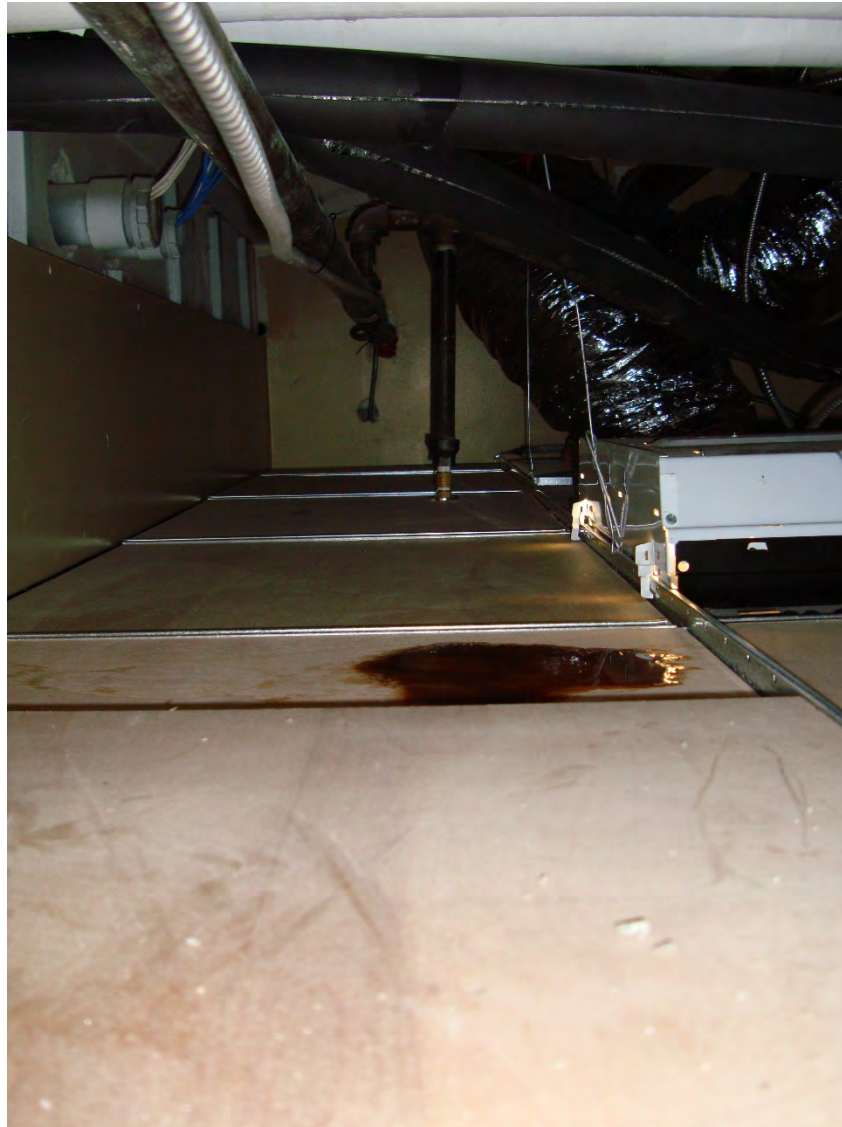


Concealed - Combustible Construction

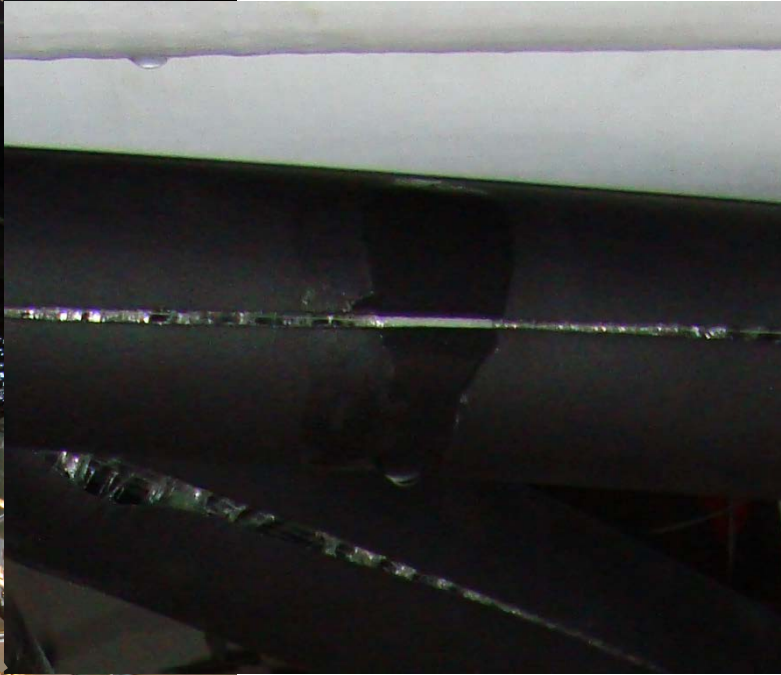


Concealed - Combustible Construction



Concealed - Combustible Construction

