

3" x 1" Corrugation Height of Cover Limits for H20 or H25 Live Load



AISI-4 Height-of-Cover Limits for Corrugated Steel Pipe
5 x 1 or 3 x 1 in. Corrugations H20 or H25 LIVE LOAD
(as shown on page 410 of the NCSA Corrugated Steel Pipe Design Manual)

Diameter or Span, in.	Minimum* Cover, in.	Maximum Cover (ft) for Specified Thickness (in.)				
		0.064	0.079	0.109	0.138	0.168
54	12	56	70	99	127	155
60		51	63	89	114	140
66		46	58	81	104	127
72		42	53	74	95	117
78		39	49	68	88	108
84		36	45	63	82	100
90		34	42	59	76	93
96	12	32	40	56	71	87
102	18	30	37	52	67	82
108		(28)	35	49	64	78
114		(26)	33	46	59	72
120	18	(24)	30	42	54	67
126	24	(22)	(28)	39	50	62
132			(26)	36	47	57
138			(24)	33	43	53
144	24			(31)	40	49

Notes:

1. Fill heights in parentheses require standard trench installation; all others may be embankment or trench.
2. Maximum covers shown are for 5 x 1 in.; increase them by 12% for 3 x 1 in.
- * Minimum covers are measured from the top of the pipe to bottom of flexible pavement or top of pipe to top of rigid pavement. Minimum covers must be maintained in unpaved traffic areas.



AISI-11 Height-of-Cover Limits for Corrugated Steel Pipe Arch
3 x 1 in. Corrugations H20 or H25 LIVE LOAD
(as shown on page 417 of the NCSA Corrugated Steel Pipe Design Manual)

Span & Rise (inches)	Minimum Specified Thickness Required (inch)	Minimum* Cover (inches)	Maximum Cover (feet) Over Pipe-Arch for Soil Corner Bearing Capacity of 2 tons/ft ³
53 x 41	0.079	12	25
60 x 46	0.079	15	25
66 x 51	0.079	15	25
73 x 55	0.079	18	24
81 x 59	0.079	18	21
87 x 63	0.079	18	20
95 x 67	0.079	18	20
103 x 71	0.079	18	20
112 x 75	0.079	21	20
117 x 79	0.109	21	19
128 x 83	0.109	24	19
137 x 87	0.109	24	19
142 x 91	0.138	24	19
150 x 96	0.138	30	19
157 x 101	0.138	30	19
164 x 105	0.138	30	19
171 x 110	0.138	30	19

Notes:

1. Soil bearing capacity refers to the soil in the region of the pipe corners. See Chapter 10 for design of pipe envelope at pipe corners. The remaining backfill around the pipe arch must be compacted to a specified AASHTO T-99 density of 90%.
2. Use reasonable care in handling and installation.
3. Pipe arches are typically used where the cover does not exceed 15 feet.
- * Minimum covers are for H20 and H25 loads. See Table 10.1 for construction load requirements. Minimum covers are measured from the top of pipe to bottom of flexible pavement or top of pipe to top of rigid pavement. Minimum cover must be maintained in unpaved traffic areas.



3" x 1" Corrugation Height of Cover Limits for E80 Live Load



AISI-6 Height-of-Cover Limits for Corrugated Steel Pipe
5 x 1 or 3 x 1 in. Corrugations E80 LIVE LOAD
(as shown on page 412 of the NCSA Corrugated Steel Pipe Design Manual)

Diameter or Span, in.	Minimum* Cover, in.	Maximum Cover (ft) for Specified Thickness (in.)				
		0.064	0.079	0.109	0.138	0.168
54	18	56	70	99	127	155
60		51	63	89	114	140
66		46	58	81	104	127
72	18	42	53	74	95	117
78	24	39	49	68	88	108
84		36	45	63	82	100
90		33**	42	59	76	93
96	24	31**	40	56	71	87
102	30	29**	37	52	67	82
108			35	49	64	78
114			32**	46	59	72
120	30		30**	42	54	67
126	36			39	50	62
132				36	47	57
138				33**	43	53
144	36				40	49

Notes:

1. Maximum covers shown are for 5 x 1 in.; increase them by 12% for 3 x 1 in.

* From top of pipe to bottom of tie.

** These pipe require additional minimum cover.



AISI-13 Height-of-Cover Limits for Corrugated Steel Pipe Arch
3 x 1 in. Corrugations E80 LIVE LOAD
(as shown on page 419 of the NCSA Corrugated Steel Pipe Design Manual)

Span & Rise (inches)	Minimum Specified Thickness Required (inch)	Minimum* Cover (inches)	Maximum Cover (ft) Over Pipe Arch for Soil Corner Bearing Capacity of 2 tons/ft ²
53 x 41	0.079	24	25
60 x 46		24	25
66 x 51		24	25
73 x 55		30	24
81 x 59		30	21
87 x 63		30	18
95 x 67		30	18
103 x 71		36	18
112 x 75	0.079	36	18
117 x 79	0.109	36	17
128 x 83		42	17
137 x 87	0.109	42	17
142 x 91	0.138	42	17
150 x 96		48	17
157 x 101		48	17
164 x 105		48	17
171 x 110	0.138	48	17

Notes:

1. Soil bearing capacity refers to the soil in the region of the pipe corners, See Chapter 10 for design of pipe envelope at pipe corners. The remaining backfill around the pipe arch must be compacted to a specified AASHTO T-99 density of 90%.

2. Use reasonable care in handling and installation.

3. Pipe arches are typically used where the cover does not exceed 15 feet.

* Minimum cover is from the top of pipe to the bottom of tie.



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