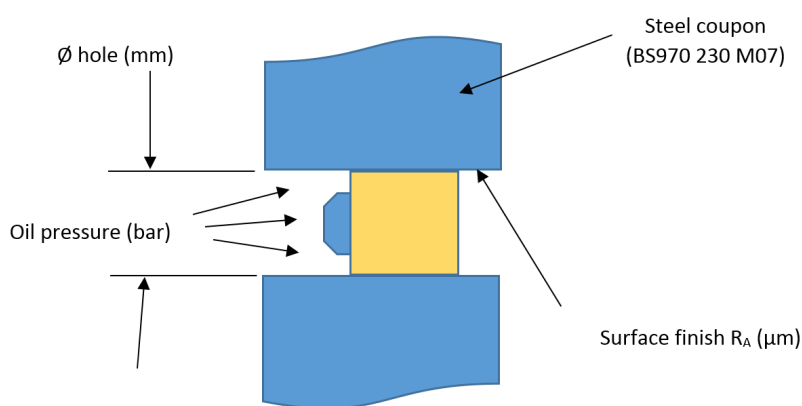


## Influences of Hole Diameter and Surface Finish Upon Ultimate Blow-out Pressure

Avseal sealing plugs can be installed rapidly into blind holes and eliminate the need for tapping threads in the application. Pulling of the steel stem with a conventional POP Avdel riveting tool expands the aluminium sleeve to securely seal blind holes having a normal drilled surface. Avseal plugs seal fluids including water, coolant and oils at high pressures. The process is quicker, more reliable, requires no setting of torque, and provides significant cost saving versus conventional threaded plugs.

The ultimate blow-out pressure is shown to be influenced by the application hole diameter and the hole's surface roughness.

The charts on the following pages show multiple test results of oil pressure tests in which the ultimate pressure required to dislodge the plug from the hole was recorded. Tests were conducted at room temperature in steel test coupons as shown below.



The test coupons were manufactured with a range of hole diameters and surface roughness values within the specified ranges as stipulated in the Avseal plug technical literature.

The plugs tested were:

Ø4mm – Part number 02961-00405  
Ø5mm – Part number 02961-00506  
Ø6mm – Part number 02961-00607  
Ø7mm – Part number 02961-00708  
Ø8mm – Part number 02961-00810

