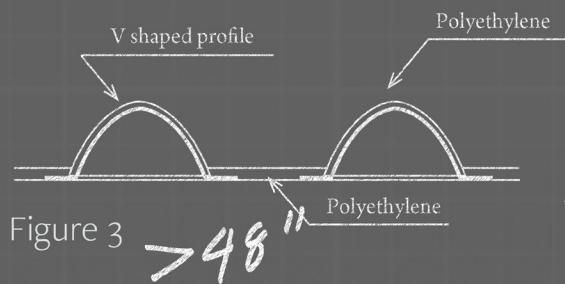
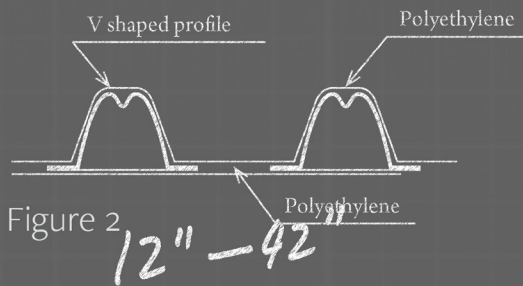




Perforations options for Steel Reinforced Polyethylene (SRPE) Pipes



Kana Pipe 12\"/>

*2.36
(P)
Spigot*

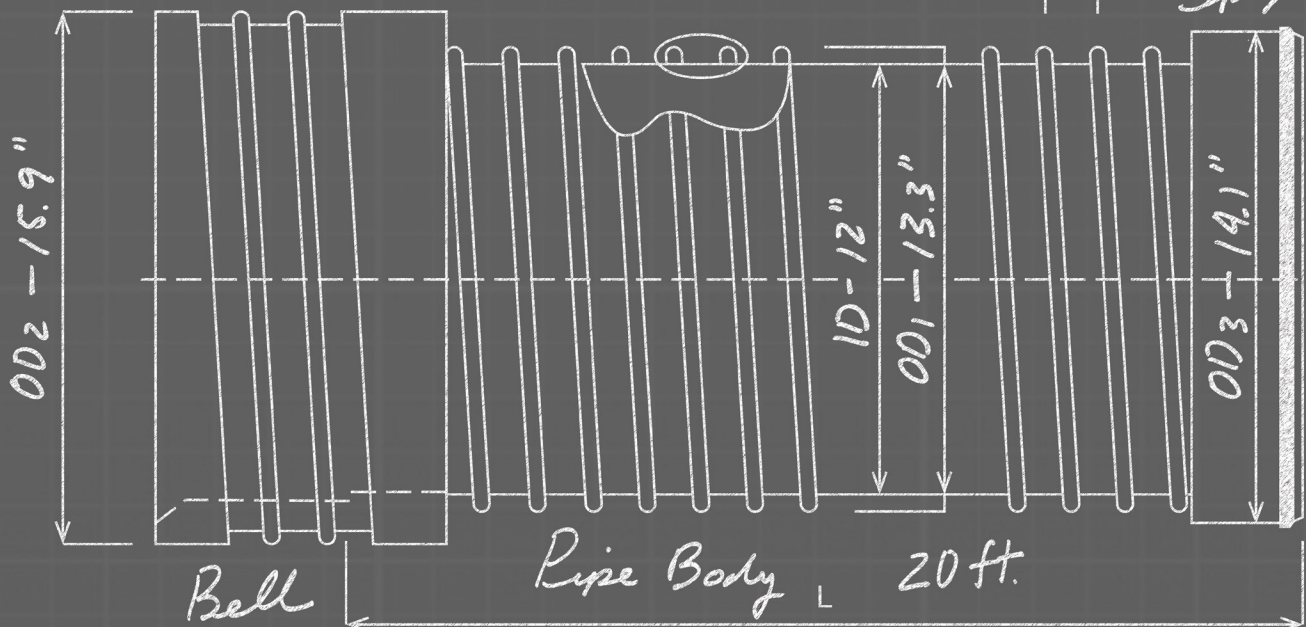


Figure 1

Introduction

Even though large diameter solid wall pipes are used on most stormwater conveyance and drainage projects, there will be instances where perforated pipes will be required. Perforated pipes play an integral role in managing underground water. They will be used to control the underground water table level, accelerate the removal of subsurface water in soils or to allow collected storm water to percolate into the soil. Kanapipes steel reinforcement is encapsulated in its corrugation. When perforating the pipe in the valley between the corrugations the structural capacity of the pipe remains unaffected since the steel remains untouched and fully encapsulated. By opposition, care must be taken when perforating solid wall pipes since the more material is removed, the more the structural capacity of the pipes could potentially be affected.

