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PPI RECOMMENDATION H

Recommendation on Direct Connection of Plastic Piping Materials to Tankless Water Heaters for Domestic (i.e. residential) Applications

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PPI's Building & Construction Division represents plastic piping materials used in hot and cold potable water distribution systems, including chlorinated polyvinylchloride (CPVC), polyethylene-raised temperature (PE-RT), crosslinked polyethylene (PEX), and polypropylene (PP-R and PP-RCT).

PPI and its members frequently receive questions about connecting these piping materials directly to tankless water heaters, for the incoming cold- and outgoing hot-water connections.

PPI has reviewed Canadian and US model plumbing codes, the published instructions of approximately twenty tankless water heater manufacturers, and the recommendations of plastic piping system manufacturers. This research indicates that there is not a consistent recommendation on the use of plastic piping materials for direct connections to the water heater inlets and outlets from industry sources.

After an investigation into these devices and evaluation of the findings, and with consensus among plastic piping system manufacturers, PPI issues the following recommendation:

Piping systems using the materials CPVC, PE-RT, PEX, and PP, which carry a pressure/ temperature rating of 100 psi at 180°F (690 kPa @ 82°C), and which are intended and certified for hot and cold potable water distribution systems according to industry standards and relevant codes, may be connected directly to tankless water heaters which are intended for domestic (i.e. residential) applications, unless prohibited by local plumbing code or the specific water heater manufacturer.

If the inlet or outlet water piping connection positions the piping so that it might be exposed to sources of heat other than the water being discharged by the water heater (e.g. vent or exhaust heat), the installer should use an appropriate connector of sufficient length to separate the plastic pipe from the heat source, so that the plastic piping is not exposed to temperatures in excess of 180°F.