

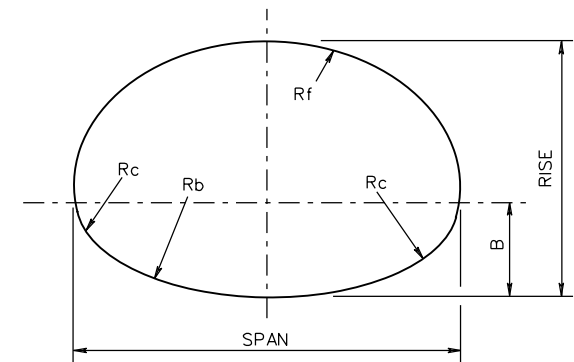
**MINIMUM THICKNESS-STRUCTURAL PLATE STEEL PIPE ARCHES
6" x 2" CORRUGATIONS**

PIPE ARCH DIMENSION					MINIMUM SHEET THICKNESS REQUIRED GAUGE	MAXIMUM ALLOWABLE COVER HEIGHT IN FEET	
SPAN	RISE	AREA SQ. FT.	B INCHES (SEE NOTE 8)	Rc INCHES		MAXIMUM CORNER PRESSURE	
						4000 LBS./SQ. FT. (SEE NOTE 4)	6000 LBS./SQ. FT. (SEE NOTE 6)
13'-3'	9'-4"	97	38.5	31	12	12	18 ☉
13'-6'	9'-6"	102	37.7	31	12	12	17 ☉
14'-0"	9'-8"	105	39.6	31	12	12	17 ☉
14'-2"	9'-10"	109	38.8	31	12	12	16 ☉
14'-5"	10'-0"	114	37.9	31	12	11	16 ☉
14'-11"	10'-2"	118	39.8	31	12	11	16 ☉
15'-4"	10'-4"	123	41.8	31	12	11	15 ☉
15'-7"	10'-6"	127	40.9	31	12	11	15 ☉
15'-10"	10'-8"	132	40.0	31	12	10	14 ☉
16'-3"	10'-10"	137	42.1	31	12	10	14 ☉
16'-6"	11'-0"	142	41.1	31	12	10	14 ☉
17'-0"	11'-2"	146	43.3	31	12	10	14 ☉
17'-2"	11'-4"	151	42.3	31	12	10	13 ☉
17'-5"	11'-6"	157	41.3	31	12	9	13 ☉
17'-11"	11'-8"	161	43.5	31	12	9	13 ☉
18'-1"	11'-10"	167	42.4	31	12	9	13 ☉
18'-7"	12'-0"	172	44.7	31	12	9	12 ☉
18'-9"	12'-2"	177	43.6	31	12	9	12 ☉
19'-3"	12'-4"	182	45.9	31	10	8	13
19'-6"	12'-6"	188	44.8	31	10	8	13
19'-8"	12'-8"	194	43.7	31	10	8	13
19'-11"	12'-10"	200	42.5	31	10	8	12
20'-5"	13'-0"	205	44.9	31	10	8	12
20'-7"	13'-2"	211	43.7	31	10	8	12

☉ MAXIMUM COVER HEIGHTS SHOWN MAY BE INCREASED BY A MAXIMUM OF 12" IF A SHEET THICKNESS GREATER THAN 12 GAUGE IS USED.

NOTES:

- COVER HEIGHTS INDICATED IN TABLES ARE FOR FINISHED CONSTRUCTION WHICH MATCH FORMER VDOT ALLOWABLE STRESS DESIGN TABLES. COVER HEIGHTS WERE NOT RE-CALCULATED USING LRFD.
- TO PROTECT PIPE DURING CONSTRUCTION, MINIMUM HEIGHT OF COVER PRIOR TO ALLOWING CONSTRUCTION TRAFFIC TO CROSS INSTALLATION SHALL BE 1/2 SPAN. THE COVER SHALL EXTEND THE FULL LENGTH OF THE PIPE ARCH. THE APPROACH FILL RAMP IS TO EXTEND A MINIMUM OF 10(HHEIGHT + 1/2 SPAN) ON EACH SIDE OF THE STRUCTURE OR TO THE INTERSECTION WITH A CUT.
- STANDARD MINIMUM FINISHED HEIGHT OF COVER FOR ALL PIPES SHALL BE 1/4 SPAN. IN CASES IN WHICH THIS COVER HEIGHT CANNOT BE ACHIEVED, AN ABSOLUTE MINIMUM FINISHED COVER HEIGHT OF 1/8 SPAN WILL BE ALLOWED ONLY IF ALL POSSIBLE MEANS TO OBTAIN THE STANDARD VALUE HAVE BEEN EXHAUSTED.
- SEE STANDARD PB-1 FOR PIPE BEDDING AND BACKFILL REQUIREMENTS.
- STRUCTURAL PLATE PIPE-ARCH DIMENSIONS ARE TO INSIDE OF CREST AND ARE SUBJECT TO MANUFACTURING TOLERANCES.
- WHEN DESIGN HEIGHT OF COVER REQUIRES THE USE OF THIS CATEGORY OR PIPE, BEDDING AND BACKFILL MUST BE APPROVED BY THE ENGINEER.
- THE MAXIMUM HEIGHT OF COVER SHOWN IN THE TABLES IS BASED ON A SOIL MODULUS OF 700 PSI. ALL OTHER DESIGN CRITERIA ARE IN ACCORDANCE WITH THE AASHTO SPECIFICATIONS AND VDOT MODIFICATIONS FOR SOIL CORRUGATED METAL STRUCTURE INTERACTION SYSTEMS.
- SPAN OF PIPE ARCHES IS MEASURED "B" INCHES ABOVE THE INVERT. SEE DIAGRAM BELOW FOR ILLUSTRATION OF "B" DIMENSION.



SPECIFICATION REFERENCE

232
302

A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE.

**STRUCTURAL PLATE STEEL PIPE ARCH
HEIGHT OF COVER TABLE FOR HL-93 LIVE LOAD**

VIRGINIA DEPARTMENT OF TRANSPORTATION

VDOT

ROAD AND BRIDGE STANDARDS

REVISION DATE

07/16

SHEET 10 OF 5

107.14