Section 220700
Plumbing Insulation
DESIGN GUIDE

1 General

1.1 General

A. All systems with operating temperatures below ambient shall have insulation systems with continuous vapor barriers. Interior roof and overflow drain leaders are considered to be below ambient temperatures.

2 Materials

2.1 Glass Fiber Insulation

A. Insulation: rigid molded; noncombustible

B. Vapor Barrier Jacket: White kraft paper with glass fiber yarn; bonded to aluminized film vapor barrier with pressure sensitive tape lap sealing system.

C. Fitting covers: one-piece molded type fitting covers and sheet material; off-white color. Connections made with pressure sensitive color matching vinyl tape

2.2 Lace-on Blankets

A. Materials: stainless steel knitted wire mesh inner liner, high density fiberglass insulation; oil and water resistant exterior protective fabric.

B. Construction: Blankets shall be sewn together. Lacing anchors shall be stainless steel secured with stainless steel washers. Stainless steel wire draw cords.

2.3 Reusable Valve Covers-Indoors

A. Outer jacket shall be made of material equal to DuPont Tychem® QC, overlapping and completely covering the insulation with seams joined by tabs made from hook and loop fasteners (Velcro). Butt ends shall have sewn- in-place elastic.

B. Insulation: fiberglass blanket.

C. Suitable for continuous operation at 200 degrees Fahrenheit.

2.4 Jackets

A. PVC

B. Aluminum

3 Execution

3.1 General

A. Install per manufacturer's recommendations.

B. Insulate domestic and non-potable heating systems in accordance with the Washington State Energy Code.

C. Insulate cold water systems and systems subject to condensate with a minimum of ½" insulation.

D. Insulate roof drains and overflow drains including drain sumps with minimum ½" insulation.

E. Systems include equipment, valves and piping.

F. Insulation on all cold-water systems shall be applied with a continuous unbroken vapor seal. Continue insulation through walls, sleeves, pipe

hangers, and other pipe penetrations. Finish at supports, protrusions, and interruptions.

G. Continue insulation with vapor barrier through penetrations.

H. On insulated piping with vapor barrier, insulate fittings, valves, unions, flanges, strainers, flexible connections and expansion joints. Exception:

1. Nameplates and ASME Stamps: Bevel and seal insulation around with a mastic. Do not insulate over.

3.2 Pipe

A. Cover pipe with glass fiber insulation in thickness required by the energy code.

B. When vapor barrier is required, adhere factory applied vapor barrier jacket lap smoothly and securely at longitudinal laps with pressure sensitive strip. Adhere self-sealing butt joint strips over end joints. No staples will be allowed.

C. Insulate fittings and joints with molded insulation of like material and thickness of adjacent pipe with ends of insulation tucked snugly into throat of fitting and edges adjacent to pipe insulation tufted and tucked in.

D. Cover fitting insulation with one piece PVC fitting covers.

E. Provide galvanized steel shields between pipe hangers or pipe hangers rolls and insulation.

F. Provide heavy density insulation inserts where required between shield and pipe so that insulation is not crushed from weight of pipe. Locate between shield and pipe.

3.3 Lace-on Blankets

A. Use for oversized equipment, high temperature valves and outdoor valves.

3.4 Reusable Valve Covers

A. For use on valves and small equipment requiring service for indoor installation for systems less than 200 degrees F.

B. Outer jacket shall overlap adjoining sections of pipe insulation.

C. Installation shall not require the use of any special hand tools.

3.5 Jackets

A. Provide aluminum jacketing over insulation for pipe installed outdoors. Locate seam on bottom of pipe.

B. For pipe exposed in crawl spaces or tunnels or attics which may be subject to personnel contact and damage, provide with high density insulation and PVC jacket.

C. For pipe exposed in finished, occupiable spaces, finish pipe with PVC or aluminum jacketing.

3.6 ADA Fixtures

A. Insulate hot lines, cold lines and drainpipe with scaled protective covers that are neatly installed and removable.

4 Appendix

4.1 Reserved for future.