



**FLUOROCARBON**



## High Pressure Sealing Performance

At Fluorocarbon we are dedicated to the design and manufacture of high performance seals and bearings to suit your specific needs. Seals can be provided in PTFE and filled PTFE materials designed to give increased performance.

We offer custom solutions for use throughout many industries including chemical, pharmaceutical, food processing, aerospace, automotive and offshore.

### Extrusion gaps and Anti-extrusion rings

When sealing at elevated temperatures and pressures, the amount of clearance between the opposing piston and housing, behind the seal, becomes critical. This clearance is termed the extrusion gap.

High pressure particularly in combination with elevated temperature can cause the seal to extrude into the clearance and cause premature failure. Extrusion gaps should always be kept to a reasonable minimum, and should not exceed the values shown in figure 2.

By modifying the heel of the seal or incorporating anti-extrusion rings, as shown, larger extrusion gaps are acceptable.

The anti-extrusion ring is generally of a material with a higher flexural modulus like PEEK but can also be supplied in metals if required.

The seal can also be supplied with a profiled angled heel and a single angled anti-extrusion ring. This allows the anti-extrusion ring to float radially within the housing. This is particularly useful in applications where the applied pressure causes a swelling of the housing, and is largely evident in large diameter welded valves and connectors.

For larger extrusion gaps or extremes of pressure and temperature, please contact the design office.

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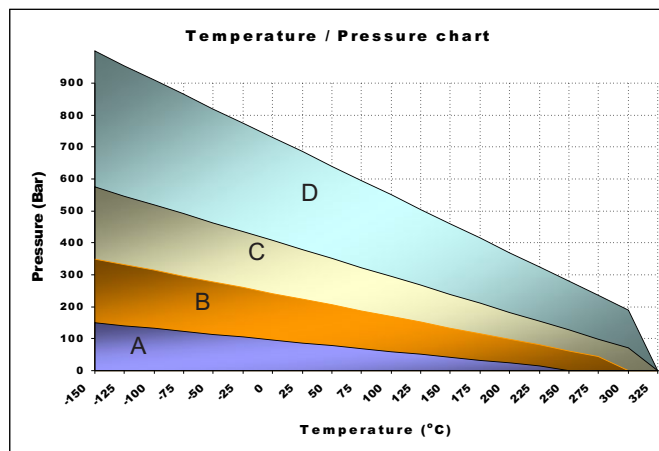


Figure 1, Temperature/Pressure Chart

	Material	A	B	C	D
	Virgin PTFE	0.10	0.075	0.05	n/a
	Filled PTFE	0.15	0.10	0.075	n/a
	Virgin PTFE	0.15	0.10	0.075	n/a
	Filled PTFE	0.20	0.15	0.10	0.075
	Filled PTFE B/U	0.20	0.15	0.10	0.075
	PEEK B/U	0.25	0.20	0.15	0.10
	Filled PTFE B/U	0.25	0.20	0.15	0.10
	PEEK B/U	0.35	0.25	0.20	0.15

Figure 2, Radial Clearance (mm)