

Design Velocities For Copper Water Systems

When designing copper water systems, the maximum recommended flow velocities are as follows:

HOT*:

5

fps
5 fps = 1.5 mps

COLD:

8

fps
8 fps = 2.4 mps

fps = feet per second
mps = metres per second

*Hot water exceeding 140°F (60°C): 3-4 fps (0.9-1.2 mps)

Additional considerations:

Local aggressive water conditions

- reduce design velocities

Hot water recirculating systems

- less than 5 fps (1.5 mps) for temperatures up to 140°F (60°C)
- 3-4 fps (0.9-1.2 mps) for temperatures over 140°F (60°C)

Tube ½-in size and smaller

- consider lower velocities

Workmanship is an important factor for eliminating excessive turbulence at connections and fittings:

- Avoid abrupt and multiple changes in direction of piping

- When soldering, do not feed excessive solder into the joint to avoid forming blobs inside

- Ream and deburr all tube ends before joining

For additional information, contact the

Canadian Copper & Brass Development Association

Toll-free: 1-877-640-0946

coppercanada@onramp.ca

www.coppercanada.ca