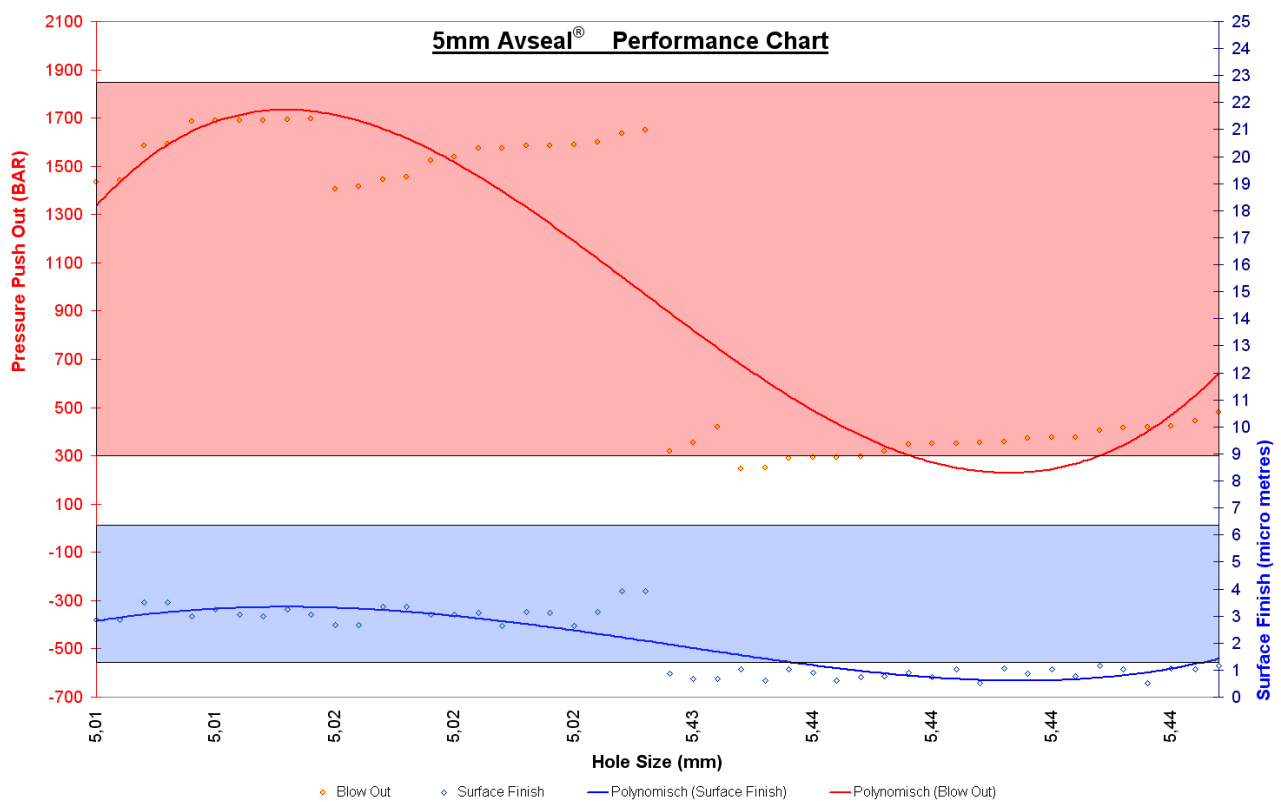
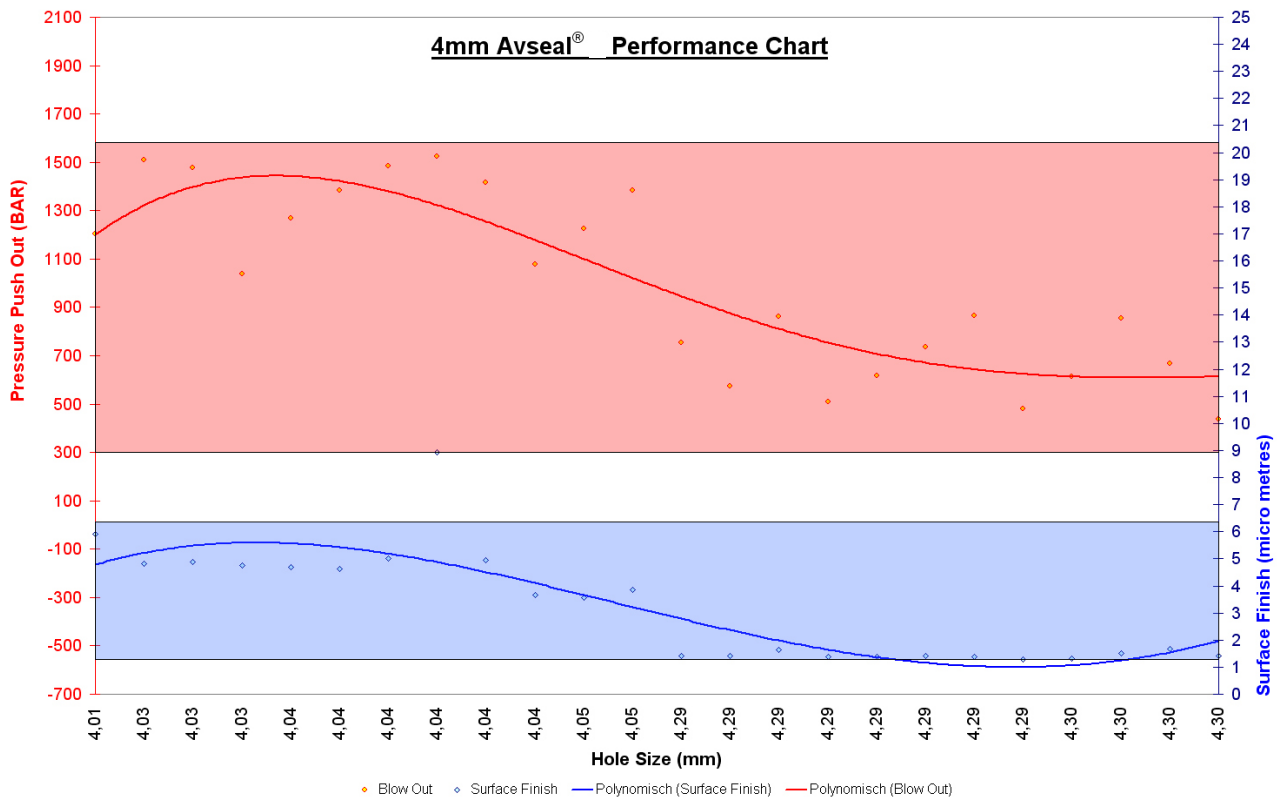
Ø9mm – Part number 02961-00911  
Ø10mm – Part number 02961-01012  
Ø11mm – Part number 02961-01113  
Ø12mm – Part number 02961-01215

