**SECTION 710 DRAINAGE SYSTEM SIZING

710.1 Maximum fixture unit load.**
The maximum number of drainage fixture units connected to a given size of *building sewer,* *building drain* or horizontal *branch* of the *building drain* shall be determined using Table 710.1(1). The maximum number of drainage fixture units connected to a given size of horizontal *branch* or vertical soil or waste *stack* shall be determined using Table 710.1(2).  **TABLE 710.1(1) BUILDING DRAINS AND SEWERS**

|  |  |
| --- | --- |
| **DIAMETER OF PIPE (inches** ) | **MAXIMUM NUMBER OF DRAINAGE FIXTURE UNITS CONNECTED TO ANY PORTION OF THE BUILDING DRAIN OR THE BUILDING SEWER, INCLUDING BRANCHES OF THE BUILDING DRAIN**a |
| **Slope per foot**  |
| 1/16 inch | 1/8 inch | 1/4 inch | 1/2 inch |
| 11/4  | — | — | 1 | 1 |
| 11/2  | — | — | 3 | 3 |
| 2 | — | — | 21 | 26 |
| 21/2  | — | — | 24 | 31 |
| 3 | — | 36 | 42 | 50 |
| 4 | — | 180 | 216 | 250 |
| 5 | — | 390 | 480 | 575 |
| 6 | — | 700 | 840 | 1,000 |
| 8 | 1,400 | 1,600 | 1,920 | 2,300 |
| 10 | 2,500 | 2,900 | 3,500 | 4,200 |
| 12 | 3,900 | 4,600 | 5,600 | 6,700 |
| 15 | 7,000 | 8,300 | 10,000 | 12,000 |

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| For SI: 1 inch = 25.4 mm, 1 inch per foot = 83.3 mm/m. |
| a. The minimum size of any building drain serving a water closet shall be 3 inches. |

 **TABLE 710.1(2) HORIZONTAL FIXTURE BRANCHES AND STACKSa**

|  |  |
| --- | --- |
| **DIAMETER OF PIPE(inches)**  | **MAXIMUM NUMBER OF DRAINAGE FIXTURE UNITS(dfu)**  |
| **Total forhorizontalbranch**  | **Stacksb**  |
| **Totaldischargeinto onebranchinterval**  | **Total for stackof threebranchIntervals orless**  | **Total for stackgreater thanthree branchintervals**  |
| 11/2  | 3 | 2 | 4 | 8 |
| 2 | 6 | 6 | 10 | 24 |
| 21/2  | 12 | 9 | 20 | 42 |
| 3 | 20 | 20 | 48 | 72 |
| 4 | 160 | 90 | 240 | 500 |
| 5 | 360 | 200 | 540 | 1,100 |
| 6 | 620 | 350 | 960 | 1,900 |
| 8 | 1,400 | 600 | 2,200 | 3,600 |
| 10 | 2,500 | 1,000 | 3,800 | 5,600 |
| 12 | 3,900 | 1,500 | 6,000 | 8,400 |
| 15 | 7,000 | Note c | Note c | Note c |

|  |
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| For SI: 1 inch = 25.4 mm. |
| a. Does not include branches of the building drain. Refer to Table 710.1(1). |
| b. Stacks shall be sized based on the total accumulated connected load at each story or branch interval. As the total accumulated connected load decreases, stacks are permitted to be reduced in size. Stack diameters shall not be reduced to less than one-half of the diameter of the largest stack size required. |
| c. Sizing load based on design criteria. |

**710.1.1 Horizontal stack offsets.**
Horizontal *stack* offsets shall be sized as required for building drains in accordance with Table 710.1(1), except as required by Section 711.3.

**710.1.2 Vertical stack offsets.**
Vertical *stack* offsets shall be sized as required for straight stacks in accordance with Table 710.1(2), except where required to be sized as a *building drain* in accordance with Section 711.1.1.

**710.2 Future fixtures.**
Where provision is made for the future installation of fixtures, those provided for shall be considered in determining the required sizes of drain pipes.