

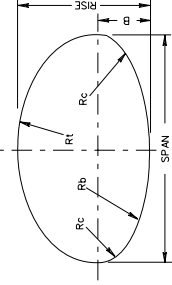
PC-1

MINIMUM SHEET THICKNESS AND DESIGN DATA					
NOMINAL SIZE SPAN-RISE INCHES	PIPE ARCH DIMENSION		MINIMUM SHEET THICKNESS REQUIRED INCHES (GAUGE)	MAXIMUM COVER HEIGHT	
	EQUIVALENT DIAMETER INCHES	AREA SQ. FT.		Rc INCHES	4000 FT. LBS. (SEE NOTE 4) (SEE NOTE 6)
2 2 1/2" x 1/2" CORRUGATIONS					
17 x 13	15	1.1	0.060 (16)	11	17
21 x 15	18	1.6	0.060 (16)	9	14
24 x 18	21	2.2	0.060 (16)	8	12
28 x 20	24	2.8	0.075 (14)	7	10
35 x 24	30	4.4	0.075 (14)	5	8
42 x 29	36	6.4	0.105 (12)	5	8
49 x 33	42	8.7	0.105 (12)	5	8
57 x 38	48	11.4	0.135 (10)	5	8
64 x 43	54	14.3	0.135 (10)	6	9
71 x 47	60	17.6	0.164 (8)	6	9
3" x 1" CORRUGATIONS					
40 x 31	36	6.4	0.060 (16)	8	12
45 x 36	42	8.7	0.060 (16)	8	12
53 x 41	48	11.4	0.060 (16)	8	13
60 x 46	54	14.3	0.075 (14)	8	13
68 x 51	60	17.6	0.075 (14)	9	13
73 x 55	66	22.0	0.105 (12)	11	16
81 x 59	72	26.0	0.105 (12)	11	17
87 x 63	78	31.0	0.135 (10)	10	16
95 x 67	84	35.0	0.135 (10)	11	16
103 x 71	90	40.0	0.164 (8)	10	15
112 x 75	96	46.0	0.164 (8)	10	13
117 x 79	102	52.0	0.164 (8)	10	11

⊗ INDICATES PIPE ARCHES FOR WHICH DIMENSIONS FOR EITHER CORRUGATION MAY BE USED WITHIN HEIGHT OF COVER LIMITATIONS.

- NOTES:
- COVER HEIGHTS INDICATED IN TABLES ARE FOR FINISHED CONSTRUCTION.
 - TO PROTECT PIPE DURING CONSTRUCTION MINIMUM HEIGHT TO ALLOWING CONSTRUCTION TRAFFIC TO CROSS PRIOR TO INSTALLATION, THE COVER SHALL EXTEND THE FULL WIDTH OF THE ARCH AND BE MINIMUM 18" ABOVE THE TOP OF EACH SIDE OF THE STRUCTURE OR TO THE 1/2" SPAN ON INTERSECTION WITH A CUT.
 - STANDARD MINIMUM FINISHED HEIGHT OF COVER FOR ALL ARCHES SHALL BE 18" UNLESS OTHERWISE SPECIFIED. GREATER IN CASES IN WHICH THESE COVER HEIGHTS CANNOT BE ACHIEVED, AN ABSOLUTE MINIMUM FINISHED HEIGHT OF COVER SHALL BE 10" ONLY IF ALL POSSIBLE MEANS TO OBTAIN THE STANDARD VALUE HAVE BEEN EXHAUSTED.
 - SEE STANDARD PB-1 FOR PIPE BEDDING AND BACKFILL REQUIREMENTS.
 - THE MAXIMUM HEIGHT OF COVER SHOWN IN THE TABLES IS BASED ON A SOIL MODULUS OF 700 P.S.I. ALL OTHER SPECIFICATIONS AND FOOT MODIFICATIONS FOR SOIL CORRUATED METAL STRUCTURE INTERACTION SYSTEMS.
 - WHEN DESIGN HEIGHT OF COVER REQUIRES THE USE OF BACKFILL MUST BE APPROVED BY THE ENGINEER AND APPROVED CONTRACTOR.
 - APPROXIMATELY 15 PERCENT OF THE COVER SHALL BE SET ASIDE TO ALLOW CONSTRUCTION TRAFFIC TO CROSS THE ARCH TOP BY APPROXIMATELY 15 PERCENT OF THE PERIPHERY.
 - A TOLERANCE OF PLUS OR MINUS .1" IS PERMISSIBLE FOR DIMENSIONS OF SPAN, RISE, AND CORNER RADIUS.

