
90	103 x 71	0.079	36	18
96	112 x 75	0.079	36	18
102	117 x 79	0.109	36	17
108	128 x 83	0.109	42	17
114	137 x 87	0.109	42	17
120	142 x 91	0.138	42	17

Some 3" x 1" and 5" x 1" minimum gages shown for pipe-arch are due to manufacturing limitations.

Heights of Cover Notes:

1. *These tables are for lock-seam or welded-seam construction. They are not for riveted construction. Consult your Contech Sales Representative for Height of Cover tables on riveted pipe.*
2. *These values, where applicable, were calculated using K=0.86 as adopted in the NCSPA CSP Design Manual, 2008.*
3. *The span and rise shown in these tables are nominal. Typically the actual rise that forms is greater than the specified nominal. This actual rise is within the tolerances as allowed by the AASHTO & ASTM specifications. The minimum covers shown are more conservative than required by the AASHTO and ASTM specifications to account for this anticipated increase in rise. Less cover height may be tolerated depending upon actual rise of supplied pipe-arch.*
4. *The haunch areas of a pipe-arch are the most critical zone for backfilling. Extra care should be taken to provide good material and compaction to a point above the spring line.*
5. *E 80 minimum cover is measured from top of pipe to bottom of tie.*
6. *H 20 and H 25 minimum cover is measured from top of pipe to bottom of flexible pavement or top of rigid pavement.*
7. *The pipe-arch tables are based on the corner bearing pressures as shown. These values may increase or decrease with changes in allowable corner bearing pressures. Consider the use of a round pipe in cases where the height of cover exceeds 8'.*
8. *For construction loads, see Page 15.*
9. *Smooth Cor™ has same Height of Cover properties as corrugated steel pipe. The exterior shell of Smooth Cor™ is manufactured in either 2 2/3" x 1/2" or 3" x 1" corrugations; maximum exterior shell is 12 GA.*