



U.S. Department
of Veterans Affairs

Office of Construction &
Facilities Management

Office of Facilities Planning
Facilities Standards Service

DESIGN ALERT

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Cast Iron Fittings/Valve Housings, Prohibition of Use in High and Medium Pressure Steam Distribution Systems

ISSUE: The VA has generally prohibited the use of Cast Iron fittings and pipe components (valves, steam traps, etc.) due to the risk of failure with shock loading. A recent accident involving the loss of human life has heightened the concern with the use of cast iron material on steam systems.

DISCUSSION: Based on the brittle nature of cast iron and the accident at a VA Medical Center, VA and VHA leadership has made the decision to discontinue the use of any cast iron or malleable fittings and components in high and medium pressure steam systems, whether existing or new. Facilities shall always use due diligence to avoid any sudden shocks to the steam distribution system, such as water hammer or energizing a cold steam system without a proper warm-up sequence.

REQUIREMENTS: New Construction, NRM, or any repair or replacement project must not use cast iron fittings and components or malleable fittings anywhere in the high-pressure and medium pressure steam system (15psi or above). All new construction must use cast steel or forged steel fittings only.

ACKNOWLEDGEMENTS: If there are any questions on this CFM Design Alert, please contact Douglas Ryan, Consulting Support Service, at douglas.ryan@va.gov.

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