BRIGHTON SOLUTIONS LTD.
250 - 700 6th Ave SW, Calgary AB CANADA T2P 0T8 Phone: (403) 705-6797

Piping Code ASME B31.3 Steamout Condition: A Piping Design Criteria

Petrochemical plant piping normally requires content purging before any maintenance work such as welding and inspection can begin. In plants where steam is available, it is quite common to blow through low pressure steam in order to scrub the pipe system of any hydrocarbon and chemical residues.

This process can be quite vigorous and sometimes last for hours. In addition, the temperature of the pipe can reach levels high enough to cause over-stresses or failure in the pipe. For example, using 50 psig steam, an assumed back pressure of 5 psig can build and reach a temperature of 300 degrees Fahrenheit or higher.

For piping with an operating temperature lower than this steamout temperature, piping system flexibility becomes a design consideration. For example, system flexibility, good at operating, but not at steamout, can lead to possible pipe and equipment failure, as well as uncontrolled rack pipe movement.