**plumbing question 1**

关于两个洗手间需要多大的下水管？

question 1：

The size of horizontal sanitary drainage pipe required for a plumbing system with one 4-piece washroom, and how much of the slope shall be selected。

solution：

**step 1:**

Determine each Fixture’s Hydraulic Load (unit is “Fixture Units” (FUs)), based on table 7.4.9.3:

* flush tank Toilet: A standard toilet has 4 fixture units.
* Lavatory: A typical bathroom sink has 1.5 fixture units.
* Bathtub: A standard bathtub has 1.5 fixture units.
* Shower: A shower head has 1.5 fixture units.

**step 2:**

**Calculate Total Fixture Units:**

total FU=4+1.5+1.5+1.5=8.5 FU

**step 3:**

Select Pipe Size , based on table 7.4.10.8:

8.5FU, can use 3” horizontal sanitary drainage pipe with the slope of 1 in 50.

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question 2：

The size of horizontal sanitary drainage pipe required for a plumbing system with four 4-piece washrooms, and how much of the slope shall be selected。

solution：

**step 1:**

Determine each Fixture’s Hydraulic Load (unit is “Fixture Units” (FUs)), based on table 7.4.9.3:

* flush tank Toilet: A standard toilet has 4 fixture units.
* Lavatory: A typical bathroom sink has 1.5 fixture units.
* Bathtub: A standard bathtub has 1.5 fixture units.
* Shower: A shower head has 1.5 fixture units.

**step 2:**

**Calculate Total Fixture Units:**

total FU for one 4-piece washroom = 4+1.5+1.5+1.5=8.5 FU

total FU for four 4-piece washrooms =4\* 8.5=34 FU

**step 3:**

Select Pipe Size , based on table 7.4.10.8:

34 FU, can use 3” horizontal sanitary drainage pipe with the slope of 1 in 25, or use 4” horizontal sanitary drainage pipe with the slope of 1 in 100.