

Why the U-Stamp certification for metal expansion joints in heat exchangers matters



➤ Heavy wall bellows, manufactured for use in a fertilizer plant. Image courtesy of Teadit.

Metal expansion joints are critical components in heat exchangers. These joints ensure the reliability and longevity of heat exchangers, which are essential in various industries such as power generation, chemical processing, and oil refining.

By Angelica Pajkovic, Client Specialist and Ibero Souza, Expansion Joint Market Support Specialist – Teadit

Heat exchangers operate under high temperatures and pressures, leading to significant thermal expansion. Metal expansion joints accommodate these changes, preventing damage to the exchanger and maintaining efficient operation by providing flexibility and absorbing the expansion, vibration, and other movements. They also mitigate stress on pipes and other connected equipment, reducing the risk of leaks and failures.

To ensure that the critical components of unfired pressure vessels meet the necessary standards, the American Society of Mechanical Engineers (ASME) created the U-Stamp certification. The U-Stamp confirms a manufacturer's adherence to the quality control system requirements outlined in the ASME Boiler and Pressure Vessel Code (BPVC).

Commitment to excellence

The U-Stamp accreditation is awarded to organizations that meet the stringent ASME standards for pressure vessel design, fabrication, inspection, and testing. These stamps differ from other QA/QC stamps as they are granted based on standards that a third party develops. Teadit, a global leader in fluid sealing solutions, has recently achieved a significant milestone by receiving the prestigious U-Stamp certification. With this certificate, Teadit has proven its ability to fabricate components and ASME Pressure Retaining Parts which follow the

guidelines outlined in Section VIII of the latest edition of the BPVC.

The achievement of this accreditation underscores Teadit's dedication to maintaining the highest levels of safety and reliability in its products and processes. Not only do its products meet the highest standards of safety and performance, but it also ensures that its metal expansion joints are designed, manufactured, and tested to withstand the rigorous demands of heat exchangers and other pressure equipment.

"Our achievement of the U-Stamp certification is a testament to the hard work and dedication of our entire team," said Robbie Riggs, President & CEO of Teadit North America. "This recognition reinforces our commitment to quality and safety, ensuring that our customers receive the best-in-class solutions they have come to expect from us."

Dedicated to quality

Since 1970, Teadit has manufactured Metallic Expansion Joints and Flue Duct Expansion Joints whose main function is to absorb the movements and vibrations of a pipe compensating for dimensional variations. Its expansion joints are designed to the prescribed specifications for use in heat exchangers required by the Expansion Joint Manufacturers Association (EJMA) and ASME. More specifically, Teadit designs expansion joints according to ASME VIII and B31.3, and all its welders are certified according to ASME IX. It is also a member of the EJMA a global association of leading expansion joint manufacturers and suppliers.

The hallmark of Teadit's manufacturing prowess is its comprehensive approach to product development. From initial design to final production, every stage is meticulously executed to ensure optimal performance and durability.

About the Expert

Iberê Souza has a bachelor's degree in Mechanical



Engineering from the State University of Campinas (UNICAMP), Brazil. Born and raised in Brazil, he's been living in the USA for the past ten years, where he deepened his knowledge of Quality Management Systems and ISO 9001 standards. Iberê recently transitioned to a technical market support position to develop and bring expansion joint solutions to the industry. He is currently the Expansion Joint Market Support Specialist at Teadit.

Utilizing advanced materials and state-of-the-art manufacturing processes, Teadit crafts metal expansion joints that excel in withstanding extreme temperatures, pressures, and corrosive environments.

Moreover, Teadit's commitment to quality assurance is exemplified by its adherence to international standards and certifications. Its facilities are equipped with advanced testing capabilities to validate the performance and reliability of each expansion joint, ensuring compliance with rigorous industry regulations and customer specifications.

Teadit's Metallic expansion joints allow greater flexibility and minimize pressure drop and energy loss, which then reduces design and installation costs. Teadit expansion joints can also be used as vibration isolators and, in some cases, to compensate for small duct or equipment installation misalignments.

Benefits of U-Stamp accreditation

The U-Stamp offers numerous advantages to Teadit and its customers, including:

- **Enhanced Safety:** Ensures compliance with the highest safety standards, providing customers with reliable and durable solutions.
- **Improved Quality:** Guarantees that pressure vessels meet the rigorous requirements outlined in Section VIII Division 1 of the Boiler and Pressure Vessel Code (BPVC).
- **Global Recognition:** ASME accreditation is respected worldwide, opening new opportunities and simplifying compliance with various international regulations.
- **Customer Confidence:** Increases trust and confidence in Teadit's products and solutions.



➤ Heavy wall bellows with an internal hinge. Image courtesy of Teadit.

By achieving the U-Stamp certification, Teadit highlights its position as a trusted provider of high-quality sealing solutions, offering customers confidence in the durability and reliability of its products.

Final thoughts

Metal expansion joints play a vital role in the effective operation of heat exchangers.

"Our goal is to always ensure the safe and efficient performance of heat exchangers across various sectors," added Mr. Riggs. "Receiving this certification encourages innovation by setting high standards for product development and manufacturing; it drives the advancement of technologies designed to meet stringent requirements. We look forward to creating these solutions and providing high-quality metal expansion joints to the market in our local regions for years to come." ■

About the Author

Angelica Pakjovic is a Client Specialist



at Teadit, with a particular focus on technical content development. Hailing from Toronto, Canada, she has over six years of experience in the industrial industry. In her previous role as Editor-in-Chief at an industrial publishing company, she gained a rounded understanding of the challenges, interests, and business relationships in the industrial sector. For more information, please contact Angelica via email at: angelicap@teadit.com.

SNAP IT™

JR & SR
ENGINEERED TUBE PLUGS

LOCKDOWN LEAKS!

Don't let leaking tubes halt your operations. Snap It Tube Plugs from USA Industries are your permanent solution to seal leaks in heat exchangers, boilers, and condensers.

We also have hundreds of
THOUSANDS of stocked
tube plugs ready to ship or
deliver today!



USA INDUSTRIES



SINCE 1982