The general observation from the resulting data in each chart is that hole diameter and surface roughness influence the blow out pressures. Plugs installed in hole diameters closer to the minimum limit in combination with rougher surfaces withstood highest pressures. The least favourable combination of very smooth holes at maximum diameter gave lowest pressures, but these still exceeded 300bar typically.

This test data is provided for guidance only and cannot be related directly to any particular application. Designers specifying Avseal plugs should always validate the application using their own test results. It is also important to consider the possible influence that changes in temperature and fluctuation of fluid pressures may have on the seal and arrange test methods accordingly.

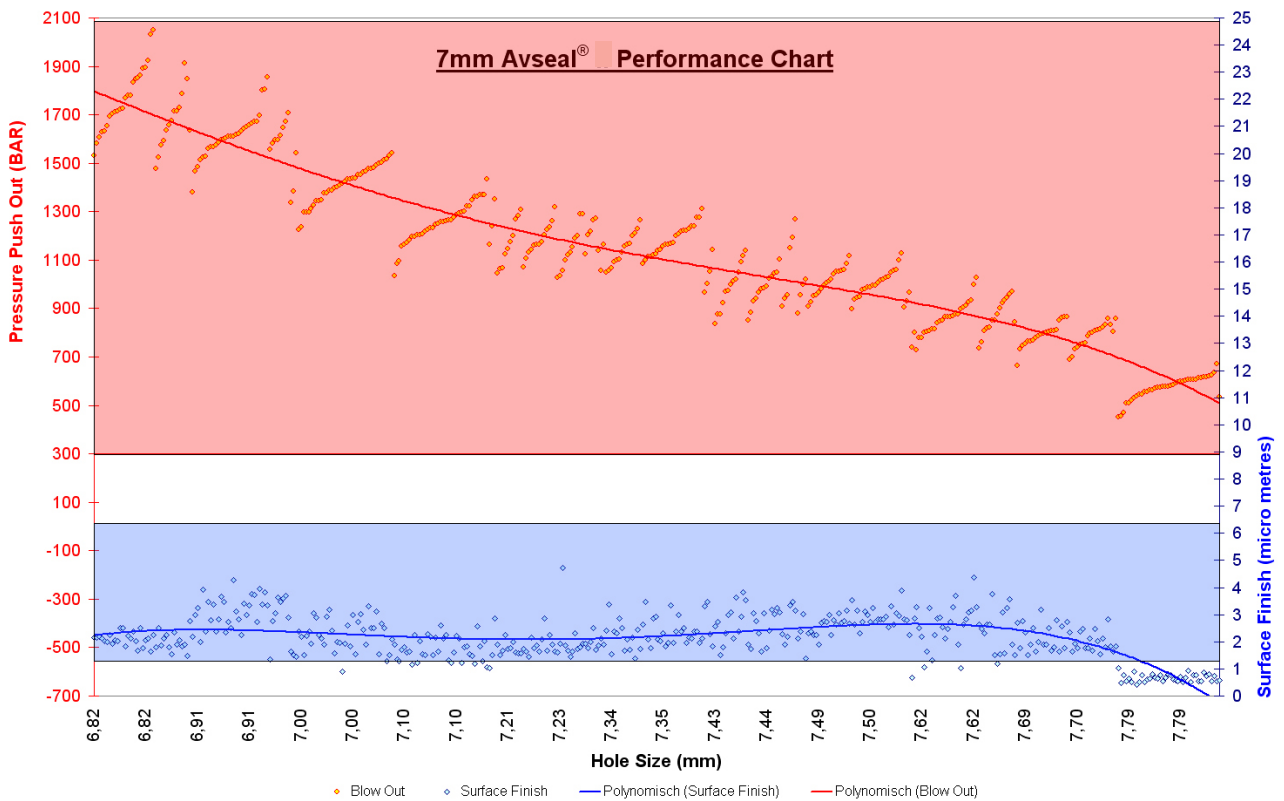
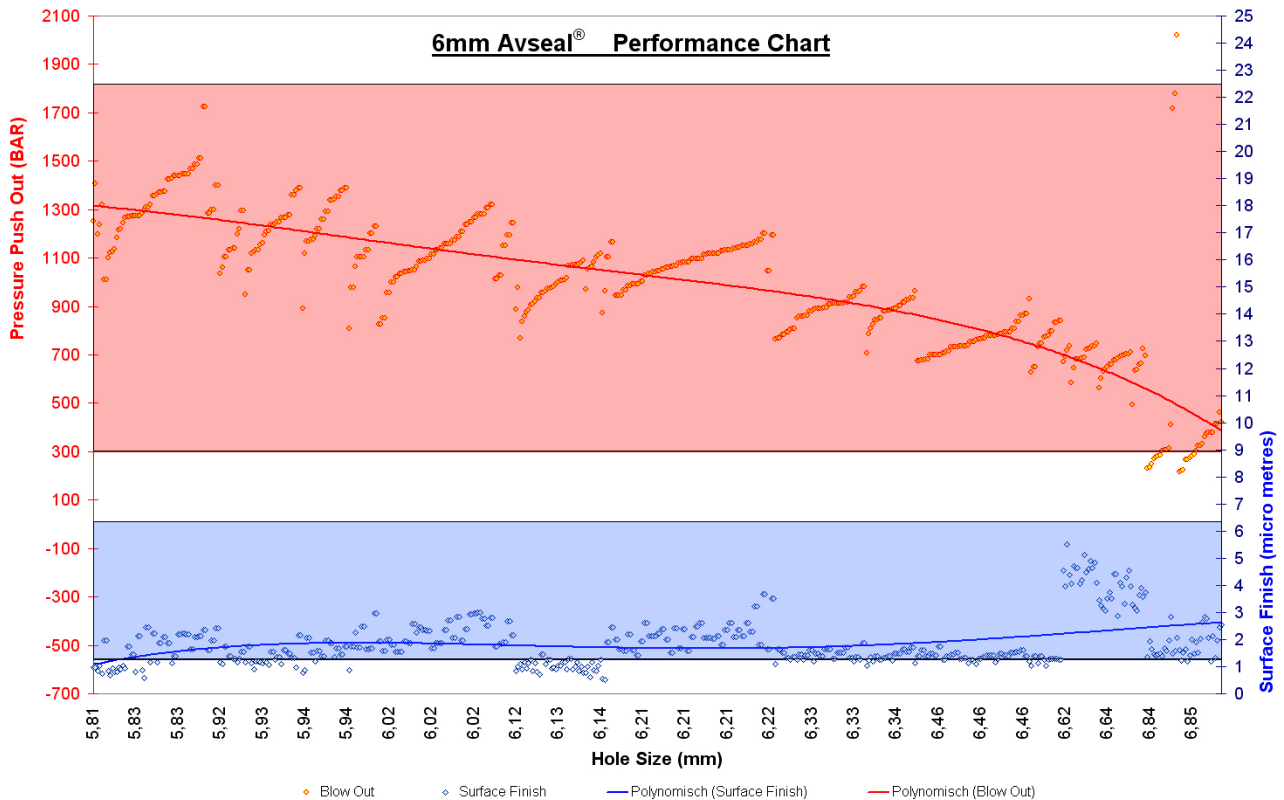
# Avseal® Blind Sealing Plug Series 2961

