

DOCKETED

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5.1.74.4.1.1 Change

Additional submitted attachment is included below.

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COMMENT PERIOD RE: 2016 Nonresidential Compliance Manual and Documents

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Suggested Change

4.4.1 Mandatory Measures

5.1.74.4.1.1 Requirements for Pipe Insulation

~~5.1.7.1~~ The Standards also require that exposed pipe insulation be protected from damage by moisture, UV and physical abrasion including but not limited to the following:

1. Insulation exposed to weather shall ~~be suitable for outdoor service; e.g., protected by aluminum, sheet metal, painted canvas, or plastic cover. Cellular foam insulation shall be protected as above or painted with a coating that~~ be installed with a cover suitable for outdoor service. The cover shall be is water retardant and provides shielding from solar radiation that can cause degradation of the material. ~~Insulation must be protected by an external covering unless the insulation has been approved for exterior use using a recognized federal test procedure.~~ Adhesive tape should not be used as insulation protection because during preventive maintenance, removal of the tape will damage the integrity of the original insulation.
2. Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space shall include a Class I or Class II vapor retardant located outside the insulation. ~~(unless the insulation is inherently vapor retardant), have a Class I or Class II vapor retarder. a~~ All penetrations and joints of which shall be sealed; to allow for differential expansion and contraction between dissimilar materials.

Justification

There is no consensus Federal test for insulation degradation from U.V. or physical damage. There are ASTM testing standards but there is no direct correlation between accelerated aging tests and natural weathering or amongst different accelerated aging tests and again there is no consensus test method adopted.

(see supporting document)

Refrigerant piping penetrations are unique from other pipe penetrations due to vibration transmission and the sealing of must allow for the expansion and contraction of different materials. The California Mechanical Code calls out for installing refrigerant joint and piping to avoid stress and failure due to vibration. Sealing methods used should allow for this.