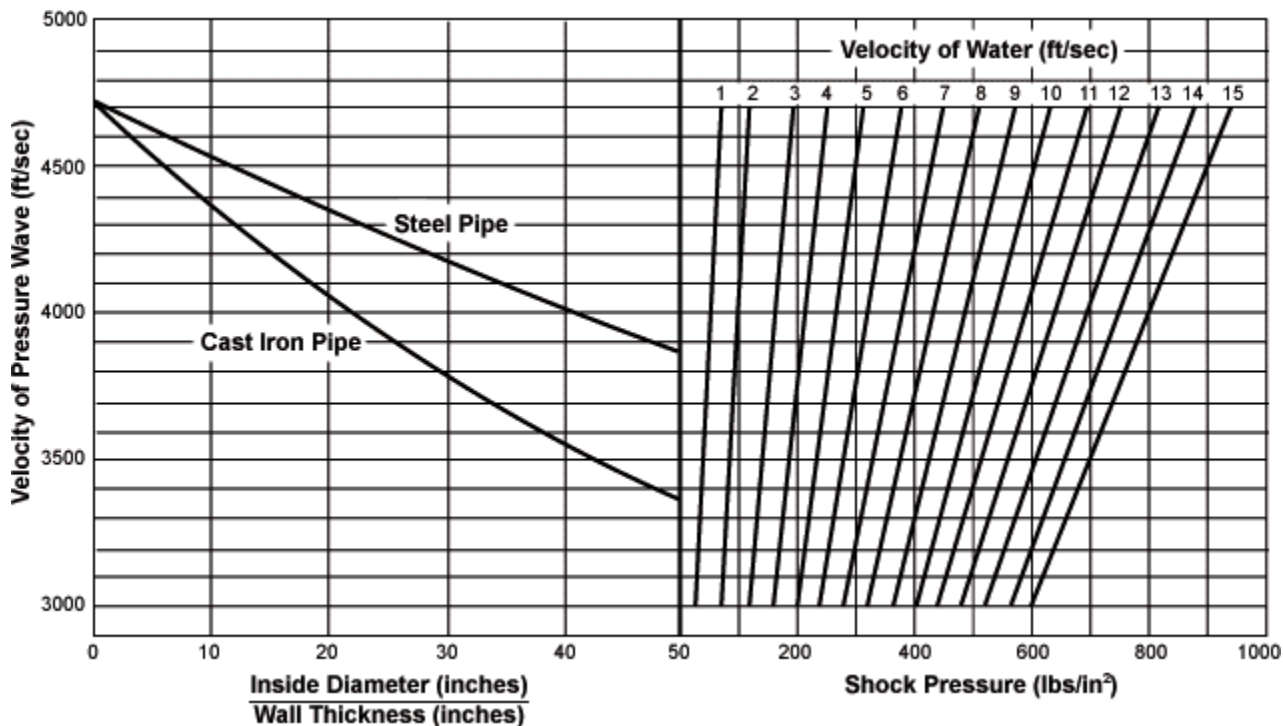


Maximum Shock Pressure Caused by Water Hammer

Water hammer is a series of pulsations of varying magnitude within a pumped liquid. The amplitude and period depend on the velocity of the fluid, as well as on the material, size, and strength of the pipe. Shock results from these pulsations when the liquid is suddenly stopped, such as by a closing of a valve.

Water hammer takes its name from the sound that often accompanies it, a sound very much like when a pipe is struck by a hammer. However, intensity of the sound is by no means a measure of the shock pressure. Sound can be muffled by absorbers or arresters, but the shock pressure can still do damage.



To use this chart, first divide the inside diameter of the pipe by the wall thickness. Enter the chart at this value and project upward until you intersect with the curve for either cast iron or steel pipe depending on which one you are calculating for (to the left you can read the velocity of the pressure wave). Project horizontally to the right to intersect with the water speed line, then project down to read the value for the shock pressure.