Blow-out pressure at different hole sizes and surface finishes



# Avseal® Blind Sealing Plug Series 2961

Blow-out pressure at different hole sizes and surface finishes



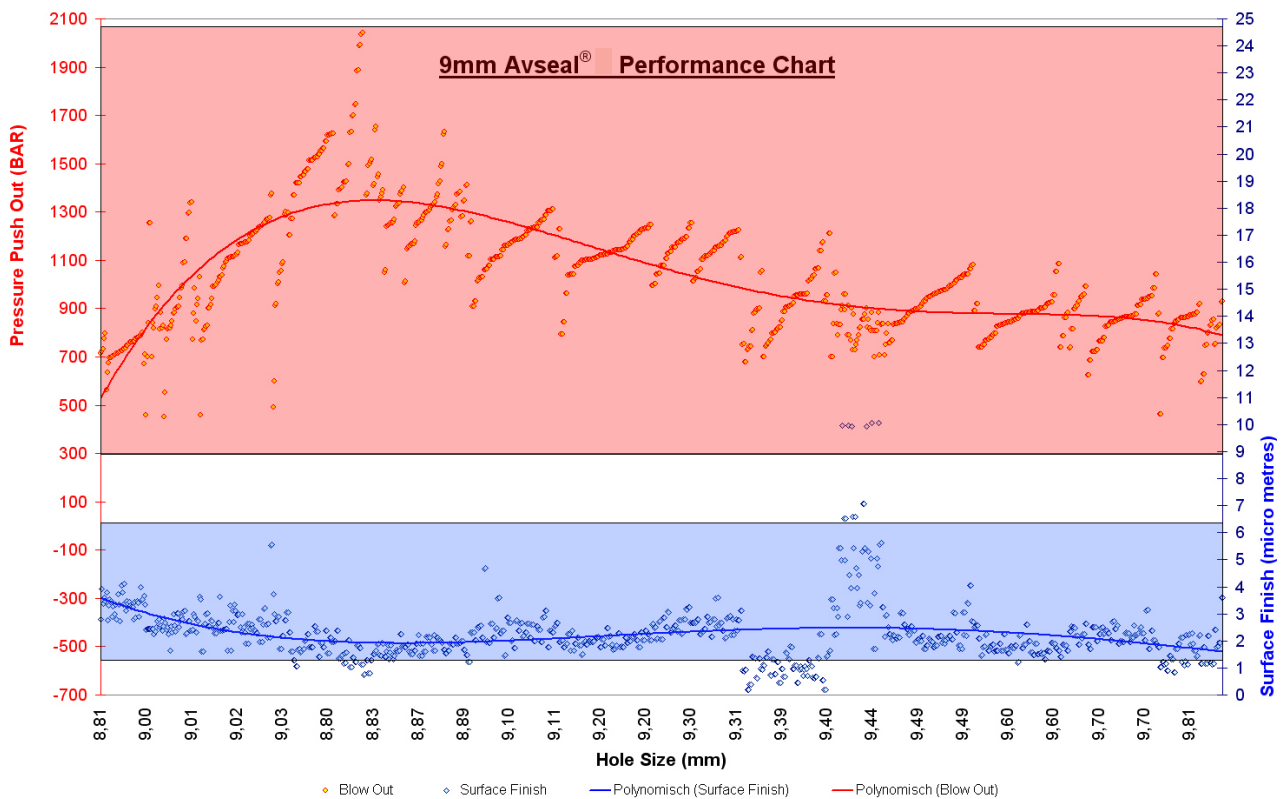
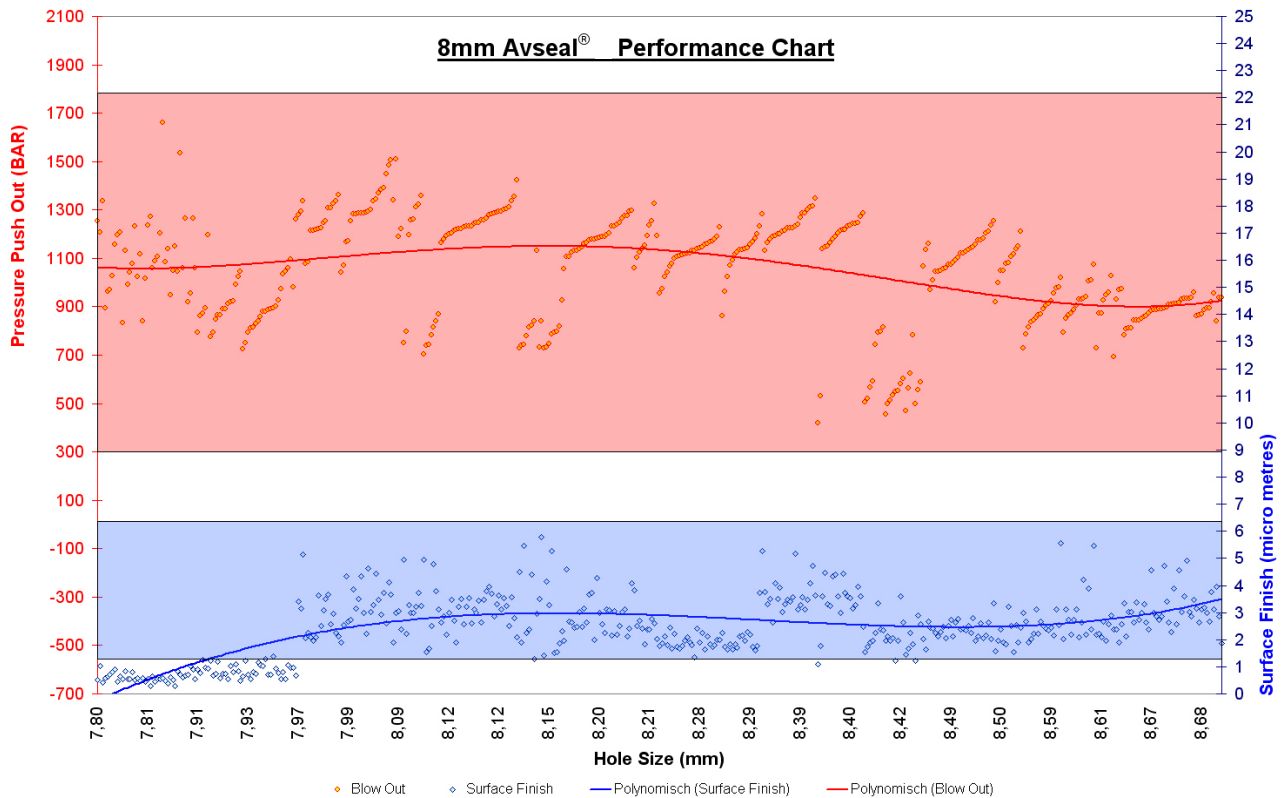
## Note