RESEARCH
FROM



Concealed - Combustible Construction



Dry Pendant head



Building Envelope Sealing

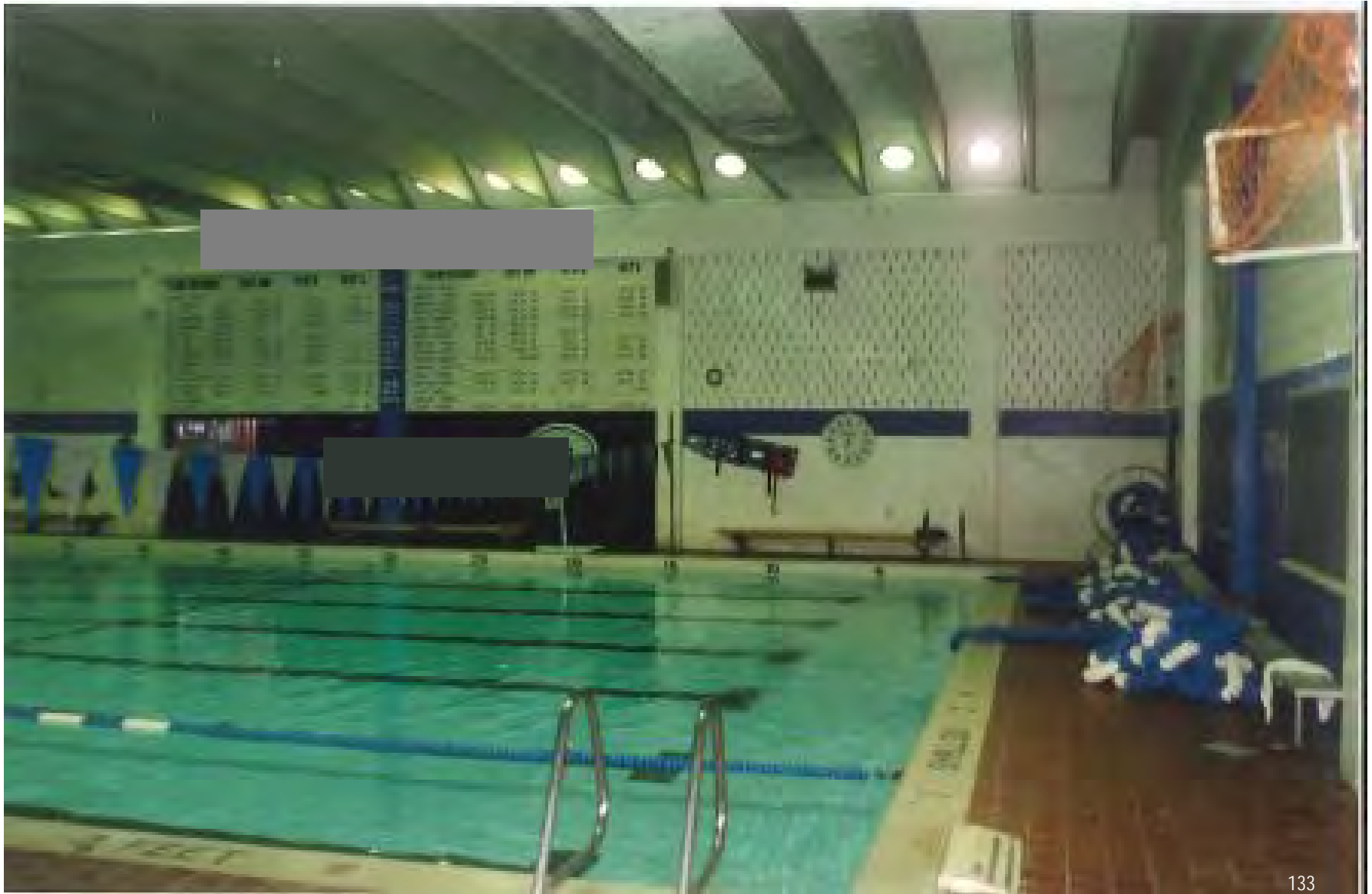
Minnesota Residential Energy Code Section N1102.4

