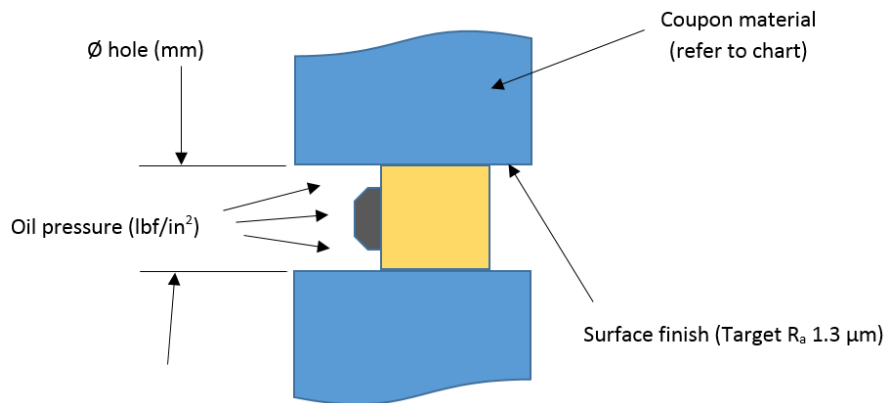


## Influences of Application Material Type Upon Ultimate Blow-out Pressure

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 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 known to be influenced by the application material type. The charts on the following pages show multiple 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 test coupons manufactured from 7 different materials.



The test coupons were manufactured with a range of hole diameters within the specified ranges as stipulated in the Avseal plug technical literature. In each case the minimum recommended surface roughness value was targeted. In this way the smoothest allowable finish was deliberately used to establish a “worst-case” blow out performance.

The plugs tested were:

