**Section 890.APPENDIX A Plumbing Materials, Equipment, Use Restrictions and Applicable Standards**

**Section 890.TABLE Q Allowance in Equivalent Length of Pipe for Friction Loss in Valves and Fittings**

The following applies to all types of material approved for potable water distribution:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Equivalent Feet of Pipe for Various Pipe Sizes | | | | | | | | |
| Valve or Fitting | ½" | ¾" | 1" | 1¼" | 1½" | 2" | 2½" | 3" |
| 45º ell (wrought) | 0.5 | 0.5 | 1.0 | 1.0 | 2.0 | 2.0 | 3.0 | 4.0 |
| 90º ell (wrought) | 0.5 | 1.0 | 1.0 | 2.0 | 2.0 | 2.0 | 2.0 | 3.0 |
| Tee, Run (wrought) | 0.5 | 0.5 | 0.5 | 0.5 | 1.0 | 1.0 | 2.0 | − |
| Tee, Branch (wrought) | 1.0 | 2.0 | 3.0 | 4.0 | 5.0 | 7.0 | 9.0 | − |
| 45º ell (cast) | 0.5 | 1.0 | 2.0 | 2.0 | 3.0 | 5.0 | 8.0 | 11.0 |
| 90º ell (cast) | 1.0 | 2.0 | 4.0 | 5.0 | 8.0 | 11.0 | 14.0 | 18.0 |
| Tee, Run (cast) | 0.5 | 0.5 | 0.5 | 1.5 | 1.0 | 2.0 | 2.0 | 2.0 |
| Tee, Branch (cast) | 2.0 | 3.0 | 5.0 | 7.0 | 9.0 | 12.0 | 16.0 | 20.0 |
| Compression Stop | 13.0 | 21.0 | 30.0 | − | − | − | − | − |
| Globe Valve | − | − | − | 53.0 | 66.0 | 90.0 | − | − |
| Gate Valve | − | − | 1.0 | 1.0 | 2.0 | 2.0 | 2.0 | 2.0 |