

September 5, 2014

BONNEY FORGE API RP591 TESTING

Eight valves were sent to United Valve from Bonney Forge's stock for API RP591 Testing. The valves were subjected to hydro testing, torque testing, stem pull testing, Positive Material Identification (PMI), hardness testing, visual examination, dimensional examinations, metallurgical examinations, magnetic particle testing, penetrant examination and radiography in accordance with ASME B16.34, API 608, and API RP591.

*see report for more details

Eight valves were subjected to dimensional examinations. All eight valves met the minimum testing requirements.

*see report for more details

Eight valves were subjected to positive material identification and hardness examination. No unusual conditions were noted.

*see report for more details

Four valves were selected for stem to ball twists (see chart for results). No unusual conditions were noted.

*see report for more details

Valve #	Size	Class	Material	Type	Results
V2	4	150	SS316 stem SS316 ball	RF	Met minimum test criteria
V3	6	300	SS316 stem SS316 ball	RF	Met minimum test criteria
V6	4	150	SS316 stem SS316 ball	RF	Met minimum test criteria
V7	6	300	SS316 stem SS316 ball	RF	Met minimum test criteria

Two valves were selected for metallurgical examination per ASTM A105. Both 3" 300 ball valves did not meet minimum requirements due to low tensile properties on the tailpiece.

*see report for more details

Eight valves were visually examined per MSS-SP-55 & ASME B16.34. All eight valves met the minimum testing requirements.

*see report for more details

Magnetic Particle Examination/Liquid Penetrant Examination was performed per ASME B16.34 on the eight valves. All of the valves met the minimum testing requirements.

*see report for more details

Eight valves were subject to radiographic testing, in accordance with ASME B16.34. A total of 191 radiographic exposures were made on the eight valves. All of the valves met the minimum testing requirements.

*see report for more details

Summary

SHARPE	Hydro Pressure	Dimensional	PMIs	Hardness	Visuals Examination	Penetrant	Radiograph	Stem Twist	Metallurgical
V1 3"300	Met Req.	Met Req.	Met Req.	Met Req.	Met Req.	Met Req.	Met Req.	N/A	Did not meet
V2 4"150	Met Req.	Met Req.	Met Req.	Met Req.	Met Req.	Met Req.	Met Req.	Met Req.	N/A
V3 6"300	Met Req.	Met Req.	Met Req.	Met Req.	Met Req.	Met Req.	Met Req.	Met Req.	N/A
V4 8"150	Met Req.	Met Req.	Met Req.	Met Req.	Met Req.	Met Req.	Met Req.	N/A	N/A
V5 3"300	Met Req.	Met Req.	Met Req.	Met Req.	Met Req.	Met Req.	Met Req.	N/A	Did not meet
V6 4"150	Met Req.	Met Req.	Met Req.	Met Req.	Met Req.	Met Req.	Met Req.	Met Req.	N/A
V7 6"300	Met Req.	Met Req.	Met Req.	Met Req.	Met Req.	Met Req.	Met Req.	Met Req.	N/A
V8 8"150	Met Req.	Met Req.	Met Req.	Met Req.	Met Req.	Met Req.	Met Req.	N/A	N/A

Signature on original only

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