### High-Pressure Avseal plugs (02961-series)

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

### Low-Pressure Avseal plugs (02964-series)

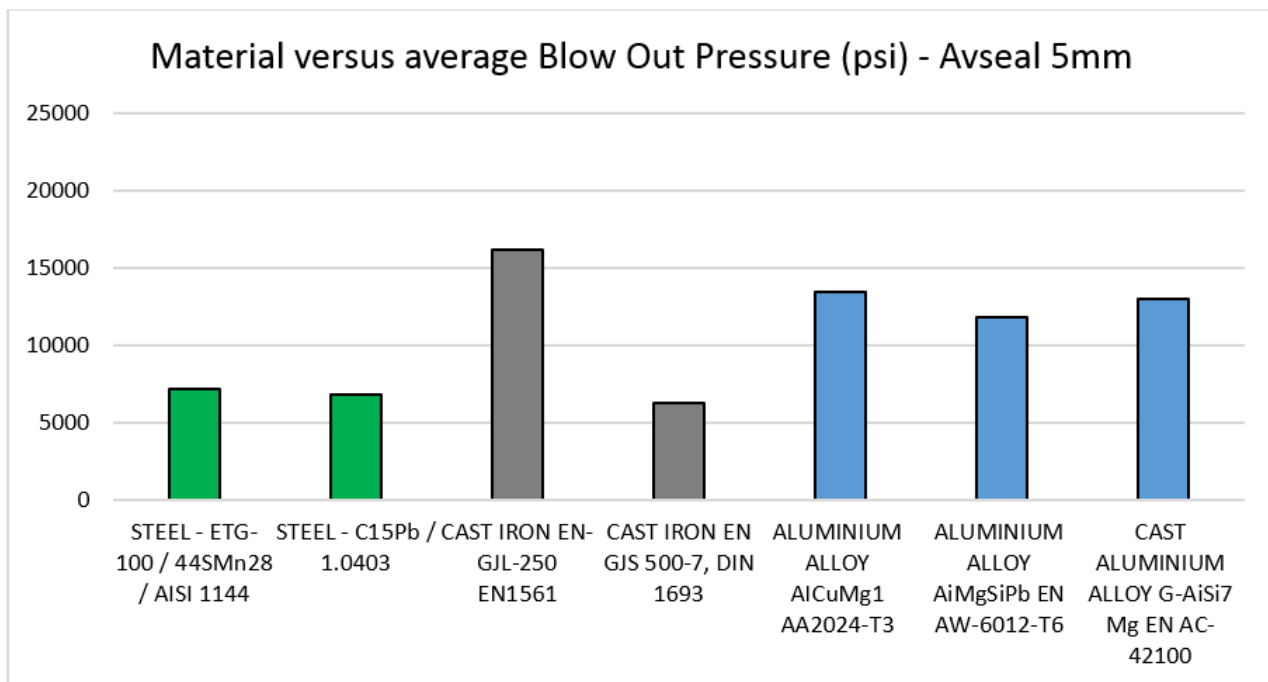
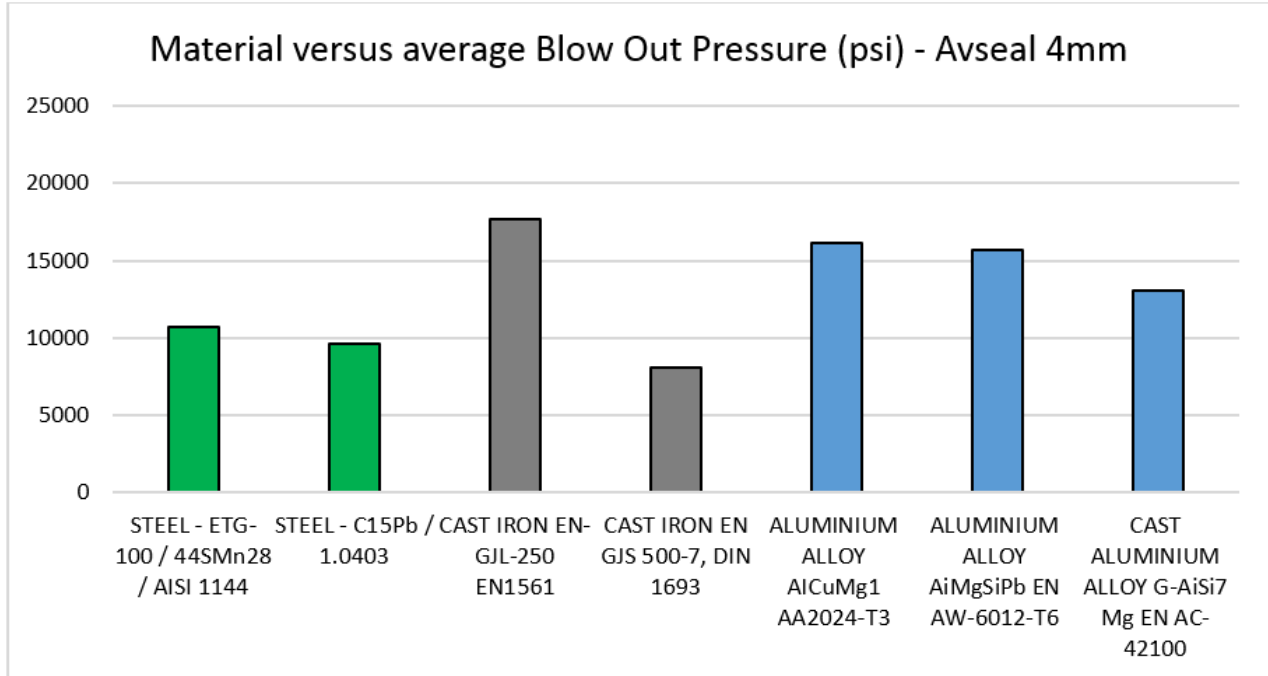
Ø9mm – Part number 02964-00911  
 Ø10mm – Part number 02964-01012  
 Ø11mm – Part number 02964-01113

A general observation from the resulting data is that Avseal plug pressure performance was better in aluminium alloys than in steel. Also it was seen that there was a marked difference between the two grades of cast iron in terms of blow-out pressure. In conclusion application material type has a significant influence upon the peak pressures the plugs can sustain.

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.

