

POLYETHYLENE (PE) PLASTIC ROUND PIPE CULVERT & STORM DRAIN

FILL HEIGHT TABLE AND MINIMUM CELL CLASSIFICATION NUMBER PER ASTM D 3350

SMOOTH WALL (SOLID WALL)								CORRUGATED			RIBBED			
PIPE SIZE DIAMETER INCHES	MINIMUM COVER INCHES	CELL CLASSIFICATION NUMBER 335434C						PIPE SIZE DIAMETER INCHES	MINIMUM COVER INCHES	AASHTO M294 MAXIMUM FILL HEIGHT (FEET)	PIPE SIZE DIAMETER INCHES	MINIMUM COVER INCHES	CELL CLASS. NO. 334433C	CELL CLASS. NO. 335434C
		MINIMUM WALL THICKNESS (INCHES)												
		0.607	0.857	0.923	1.154	1.385	1.292						1.477	MAXIMUM FILL HEIGHT (FEET)
12	12	57						12	12	15	18	12	18	24
18	12		52					15	12	13	24	12	22	28
24	12			38				18	12	13	30	12	22	28
30	12				38			24	12	12	36	12	25	31
36	12					38		30	12	12	42	12	21	27
42	12						27	36	12	10	48	12	21	26
48	12						27							

NOTE:

- When directed, camber pipe culverts upward from a chord through the inlet and outlet inverts an ordinate amount equal to 1% of the pipe length. Develop camber on a parabolic curve. If the midpoint elevation on the parabolic curve as designed exceeds the elevation of the inlet invert, reduce the amount of camber or increase the pipe culvert gradient.
- For flexible pavement and aggregate surface roadways, measure minimum cover from the top of the pipe culvert to the bottom of the roadway subgrade. For rigid pavements, measure minimum cover from the top of the pipe culvert to the top of the pavement. For all roadway surface types, measure maximum fill height from the top of the pipe culvert to the top of the pavement.

POLYVINYL CHLORIDE (PVC) PLASTIC ROUND PIPE CULVERT

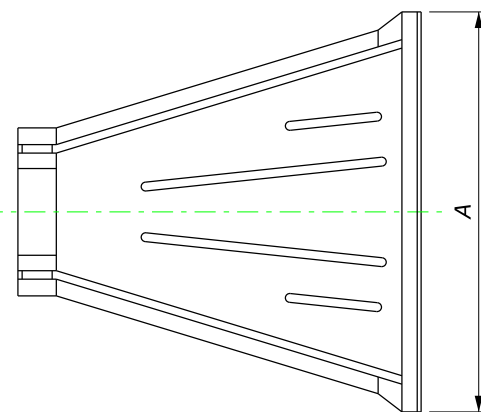
FILL HEIGHT TABLE AND MINIMUM CELL CLASSIFICATION NUMBER PER ASTM D 1784

SMOOTH WALL (SOLID WALL)						RIBBED			
PIPE SIZE DIAMETER INCHES	MINIMUM COVER INCHES	CELL CLASS. NO. 12454		CELL CLASS. NO. 12364		PIPE SIZE DIAMETER INCHES	MINIMUM COVER INCHES	CELL CLASS. NO. 12454C	CELL CLASS. NO. 12364C
		MINIMUM WALL THICKNESS (INCHES)							
		0.358	0.438	0.358	0.438			MINIMUM FILL HEIGHT (FEET)	
12	12	65		69		12	12	37	26
15	12		62		66	15	12	32	22
						18	12	33	23
						24	12	29	21
						30	12	28	20
						36	12	27	19
						42	12	26	18
						48	12	24	17

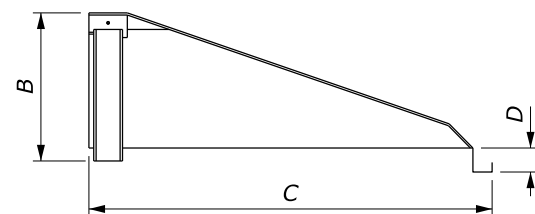
POLYPROPYLENE (PP) PLASTIC ROUND PIPE CULVERT & STORM DRAIN

FILL HEIGHT TABLE AND MINIMUM CELL CLASSIFICATION NUMBER PER ASTM D 3350

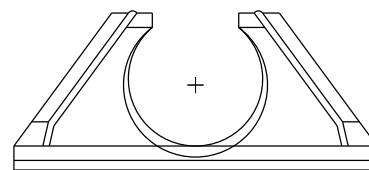
CORRUGATED		
PIPE SIZE DIAMETER INCHES	MINIMUM COVER INCHES	AASHTO M330 MAXIMUM FILL HEIGHT (FEET)
12	12	17
15	12	17
18	12	17
24	12	16
30	12	14
36	12	12



TOP



SIDE



FRONT

PLASTIC PIPE END SECTION

PIPE SIZE DIAMETER INCHES	END SECTION DIMENSIONS DIMENSIONS INCHES			
	A	B	C	D
12	42	14.5	33	6
15	46	24.5	45.5	6
18	54	29	55	6
24	64	37	65	6
30	88	36	63.5	6
36	88	43	66.5	6

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION, FHWA
OFFICE OF FEDERAL LANDS HIGHWAY

