

Technical Note

TN 1.01HP_C HP Storm Perforation Patterns

Overview

Perforated pipe plays an integral role in many applications of dual wall (Type S) HP Storm polypropylene (PP) pipe. Generally, perforated pipe is used to accelerate the removal of subsurface water in soils or to allow storm water to percolate into the soil. The standard CSA B182.12 clause 5.2.4 indicates that perforations are to be as specified by manufacturer and therefore this technical note describes what perforations patterns are used on ADS pipe. Currently, two classifications of perforations are specified in the AASHTO material specifications for PP pipe: Class I, and Class II. The Class II perforation pattern comes standard when perforated pipe is ordered. Class One perforated pipe has limited availability. Please check with a local representative to determine availability. Both classes are explained in more detail in the AASHTO materials specifications (M330).

Standard Perforation Patterns

AASHTO Class II Perforation

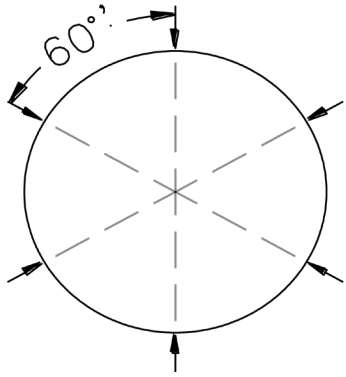
The following terminology for perforations is derived from the applicable AASHTO specification. Differences between the specifications are covered in the table below. Class II perforations shall be located in the outside valleys of the corrugations, be circular and/or slotted and evenly spaced around the circumference and length of the pipe. The perforations shall be located in the outside valleys of the corrugations. The water inlet area shall be no less than 30 cm²/m (1.5 in²/ft) for pipe diameters 300 - 450 mm (12" - 18") and 40 cm²/m (2.0 in²/ft) for pipe diameters larger than and equal to 600 mm (24"). Table 1 below represents ADS standard perforation patterns for AASHTO Class II.

Nominal I.D.	Perforation Type	Maximum Slot Length or Diameter	Minimum Inlet Area
300 mm (12")	Circular	8 mm (0.313")	32 cm ² /m (1.5 in ² /ft)
375 mm (15")	Circular	8 mm (0.313")	32 cm ² /m (1.5 in ² /ft)
450 mm (18")	Circular	8 mm (0.313")	32 cm ² /m (1.5 in ² /ft)
600 mm (24")	Circular	8 mm (0.313")	42 cm ² /m (2.0 in ² /ft)
750 mm (30")	Circular	9.5 mm (0.375")	42 cm ² /m (2.0 in ² /ft)
900 mm (36")	Circular	9.5 mm (0.375")	42 cm ² /m (2.0 in ² /ft)
1050 mm (42")	Circular	9.5 mm (0.375")	42 cm ² /m (2.0 in ² /ft)
1200 mm (48")	Circular	9.5 mm (0.375")	42 cm ² /m (2.0 in ² /ft)
1350 mm (54")	Circular	9.5 mm (0.375")	42 cm ² /m (2.0 in ² /ft)
1500 mm (60")	Circular	9.5 mm (0.375")	42 cm ² /m (2.0 in ² /ft)

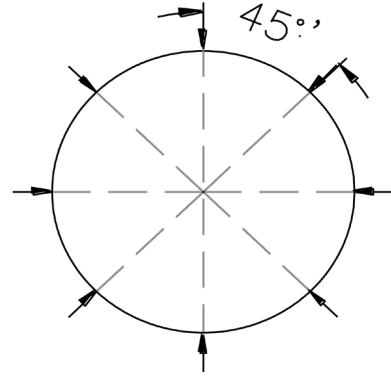
Figure 1: AASHTO Class II Perforation Patterns

Note: Actual pattern may vary by region, however all patterns meet the AASHTO and ASTM minimum requirements for the open inlet area.

300 - 450 mm (12" - 18") Pipe Diameters

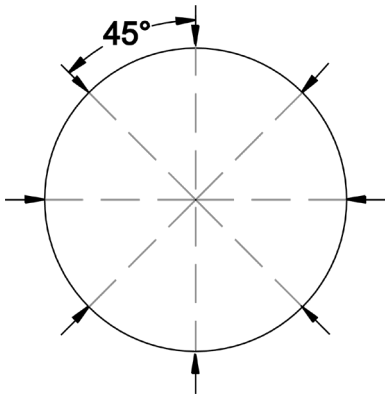


** NUMBER OF HOLES AROUND
CIRCUMFERENCE VARIES BASED ON
DIAMETER AND REGION **

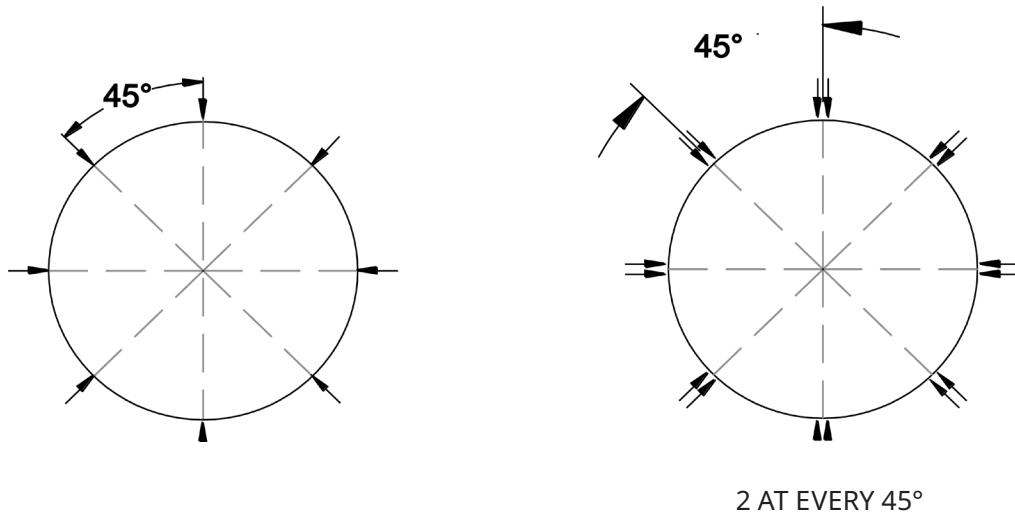


** NUMBER OF HOLES AROUND
CIRCUMFERENCE VARIES BASED ON
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600 mm (24") Pipe Diameters



750 mm (30") Pipe Diameters



** NUMBER OF HOLES AROUND CIRCUMFERENCE VARIES BASED ON DIAMETER AND REGION **

900 - 1500 mm (36" - 60") Pipe Diameters

