



An ISO 9001 Company

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Page 1 of 1

Technical Information

Product: PVC Back Pressure Valves
PVC Pressure Relief Valves
PVC Calibration Columns

Release #: 2008-001

Subject: Outdoor PVC Installations, Direct Sunlight Exposure Warnings

Invisible Ultraviolet (UV) and related Infrared (IR) radiation aspects of sunlight do alter appearance and performance characteristics of process valves constructed from PVC material. Caution must be exercised when making valve selections for outdoor application.

A typical affect of sunlight exposure on PVC is a brownish discoloration of the material over time, due to complex structure conversion to molecules in the first .001" to .002" of the surface under UV exposure. Beyond visible discoloration, of more critical concern are problems related to valve surface temperature rise from UV and IR radiation when exposure to sunlight is continuous daily over extended durations.

Under conditions of direct sunlight, even moderate air temperatures between 77 degrees F to 95 degrees F (25 to 35 deg C) can yield surface temperature exceeding Griffco's recommended 140 degree F (60 deg C) maximum operating temperature for PVC valves. Valve body and top components will distort under these conditions from spring load and process liquid pressure stresses. Leaking and reliability problems will be experienced by the end user of the equipment. In most cases, the distortion to the valve's components is clearly visible upon inspection of the installation.

Alternative selections to PVC material should be recommended on applications that call for outdoor installation of valves. Metal constructions can be considered; CPVC and PVDF are also good plastic options when compatible with the process liquid. Consideration should be given to provide a properly ventilated canopy, shield or shed to protect any process equipment installed outdoors from direct sunlight exposure.

PVC valves used in outdoor sunlight-exposed applications constitute improper application of the equipment. Subsequent failures do not represent defects in workmanship or materials, and are not subject to coverage by the Griffco Valve manufacturer's warranty. Please contact Griffco if you have questions on this information, or require assistance selecting valve constructions for outdoor installation.

Note: Although the information presented herein is presented in good faith and believed to be correct, Griffco Valve Inc., makes no guarantee or representation as to the completeness or accuracy thereof, and disclaims all liability for loss or damage resulting from use or reliance upon any information, recommendations or suggestions contained herein. Any selection made is at the responsibility of the end user.

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