

Premature Failure of Unsupported Expansion Joint

Application:

Winery Process Piping Used To Transport Grape Juice and Solids.

Problem:

A winery experienced multiple premature failures of an Expansion Joint installed in its grape processing system. The Expansion Joint cover was tearing at the flanges, exposing reinforcement layers. The exposure raised a concern of possible contamination and complete failure. A combination of problems, including the length of the Expansion Joint, the system movements, and the weight of media inside the Expansion Joint, is causing the Expansion Joint to fail prematurely.



Solution:

A Holz Representative and Distributor visited the facility to measure and observe the failing Expansion Joint. The current joint a -U- Type no-arch design, was too long for the application and was installed without control rods to limit movements. The no-arch Expansion Joint was designed for vibration only. It is also drooping due to the weight of the media. The vibration is causing the middle area to move up and down, adding stress to the flanges. Without an arch to absorb the movement, the flanges absorbed the stress during operation. A Holz Product Specialist recommended lengthening the existing pipe to shorten the overall length of the required Expansion Joint and installing an FDA compliant 300 series narrow double filled arch design expansion joint with control rods engineered to meet system movements. Since installation, the winery has experienced increased productivity with no unplanned downtime.