All Kanapipes SRPE pipes are manufactured without perforations, when perforated pipes are required, inform your Kanaflex representative to confirm availability of the perforation pattern required for your specific project.

PERFORATIONS CLASSIFICATIONS

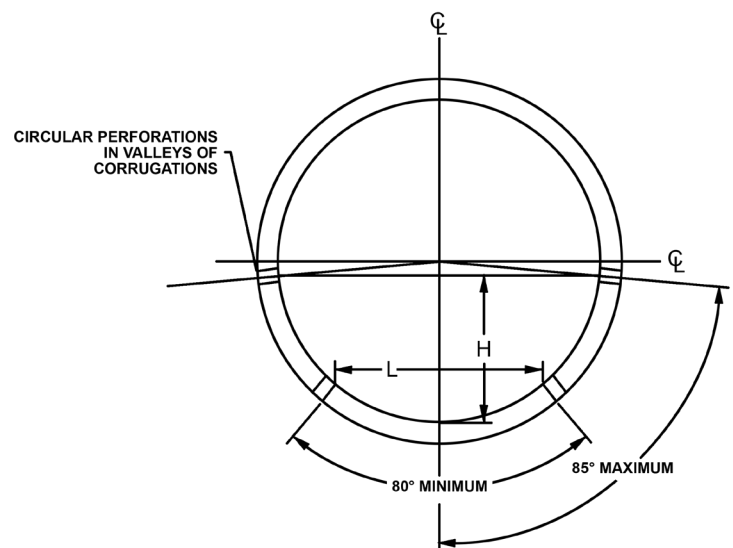
AASHTO Classifications

AASHTO currently recognizes two classifications of perforations for HDPE pipes: Class I and Class II. Class I perforations are commonly used in combination storm/underdrain systems while Class II incorporates subsurface drainage and detention/retention systems. Both classes are explained in detail in the AASHTO materials specifications M294 which covers diameter 12" through 60" (300mm through 1500mm). Kanapipes SRPE pipes are available in sizes 12" through 72" (300mm through 1800mm).

AASHTO Class I Perforations

The following terminology is derived from the applicable AASHTO specification. The perforations shall be approximately circular and arranged in rows parallel to the axis of the pipe. The locations of the perforations shall be in the valley of the outside corrugation and also in each corrugation. The perforations shall be arranged in two equal groups placed symmetrically on either side of the lower half of the pipe. Table 1 and Figure A below represent standard perforation patterns for AASHTO Class I. All perforated pipes are made to order products and should allow for additional lead-time when ordering.