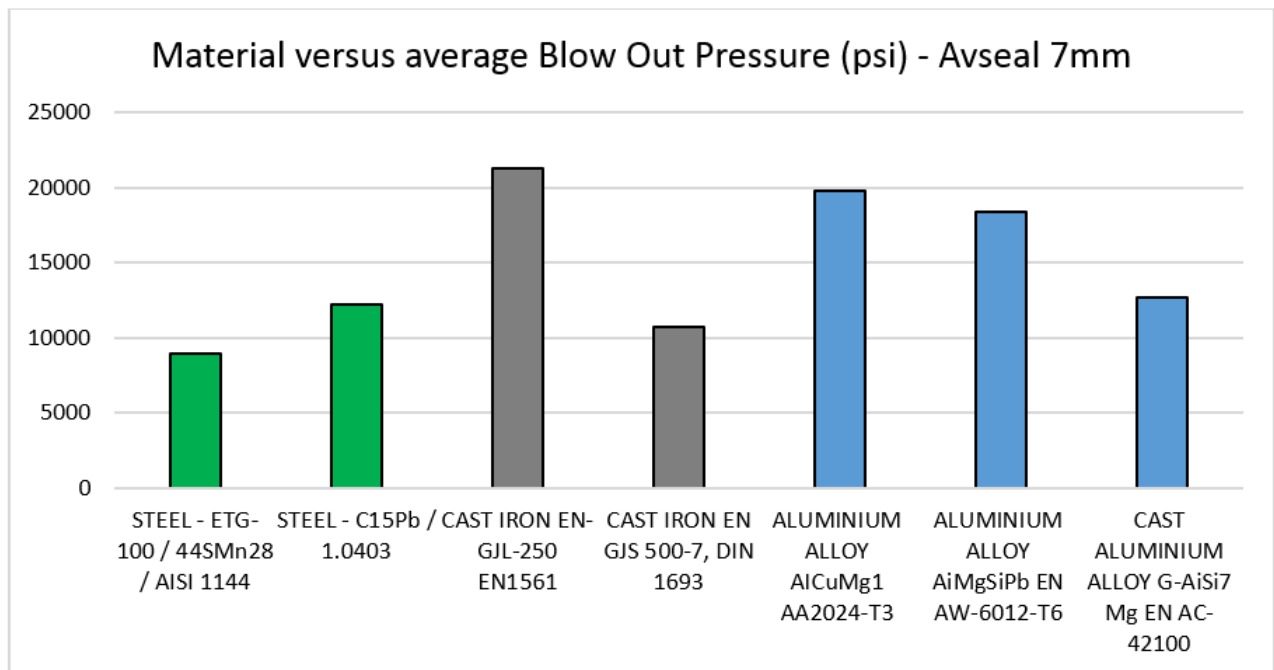
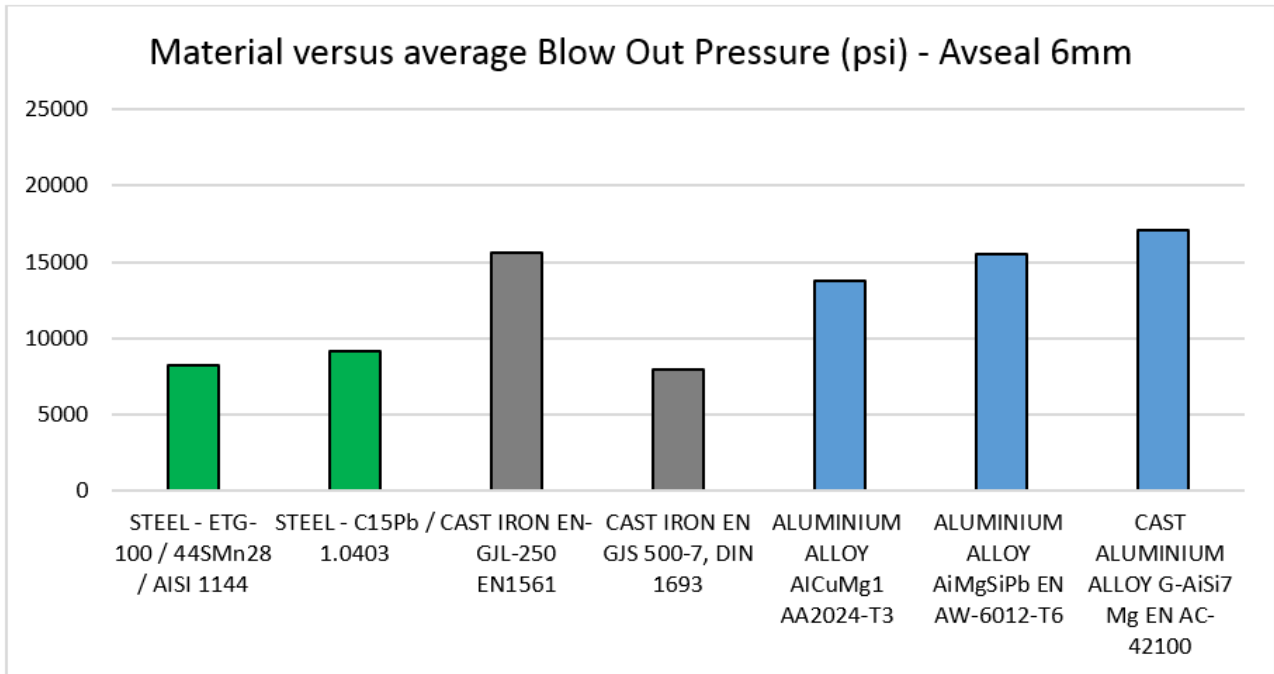
**Material versus average Blow Out Pressure (psi) - for each Avseal size and type**

