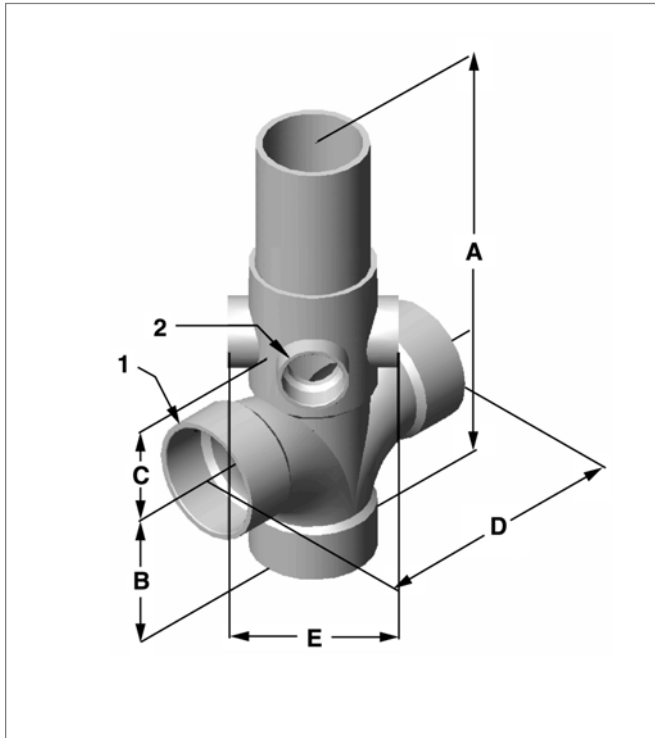
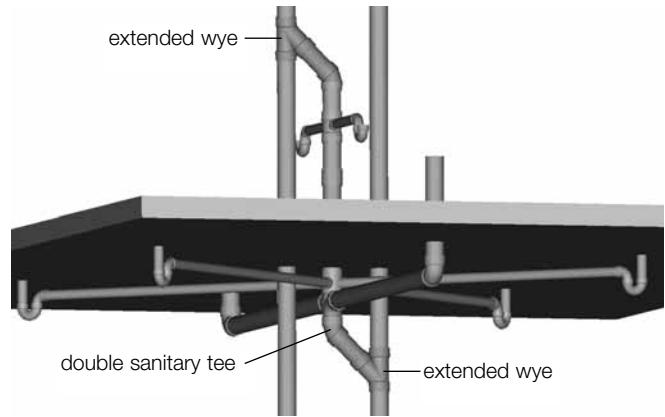
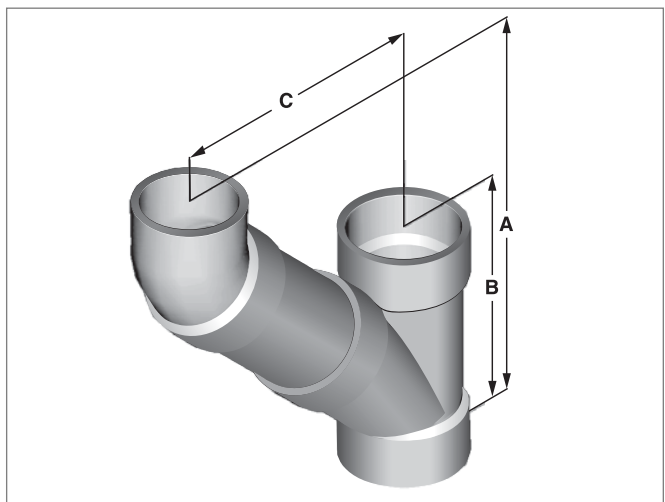


APARTMENT FITTINGS

IPEX Apartment Fittings for connecting drainage outlets to the main drain in tight ceiling assemblies are ideal for multiple-story apartment buildings. IPEX Apartment Fittings are easy to install and, unlike metallic fittings, are corrosion-free, ensuring a long service life.



Double Sanitary Tee



Extended Wye

Apartment Fittings Dimensions

Symbol	Double Sanitary Tee Product Code 026008		Single Sanitary Tee Product Code 026007		Extended Wye Product Code 026006	
	in	mm	in	mm	in	mm
1	3 - Hub	75 - Hub	3 - Hub	75 - Hub	n/a	n/a
2	1-1/2 - 45°Hub	40 - 45°Hub	1-1/2 - 45°Hub	40 - 45° Hub	n/a	n/a
A	27-1/4	693	27-1/4	693	13-1/2	343
B	4-9/16	116	4-9/16	116	8-1/16	205
C	3-5/16	84	3-5/16	84	9	229
D	9-1/16	231	4-9/16	116	n/a	n/a
E	5-1/8	180	n/a	n/a	n/a	n/a

Flow Characteristics

PVC systems offer a low roughness coefficient. This combined with the larger inside diameters inherent to System 15 and System XFR enhances the flow characteristics of these systems.

The high carrying capacity of PVC piping often results in the use of flatter grades or smaller diameter pipe. In addition, excellent corrosion resistance of System 15 and System XFR means that this low friction loss characteristic remains unchanged over time.

DESIGN
CONSIDERATIONS

Manning's Roughness Factor

In 1890, Manning derived a formula to compute flow of liquids in a steady flow at constant depth:

$$V = \left(\frac{1.49}{n}\right) R^{2/3} S^{1/2}$$

where: V = average velocity at a cross section, fps

R = hydraulic radius, ft

S = slope, ft/ft

N = coefficient of roughness

The Manning's coefficient of a pipe is related to a pipe material's surface roughness. Pipe with a lower coefficient has a smoother wall, which contributes significantly to greater flow capacity and higher flow rate.

Values of the coefficient, N, determined by tests on actual pipes are listed in the following table.

Values of Manning's Roughness Coefficient, N

Material	Manning's N
System 15/XFR	.009
Copper	.011
Concrete	.013
Cast Iron (new)	.012
Cast Iron (used)	.015
Corrugated metal	.022

Inside Diameter

Pipe designed with a larger inside diameter provides a greater cross-sectional area for flow, raising both carrying capacity and flow rates. The table below compares inside diameters of different DWV piping materials.

Inside Diameter Chart (inches)

Size	System 15 System XFR	Cast Iron	Copper DWV
1-1/2	1.59	1.39	1.54
2	2.05	1.88	2.04
3	3.04	2.87	3.03
4	4.00	3.88	4.01
6	6.03	5.82	5.96
8	7.94	7.75	-
10	9.98	9.68	-
12	11.89	11.69	-

Pipe Condensation

PVC pipe sweats less than metal pipe because of its excellent insulating properties. However, should a number of conditions occur simultaneously, condensation will form on PVC pipe as well.

The following steps will help determine whether condensation will form when using PVC pipe for DWV applications.

1. Determine the wall thickness of System 15/XFR to be used by referring to the table below.

PVC-DWV Wall Thickness (inches)

Size	Wall thickness
1-1/2	.15
2	.15
3	.22
4	.24
6	.28
8	.32
10	.37
12	.41
14	.44
16	.50
18	.56
20	.59
24	.69