Tested in steel M257 (BS 970 230 M 07). Performance data are reference data only. Application tests are required in every case. Contact your STANLEY Engineered Fastening representative for assistance.

**STANLEY**  
Engineered Fastening

# Avseal® Blind Sealing Plug Series 2961

Blow-out pressure at different hole sizes and surface finishes



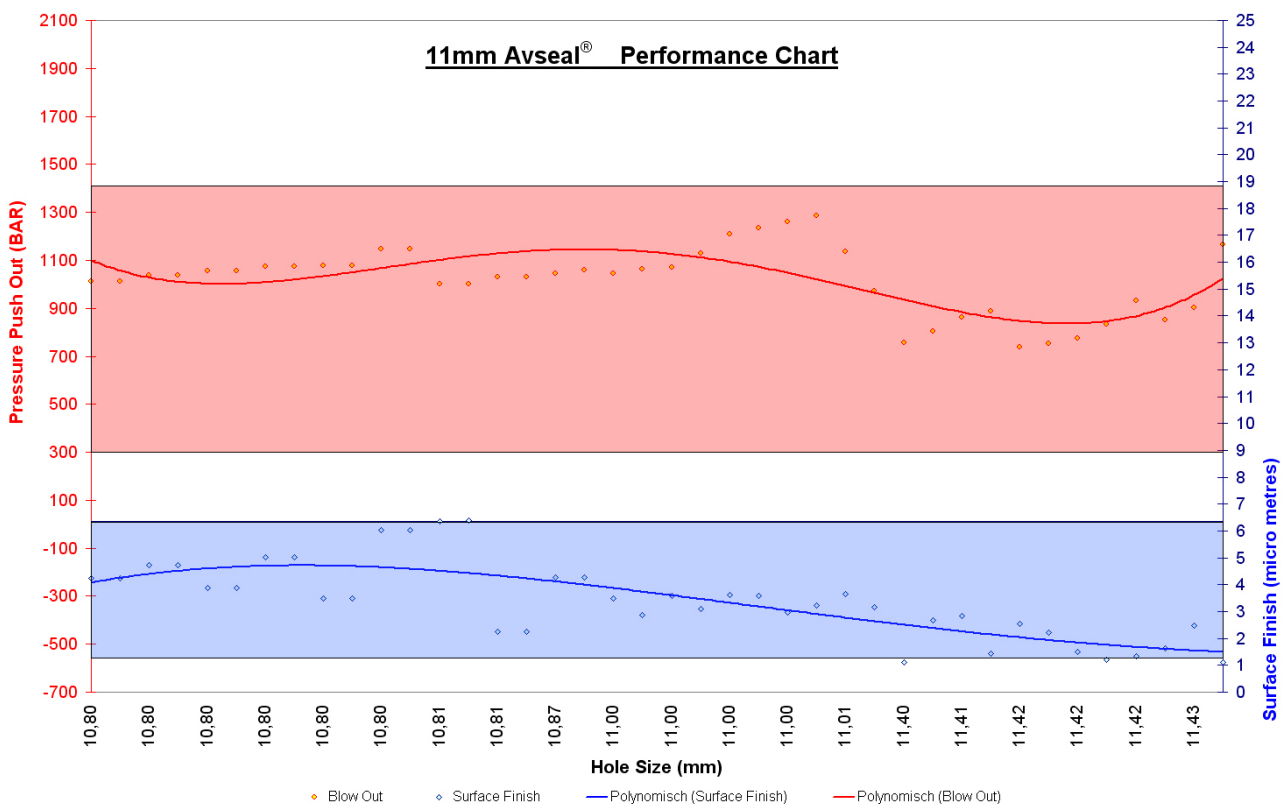
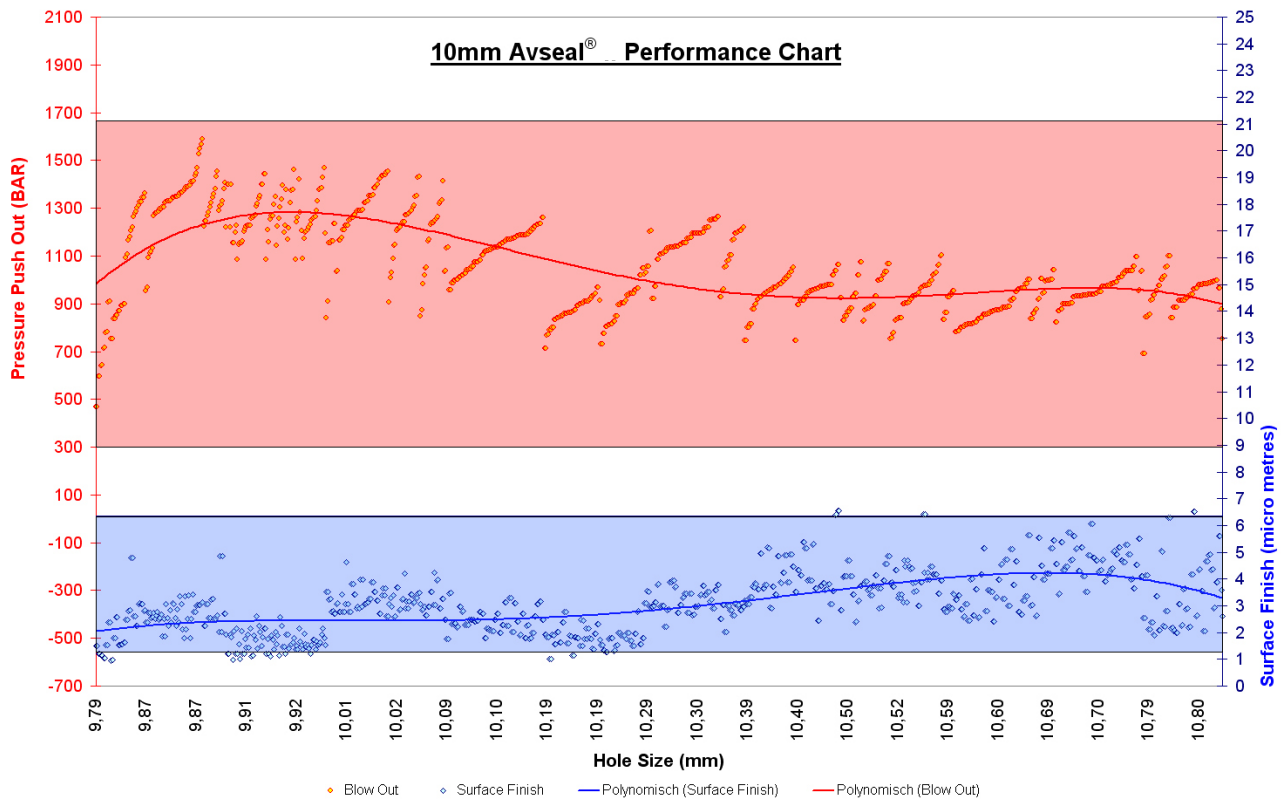
## Note