**High-Pressure Avseal plugs (02961-series)**



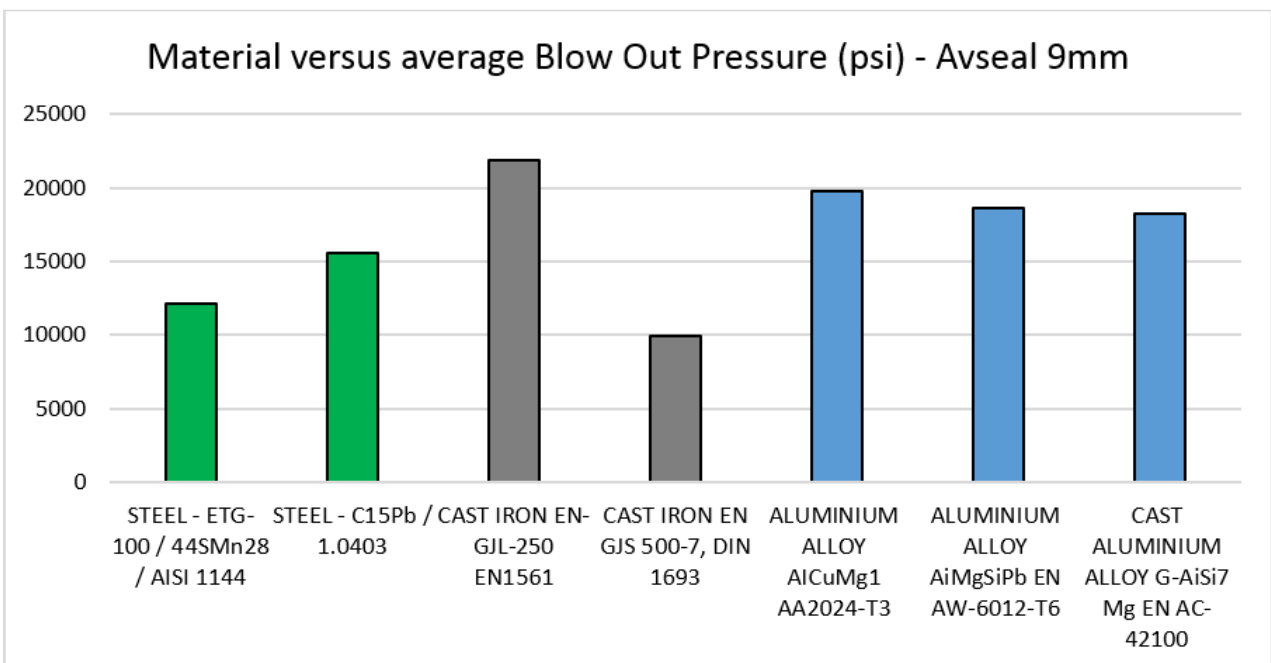
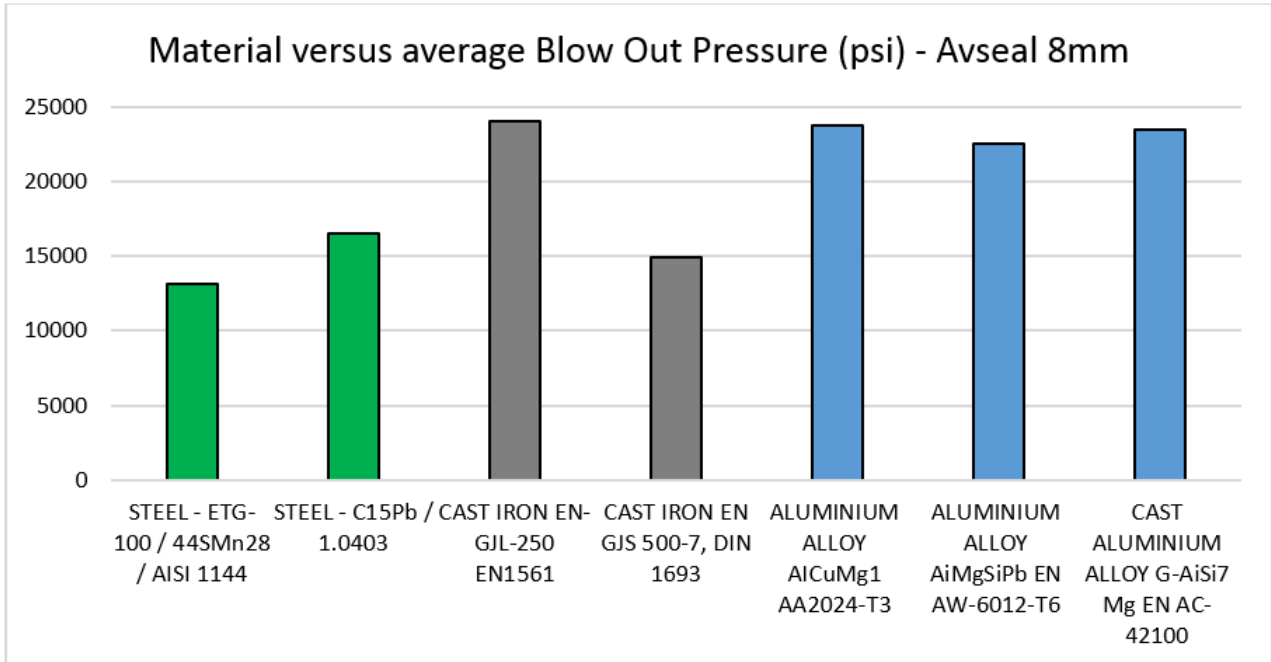
**Material versus average Blow Out Pressure (psi) - for each Avseal size and type**