Figure A



For 12" to 72" (300mm to 1800mm) pipes

Table 1

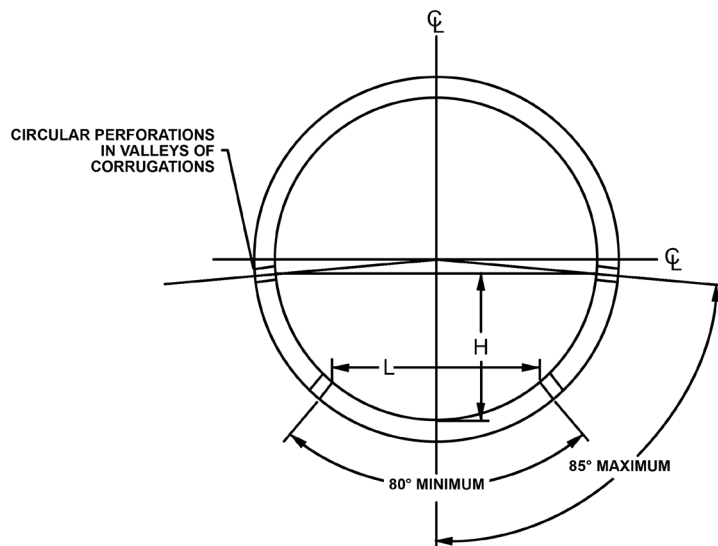
Nominal I.D.		Min. No. of Rows of Perforations	Maximum Perforation Hole Diameter		Minimum Perforation Hole Diameter		"H" Maximum		"L" Minimum		Nominal Inlet Area	
in	mm		in	mm	in	mm	in	mm	in	mm	in ² /ft	cm ² /m
12	300	6	0.40	10	0.20	5	5.4	138	7.6	192	2.65	56
15	375	6	0.40	10	0.20	5	7.2	184	10.1	256	1.97	42
18	450	6	0.40	10	0.20	5	8.1	207	11.3	288	1.90	40
24	600	8	0.40	10	0.20	5	10.9	276	15.1	384	2.15	46
30	750	8	0.40	10	0.20	5	13.6	345	18.9	480	1.65	35
36	900	8	0.40	10	0.20	5	16.3	414	22.7	576	1.32	28
42	1050	8	0.40	10	0.20	5	19.0	483	26.5	672	1.31	28
48	1200	8	0.40	10	0.20	5	21.7	552	30.2	768	1.29	27
60	1500	12	0.40	10	0.20	5	27.2	690	37.8	960	1.70	36
72	1800	12	0.40	10	0.20	5	32.6	829	45.4	1152	1.70	36

All perforation patterns are made to order.

AASHTO Class II Perforations

The following terminology for perforations is derived from the applicable AASHTO specification. The perforations shall be circular and/or slotted. Note that Kanapipe is only available with circular perforations, since the smallest diameter 12" (300mm). The perforations shall be in the outside valleys of the corrugations. The water inlet area shall be no less than 1.42 in²/ft (30 cm²/m) for pipe diameters 12-through 18-inch (300 - 450 mm) and 1.89 in²/ft (40 cm²/m) for pipe diameters larger than and equal to 24 inches (450 mm). Table 2 and figure B below represent standard perforation patterns for AASHTO Class II. All perforated pipes are made to order products and should allow for additional lead-time when ordering.

Figure B



For 12" to 72" (300mm to 1800mm) pipes

Table 2

Nominal I.D.		Perforation Type	Maximum Slot Length or Diameter		Maximum Slot Width		Minimum Inlet Area		Number of Perforations
in	mm		in	mm	in	mm	in ² /ft	cm ² /m	
12	300	Circular	0.313	8	-	-	1.5	32	36
15	375	Circular	0.313	8	-	-	1.5	32	24
18	450	Circular	0.313	8	-	-	1.5	32	24
24	600	Circular	0.313	8	-	-	2.0	42	32
30	750	Circular	0.375		-	-	2.0	42	32
36	900	Circular	0.375		-	-	2.0	42	32
42	1050	Circular	0.375		-	-	2.0	42	32
48	1200	Circular	0.375		-	-	2.0	42	32
54	1350	Circular	0.375		-	-	2.0	42	18
60	1500	Circular	0.375		-	-	2.0	42	32
72	1800	Circular	0.375		-	-	2.0	42	32

All perforation patterns are made to order.

Custom Perforations Patterns

We recognize that specific projects and soil conditions may lead the design engineer to come up with his very own perforation requirements/patterns. Most of the time Kanaflex will be able to accommodate custom perforations requirements, as long as the perforations sizes do not exceed the available space in the corrugation valley. Reach out to your local Kanaflex representative for more information.

**HEADQUARTERS**

800 Woodlands Parkway
Vernon Hills, IL 60061
847.634.6100
FAX: 847.634.6249

PIPE PLANT

875 Woodlands Pkwy
Vernon Hills, IL 60061
847.276.2235

kanaflexcorp.com

The applications presented in this document are described with the sole purpose of allowing the readers to make their own evaluations and decisions. Kanaflex makes no guarantees nor warranties of suitability for any application. It is the responsibility of the project's design engineer to ensure that all selected materials for the project are fit for the specific application. Kanaflex makes no warranty whatsoever, express, or implied, related to the applications, materials, coatings, or products discussed herein.