LOCTITE®

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SEALING THE FUTURE OF HYDROGEN BURNERS WITH LOCTITE SOLUTIONS

Background

- The customer was seeking a certified hydrogen-resistant thread sealant for new hydrogen burners, aiming to cut CO2 emissions. They chose Henkel's LOCTITE 577 250 ml, tested successfully under hydrogen gas pressure on various metals, meeting all certification and application requirements.
- ***Critical Performance Criteria +Challenges :*** The challenge was to find a certified sealant resistant to hydrogen gas for metallic pipe accessories, ensuring ease of use and preventing leaks at 150 millibar pressures under ambient temperatures. This involved overcoming the limitations of previous thread sealing solutions incompatible with hydrogen and prone to leakage with this gas.

Solution

LOCTITE 577

- LOCTITE 577 for sealing steel, brass, and aluminum threads.
- Substrates: Mild Steel, Brass and Aluminum
- Application process involved degreasing with LOCTITE Cleaner, applying the sealant, assembling, curing for 24 hours, and reliability testing with hydrogen gas at 300 millibar.
- Requirements met: certification (DVGW EN751-1), hydrogen resistance, compatibility with various metals, and ease of application.
- Aimed at reducing CO2 emissions by utilizing green hydrogen fuel.

Benefits

CO2 Emission Reduction

Enhanced Safety

Energy Efficiency

Compliance and Versatility

- Compatible with a range of metal fittings

Ease of Application

- Easy to apply and prevent pipes loosening