Seals Certified to API Valve Performance

Oil and Gas Industry
Chesterton SES100
Spring-Energized Seal Case Study

Challenge

Background

A customer was designing a gate valve for an Oil and Gas application. It would see a temperature range of -40°C (-40°F) to 180°C (356°F) and maximum pressure of 138 MPa (20,000 psi). It would be exposed to crude oil, natural gas, and high concentrations of H_2S and CO_2. The customer had tried seals from competitors, but they were failing. Time was running out and they needed a solution.

Solution

Product

Chesterton specialists worked closely with the customer to intimately understand the application and propose a solution. **Chesterton Series 100 – Cantilever Spring-Energized Seals (SES)** were developed for the equipment. The stem package consisted of an SES, hat ring to protect against seal lip damage, and backup ring for extrusion resistance. Inner and outer face seals were used in the seat for sealing against the gate.

Results

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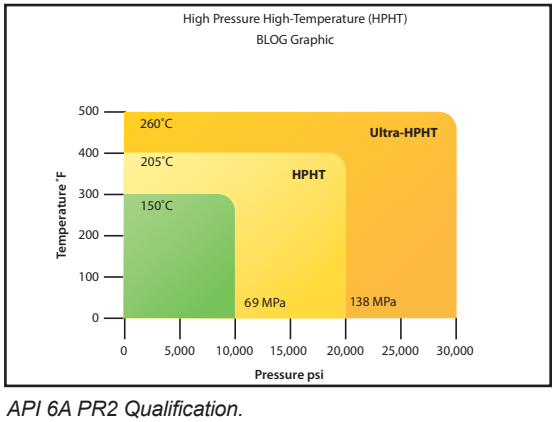
Chesterton was hands-on with seal installation and test preparation. Valve testing was conducted per API 6A Appendix F and PR2 qualified. The **Chesterton Series 100 - Cantilever Spring-Energized Seals** provided successful performance to this demanding standard at HPHT conditions. Due to successful testing and interactions, Chesterton secured the business for all stem and seat subassemblies.

Gate valve before service.

Chesterton Series 100 – Cantilever Spring-Energized Seals.



API 6A PR2 Qualification.

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