PLASTIC PIPE CULVERT

FLH STANDARD
602-5

SPECIFICATION
FP-24, FP-14

APPROVED FOR USE
8/2024

POLYETHYLENE (PE) PLASTIC ROUND PIPE CULVERT & STORM DRAIN

FILL HEIGHT TABLE AND MINIMUM CELL CLASSIFICATION NUMBER PER ASTM D 3350

SMOOTH WALL (SOLID WALL)								CORRUGATED			RIBBED			
PIPE SIZE DIAMETER	MINIMUM COVER	CELL CLASSIFICATION NUMBER 335434C						PIPE SIZE DIAMETER	MINIMUM COVER	AASHTO M294 MAXIMUM FILL HEIGHT (METERS)	PIPE SIZE DIAMETER	MINIMUM COVER	CELL CLASS. NO. 334433C	CELL CLASS. NO. 335434C
		MINIMUM WALL THICKNESS												
		15.4	21.7	23.4	29.3	35.1	32.8						37.5	MAXIMUM FILL HEIGHT (METERS)
300	300	17.5						300	300	4.5	450	300	5.5	7.5
450	300		16					375	300	4.0	600	300	6.5	8.5
600	300			11.5				450	300	4.0	750	300	6.5	8.5
750	300				11.5			600	300	3.5	900	300	7.5	9.5
900	300					11.5		750	300	3.5	1050	300	6.5	8.0
1050	300						8.0	900	300	3.0	1200	300	6.5	8.0
1200	300						8.0							

NOTE:

- When directed, camber pipe culverts upward from a chord through the inlet and outlet inverts an ordinate amount equal to 1% of the pipe length. Develop camber on a parabolic curve. If the midpoint elevation on the parabolic curve as designed exceeds the elevation of the inlet invert, reduce the amount of camber or increase the pipe culvert gradient.
- For flexible pavement and aggregate surface roadways, measure minimum cover from the top of the pipe culvert to the bottom of the roadway subgrade. For rigid pavements, measure minimum cover from the top of the pipe culvert to the top of the pavement. For all roadway surface types, measure maximum fill height from the top of the pipe culvert to the top of the pavement.

POLYVINYL CHLORIDE (PVC) PLASTIC ROUND PIPE CULVERT

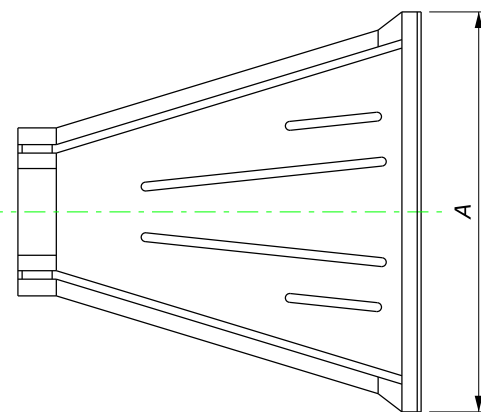
FILL HEIGHT TABLE AND MINIMUM CELL CLASSIFICATION NUMBER PER ASTM D 1784

SMOOTH WALL (SOLID WALL)						RIBBED			
PIPE SIZE DIAMETER	MINIMUM COVER	CELL CLASS. NO. 12454		CELL CLASS. NO. 12364		PIPE SIZE DIAMETER	MINIMUM COVER	CELL CLASS. NO. 12454C	CELL CLASS. NO. 12364C
		MINIMUM WALL THICKNESS							
		9.1	11.1	9.1	11.1			MINIMUM FILL HEIGHT (METERS)	
300	300	20		21		300	300	11.0	8.0
375	300		19		20	375	300	9.5	6.5
						450	300	10.0	7.0
						600	300	9.0	6.5
						750	300	8.5	6.0
						900	300	8.5	6.0
						1050	300	8.0	5.5
						1200	300	7.5	5.5

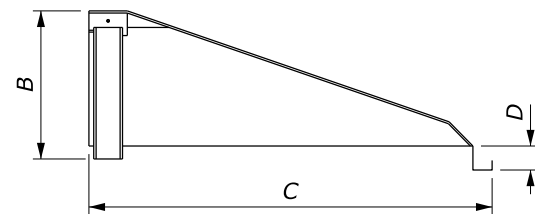
POLYPROPYLENE (PP) PLASTIC ROUND PIPE CULVERT & STORM DRAIN

FILL HEIGHT TABLE AND MINIMUM CELL CLASSIFICATION NUMBER PER ASTM D 3350

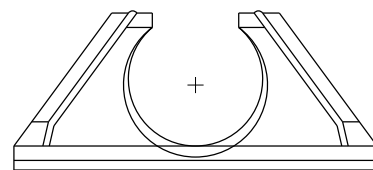
CORRUGATED		
PIPE SIZE DIAMETER	MINIMUM COVER	AASHTO M330 MINIMUM FILL HEIGHT (METERS)
300	300	5.0
375	300	5.0
450	300	5.0
600	300	4.5
750	300	4.0
900	300	3.5



TOP



SIDE



FRONT

PLASTIC PIPE END SECTION

END SECTION DIMENSIONS				
PIPE SIZE DIAMETER	DIMENSIONS			
	A	B	C	D
300	1065	370	840	150
375	1170	620	1155	150
450	1370	735	1395	150
600	1625	940	1650	150
750	2235	915	1615	150
900	2235	1090	1690	150

This drawing contains **Metric** units of measure. Dimensions without units are millimeters.

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION, FHWA OFFICE OF FEDERAL LANDS HIGHWAY	FLH STANDARD M602-5
PLASTIC PIPE CULVERT	SPECIFICATION FP-24, FP-14
	APPROVED FOR USE 8/2024