

Destructive Testing

Throttle Master™ Needle Valves Series NG/NA & L Series

Qualification: ASTM D1599 & ASTM F610F 610M

Background and Procedure of Destructive Testing

There are basically 2 types of destructive testing. One being “Short-Time Hydraulic Failure Pressure” or often known as “Burst Pressure” per ASTM D1599. The second is qualifying the molded components through Heat Reversion, per ASTM F610/F 610M. The Throttle Master Needle Valve line and their discrete components are qualified by each having a minimum burst strength of 2720 psi (1/2 inch Schedule 80). This test is usually performed to qualify the initial design parameters. Once the design parameters are qualified, the important quality requirements fall on the processing to assure the necessary physical properties and dimensional control are achieved. The Heat Reversion is normally applied as a start up procedure to qualify the molding process. Any change in the design parameters would require a new qualification per ASTM D1599. When assembled a new quantitative requirement applies as all the mechanical stresses are taken into consideration.

When applied to the assembly, we require a minimum burst strength of 600 psi or 3 times maximum working pressure at ambient conditions. Burst tests performed have been in a range of 715 psi to 789 psi.

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