**High-Pressure Avseal plugs (02961-series)**



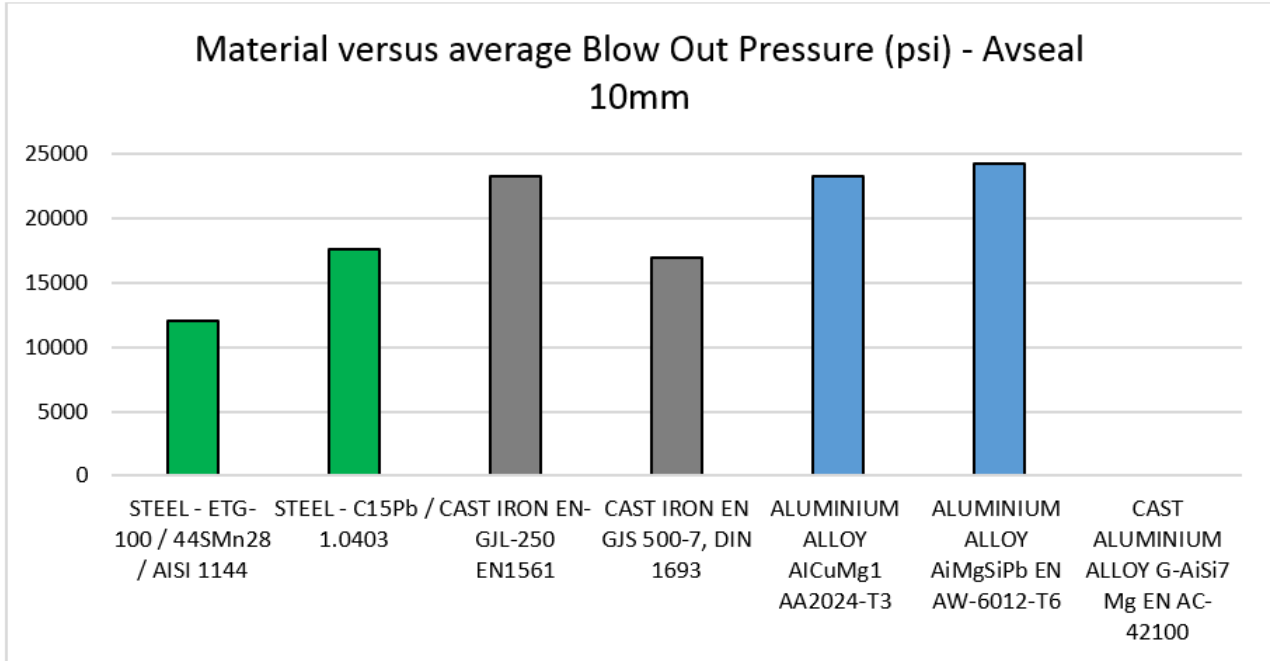
**Material versus average Blow Out Pressure (psi) - for each Avseal size and type**

