

Rules For ProVent Fittings

The stack must be sized by the total number of fixture units (D.F.U.) discharging into it. Chart 1 provides the number of fixture units by individual fixture. The sum of the fixture units for all fixtures discharging into the stack equals the total fixture units. Chart 3 provides the required stack size by total fixture units. The stack size shall continue full size through the roof.

A ProVent Stack Fitting is required to be used at each floor level when the horizontal soil or waste branch collected is either the same size or one pipe size smaller than the vertical ProVent Stack Fitting.

If there are no branch connections at a floor level, there is no need to use the ProVent Stack Fitting. Instead, a double in-line offset must be used in its place. The vertical interval between the Stack Fitting and the in-line offset shall not exceed 20 feet and no more than two (2) consecutive double in-line offsets can be used.

Waste branches that are two (2) pipe sizes smaller than the stack can be connected with a sanitary tee or wye directly into the ProVent stack.

Offsets in the stack of more than 60 degrees require a ProVent Base Fitting with a pressure relief vent line tied in to the top vertical portion of the stack. Branch piping can be connected to the offset soil piping. A 45 degree stack offset is not considered an offset. Waste branches (1) one pipe size smaller can be connected to the pressure relief vent line with the exception of washing machine wastes. It is recommended that Washing machine wastes should be isolated from other fixtures. If they must be combined, call for technical support.

The building drain size is determined by the total fixture unit load (Chart 4) from the combination of stacks and other soil or waste branches that discharge into it (Chart 1, Chart 2 and Chart 3).

Stacks may offset above the highest fixture served. When the horizontal offset exceeds twenty (20) feet, the diameter of the horizontal offset and the vent through the roof must be increased one pipe size

Combinations of vent stacks may be tied together above the highest fixture served before going through the roof. The combined vertical stack must be increased (1) one pipe size larger than the combined stacks. If the distance between the two (2) stacks that connect is greater than twenty (20) feet, the horizontal branch must be one (1) pipe size larger than the downstream stack.

Fixture Unit Values for Specific Fixtures

Chart 1: Fixture Unit Values by Fixture	
Fixture	Fixture Units
Bathrooms	
Water Closet: Flush Valve	6
Water Closet: Tank Operated	4
Urinal: Pedestal	6
Urinal: Non-Pedestal	2
Bidet	2
Bathtub (with or w/o shower)	2
Shower (per showerhead)	2
Lavatory	1
Bathroom Group 1: Lavatory, Bathtub (with or w/o shower), Flush Valve Water Closet	8
Bathroom Group 2: Lavatory, Bathtub (with or w/o shower), Tank-Operated Water Closet	6
Kitchens	
Sink (with or w/o waste disposal)	2
Sink (scullery)	2
Dishwasher	2
Laundry Room	
Washing Machine	3
Laundry Tray (One or Two Compartments)	2
Specialty Fixtures	
Sink: Flushing Rim with Valves	6
Sink: Service (P-Trap)	2
Sink: Service (Standard Trap)	3
Lavatory: Surgeon	2
Lavatory: Hairdresser, Beauty Parlor	2
Miscellaneous	
Floor Drain: 2	2
Drinking Fountain	1

Maximum Loading by Branch

Chart 2: Maximum Loading by Branch		
	Fixture Units	
Drain Size	Slope: 2% (1/4 per foot)	Slope: 1% (1/8 per foot)
2"	6	5
3"	16	13
4"	90	72

Maximum Loading by Stack

Chart 3: Maximum Loading by Stack	
Stack Size	Fixture Units
3"	64
3" (over 7 stories)	102
4"	504
5"	1010
6"	2200

Maximum Loading by Building Drain

Chart 4: Maximum Loading by Building Drain		
	Fixture Units	
Drain Size	Slope: 2% (1/4 per foot)	Slope 1% (1/8 per foot)
3"	42	36
4"	216	180
5"	350	280
6"	850	680
8"	2700	2160
10"	3900	3120
12"	5800	4640