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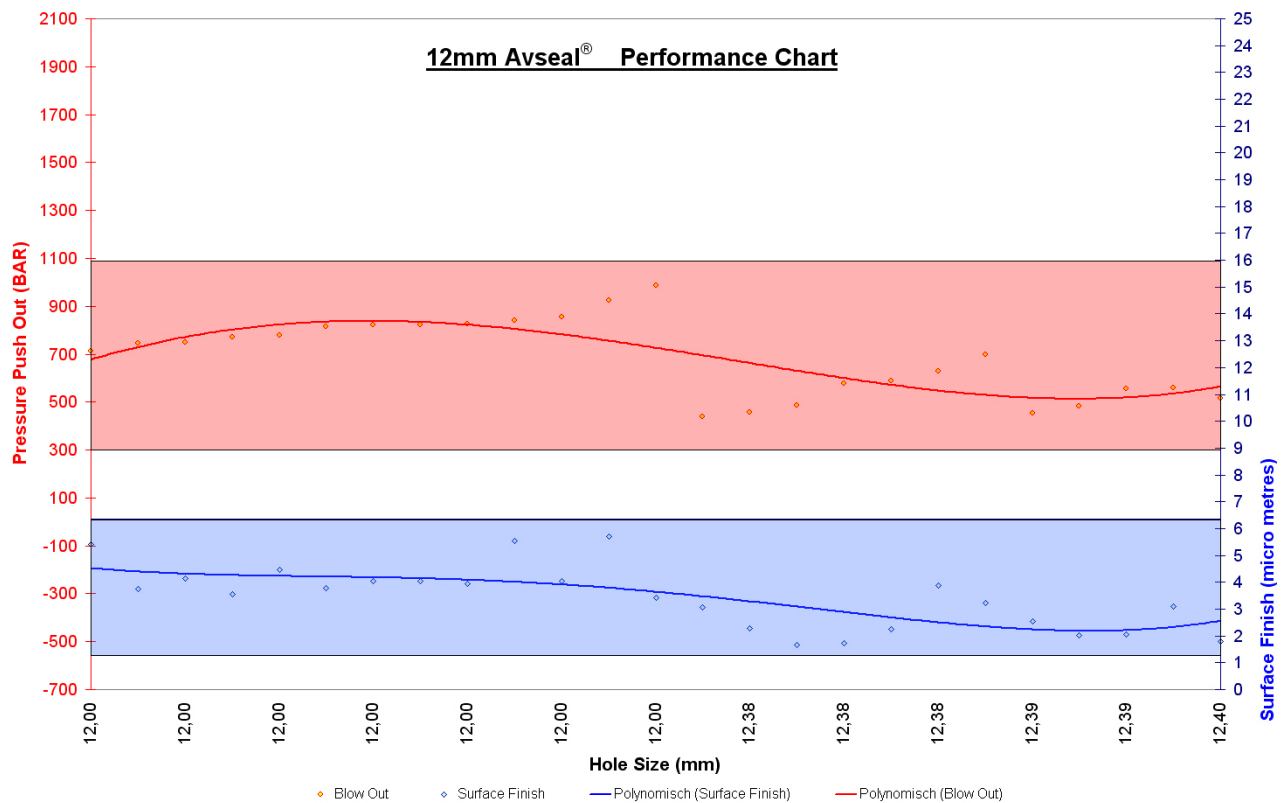
## Note

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## Avseal® Blind Sealing Plug Series 2961

Blow-out pressure at different hole sizes and surface finishes



### Note

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