**High-Pressure Avseal plugs (02961-series)**

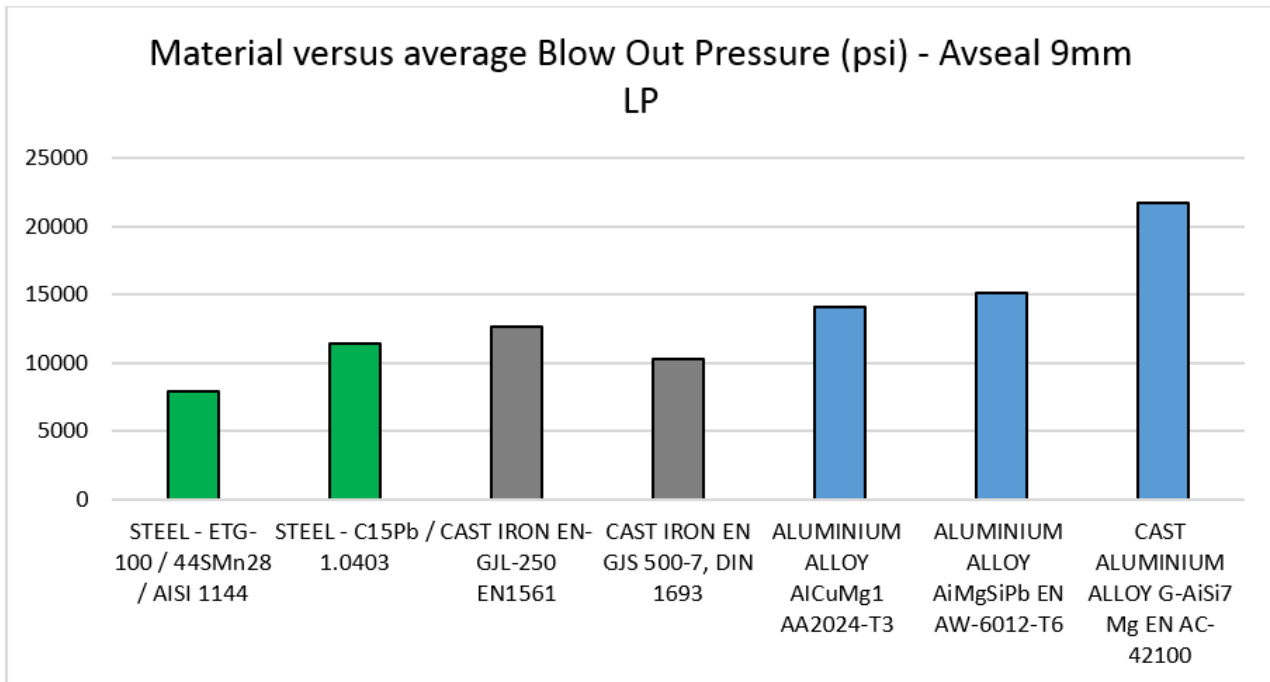


**Material versus average Blow Out Pressure (psi) - for each Avseal size and type**

**High-Pressure Avseal plugs (02961-series)**



**Low-Pressure Avseal plugs (02964-series)**



**Material versus average Blow Out Pressure (psi) - for each Avseal size and type**

**Low-Pressure Avseal plugs (02964-series)**