PIPE DIAMETER	MINIMUM COVER HEIGHT DURING CONSTRUCTION (SEE NOTE 2)
17"-19, 35"	18"
42" AND ABOVE	1/2" SPAN



SHEET 7 OF 18

CORRUGATED ALUMINUM ALLOY PIPE ARCH HEIGHT OF COVER TABLE FOR H-20 LIVE LOAD

VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION
REFERENCE
332
302

REV. 7/05
107.11

PC-1

STRUCTURAL PLATE STEEL PIPE- 6" x 2" CORRUGATIONS

PIPE DIAMETER INCHES	AREA SQ. FT.	MINIMUM HEIGHT OF COVER IN FEET					
		0.109 (12)	0.138 (10)	0.168 (8)	0.188 (7)	0.218 (5)	0.249 (3)
60	20	4.3	5.0	5.8	6.3	7.1	7.9
66	24	3.6	4.2	4.8	5.1	5.8	6.4
72	28	3.2	3.6	4.0	4.3	4.8	5.3
78	33	2.8	3.2	3.5	3.8	4.1	4.5
84	38	2.6	2.9	3.2	3.3	3.6	3.9
90	44	2.4	2.7	2.9	3.0	3.3	3.5
96	50	2.3	2.5	2.7	2.8	3.0	3.2
102	57	2.2	2.3	2.5	2.6	2.8	2.9
108	64	2.1	2.2	2.4	2.5	2.6	2.7
114	71	2.0	2.1	2.3	2.3	2.5	2.6
120	78	2.0	2.1	2.2	2.2	2.3	2.4
132	95	1.9	2.0	2.0	2.1	2.2	2.2
144	113	1.8	1.9	2.0	2.0	2.1	2.1
156	133	1.8	1.8	1.9	1.9	2.0	2.0
168	154	1.7	1.8	1.8	1.9	1.9	2.0
180	177	1.5	1.8	1.8	1.8	1.9	1.9
192	201		1.8	1.8	1.8	1.8	1.9
204	227		1.7	1.8	1.8	1.8	1.8
216	254		1.7	1.8	1.8	1.8	1.8
228	284		1.7	1.7	1.8	1.8	1.8
240	314			1.6	1.7	1.8	1.8

NOTES:

- COVER HEIGHTS INDICATED IN TABLE ARE FOR FINISHED CONSTRUCTION.
- TO PROTECT PIPE DURING CONSTRUCTION MINIMUM HEIGHT OF COVER PRIOR TO ALLOWING CONSTRUCTION TRAFFIC TO CROSS INSTALLATION, THE COVER SHALL EXTEND THE FULL WIDTH OF THE ARCH AND BE MINIMUM 18" ABOVE THE TOP OF EACH SIDE OF THE PIPE OR TO THE INTERSECTION WITH A CUT.
- STANDARD MINIMUM FINISHED HEIGHT OF COVER FOR ALL PIPES SHALL BE 2.0 OR 1/2" DIAMETER WHICHEVER IS GREATER. IN CASES IN WHICH THESE COVER HEIGHTS CANNOT BE ACHIEVED, AN ABSOLUTE MINIMUM FINISHED COVER HEIGHT OF 1.0 OR 1/8" DIAMETER WILL BE ALLOWED ONLY IF ALL POSSIBLE MEANS TO OBTAIN THE STANDARD VALUE HAVE BEEN EXHAUSTED.
- THE MAXIMUM HEIGHT OF COVER SHOWN IN THE TABLES IS BASED ON A SOIL MODULUS OF 700 P.S.I. ALL OTHER DESIGN CRITERIA ARE IN ACCORDANCE WITH AASHTO SPECIFICATIONS AND FOOT MODIFICATIONS FOR SOIL CORRUATED METAL STRUCTURE INTERSECTION SYSTEMS.
- STRUCTURAL PLATE PIPE DIMENSIONS ARE TO INSIDE CREST AND ARE SUBJECT TO MANUFACTURING TOLERANCES.
- SEE STANDARD PB-1 FOR BEDDING AND BACKFILL REQUIREMENTS.

SHEET 8 OF 18

STRUCTURAL PLATE STEEL PIPE HEIGHT OF COVER TABLE FOR H-20 LIVE LOAD

VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION
REFERENCE
332
302

NEW 7/05
SPECIAL DESIGN SECTION
DRAWING NO. A 166_4

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

REVISED	STATE	FEDERAL AID PROJECT	ROUTE	STATE PROJECT	SHEET NO.
	VA.				

PLAN NO.	PROJECT	FILE NO.	SHEET NO.