N1102.4.1 – Interior air barrier. The building thermal envelope shall be continuously sealed to limit the leakage of air through the thermal envelope. Areas of potential air leakage in the building thermal envelope shall be caulked, gasketed, weatherstripped, or otherwise sealed with an air barrier material...

Building Envelope Sealing?









“Install In Accordance with Manufacturers Directions”

- Does the Minnesota Plumbing Code require that Plumbing Equipment has to be installed in accordance with the Manufacturers Direction?
 - Not directly!
- Can a Building Official Require Plumbing Equipment to be installed in accordance with the Manufacturers Installation Instruction?
 - Yes
 - MN Rule 1300.0110 Subpart 10: **Approved materials and equipment.** Materials, equipment, and devices approved by the building official shall be constructed and installed in the approved manner.

UL listed Fire Stopping



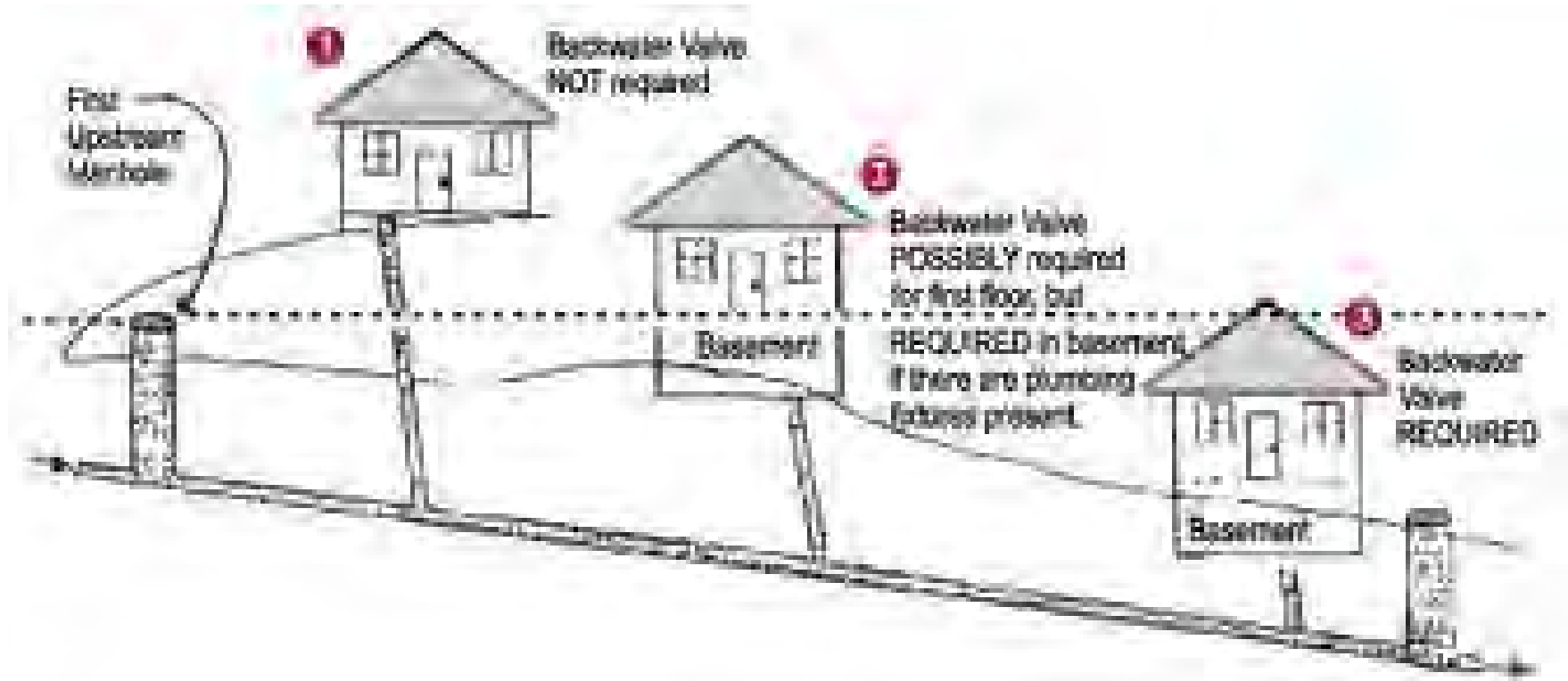
4715.1160:Back Water valves

