

January 8, 2025

## Avoid The Strain!

On occasion a customer will call, complaining that a gate valve flange has broken. For instance, a painting contractor discovered this crack while applying a protective coating to exposed piping and valves in a new Water Treatment Plant. The crack was in the casted portion of the valve body that transitions into the connecting flange.



**Pipe Strain** is the likely explanation. A 10-inch Milwaukee Valve gate is being used as an isolation valve for some inlet bypass piping. In this system, the valve alone weighs 436 pounds. The rest of the system includes two other 400+ lb. gate valves, two long (more than 15') runs of iron pipe, the related elbows, and the columns of water contained in the piping. All of this totals a heck of a load for our cast-iron problem, with little or no visible support to this system. Pipe strain and flange breakage? Obviously!



There are 4 common reasons for pipe strain:

- Improper pipe support (or no support altogether!)
- Process changes that do not accommodate the piping system.
- Improper design or installation of pipe or machinery.
- Movement in the system caused by temperature or pressure changes or vibrations.

Pipe strain is a leading cause of premature system failure and should be the number one item to correct in your system. Doing so will allow you to get ahead of unplanned failures, downtime, and callbacks.

Need help to correct pipe strain and misalignment in your facility? Consult [your sales representative or regional manager](#) for guidance.



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