Drainage piping serving fixtures that are located below the elevation of the curb or property line at the point where the building sewer crosses under the curb or property line, and above the crown level of the main sewer, shall drain by gravity into the main sewer, and shall be protected from back flow of sewage by installing an approved backwater valve, and each such backwater valve shall be installed only in that branch or section of the drainage system which receives the discharge from fixtures located below the elevation of the curb or property line.

...

Further, the backwater valve and gate valve may be waived by the administrative authority whenever the sanitary sewer does not receive any storm water drainage and the building is located at a sufficient height above the public sanitary sewer so flooding by backflow will not occur, in the opinion of the administrative authority.

4715.1160:Back Water valves





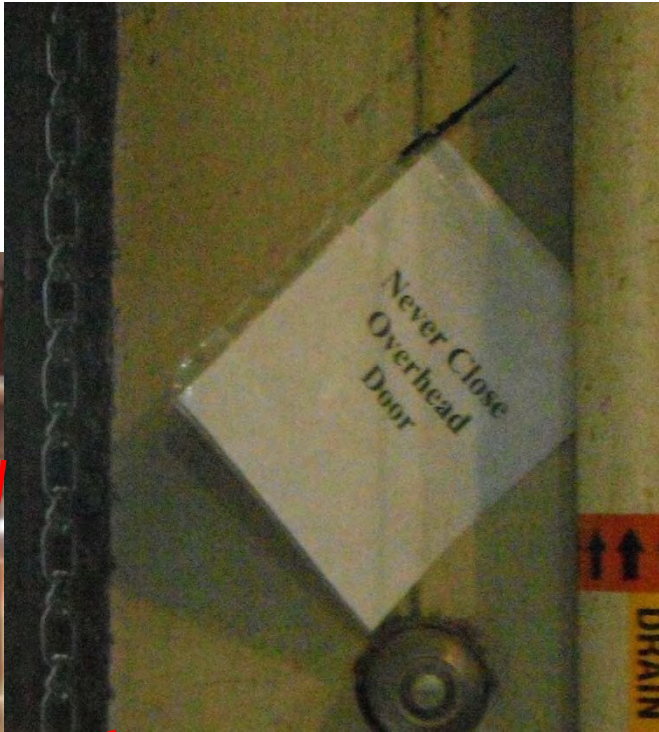
501.4 Pressure equalization.

Mechanical exhaust systems shall be sized to remove the quantity of air required by this chapter to be exhausted. The system shall operate when air is required to be exhausted. Where mechanical exhaust is required in a room or space ... such space shall be maintained with a **neutral or negative pressure**. If a greater quantity of air is supplied by a mechanical ventilating supply system than is removed by a mechanical exhaust for a room, adequate means shall be provided for the natural or mechanical exhaust of the excess air supplied. If only a mechanical exhaust system is installed for a room or if a greater quantity of air is removed by a mechanical exhaust system than is supplied by a mechanical ventilating supply system for a room, adequate *makeup air* consisting of supply air, transfer air or outdoor air shall be provided to satisfy the deficiency. ...



Combustion Air

- 701.1 Scope. ... Oil-fired *appliances* shall be provided with *combustion air* in accordance with NFP A 31. ... The requirements for combustion and dilution air for gas-fired *appliances* shall be in accordance with the *International Fuel Gas Code*.
- *Essentially Combustion air shall be provided by a duct or other approved method.*





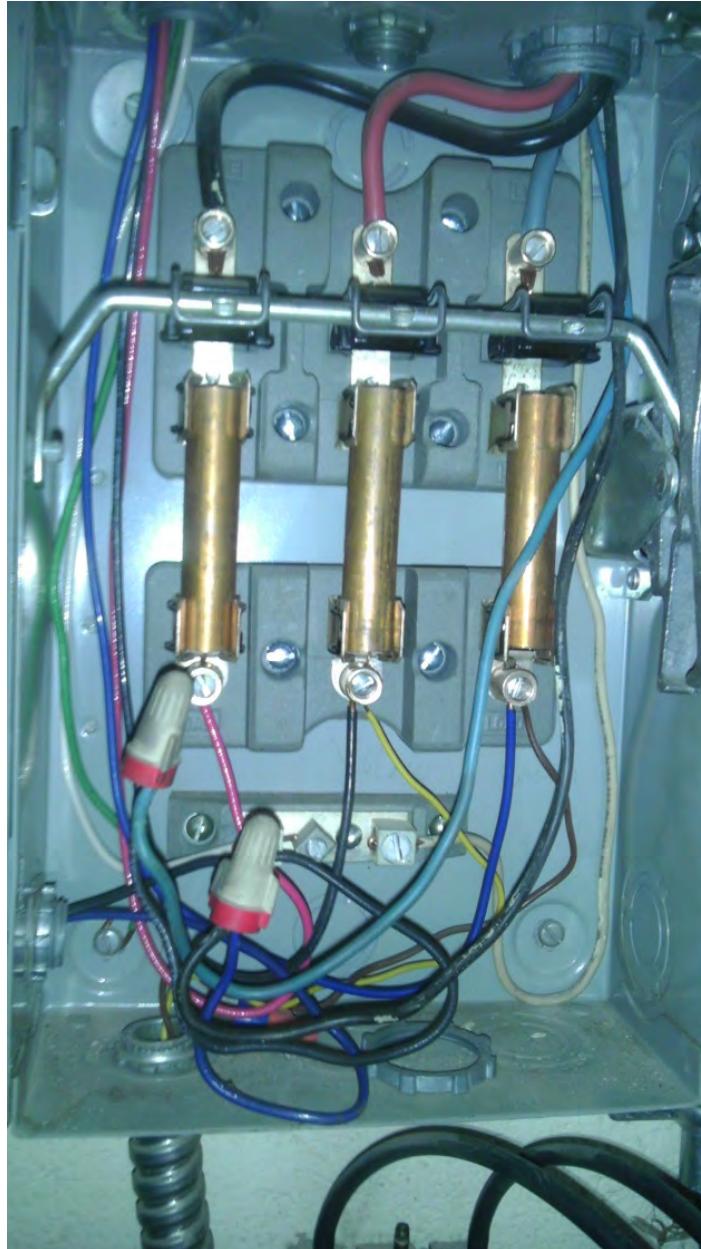
Sizing Copper Pipe

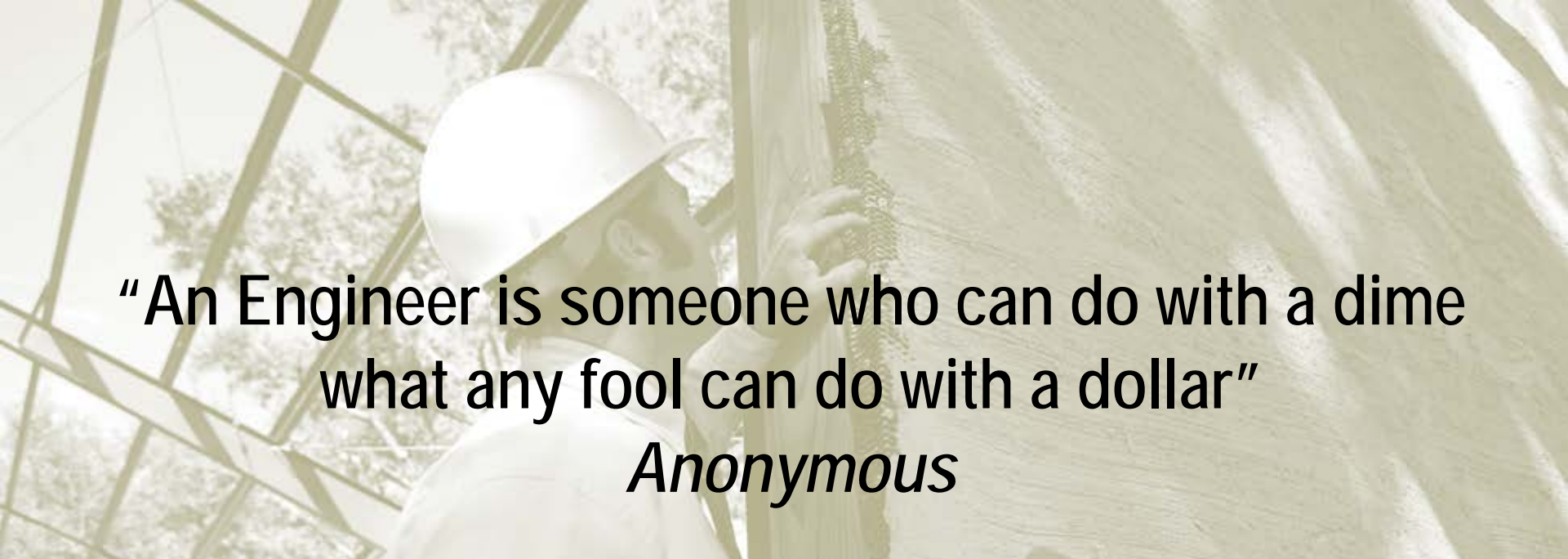
- IMC 1201.2 Sizing. Piping and piping system components for hydronic systems shall be sized for the demand of the system.
- **UPC Appendix a 6.1 Velocities.** Velocities shall not exceed 10 feet per second (ft/s) (3 m/s) or the maximum values given in the appropriate Installation Standard, except as otherwise approved by the Authority Having Jurisdiction.

Normal Copper Pipe?



Type "M" or "L" Fuse?





**“An Engineer is someone who can do with a dime
what any fool can do with a dollar”**
Anonymous

Crane Engineering | Building Science

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When Building Codes Aren't Followed...

Presented by: Andy Thielen, PE