



Isolast® J9554

OUTSTANDING CHEMICAL RESISTANCE AND THERMAL STABILITY FOR DEMANDING OIL & GAS APPLICATIONS INCLUDING HIGH TEMPERATURE STEAM ENVIRONMENTS



Isolast® perfluoroelastomer compound J9554 is a high hardness, high modulus material designed for mechanically demanding oil & gas applications where sustained high temperature resistance and maximum chemical resistance are required.

The Isolast® range of high specification perfluoroelastomer compounds has been developed to provide equipment manufacturers and end users with sealing solutions compatible with virtually all chemical media, over the widest temperature range possible. Unique Isolast® formulations give real benefits and cost advantages by providing optimum seal reliability and extending service life.

Isolast® J9554 is engineered to deliver exceptional chemical resistance and high thermal stability in harsh oil and gas environments, including hot steam environments such as steam injection. A high hardness, high modulus material with excellent long-term retention of physical properties, it is ideally suited to high pressure applications where high thermal stability and resistance to aggressive well bore chemicals such as amine-based corrosion inhibitors, steam and acids, are vital to ensure reliable seal performance.

Special Features

- Outstanding chemical resistance including high temperature steam environments
- Excellent compression set retention at high temperatures
- Temperature resistance from -10 °C/+14 °F to +275 °C/+527 °F (excursions to +300 °C/+572 °F)
- High hardness, high modulus grade offering exceptional mechanical performance at high pressures
- Ideal for Enhanced Oil Recovery (EOR) applications

Typical Applications

- Enhanced Oil Recovery (EOR), including thermal recovery and chemical injection
- Steam injection applications such as Cyclic Steam Stimulation (CSS)
- Downhole tools
- Chemical dosing pumps

Isolast® J9554 is available in all standard international O-Ring sizes along with custom-engineered solutions and FlexiMold™ large diameter joint free seals.

MATERIAL DATASHEET FOR J9554

General data	J9554
Basic polymer	FFKM
Color	black
Hardness	90+/-5 Shore A
Temperature range	-10 °C to +275 °C +14 °F to +527 °F
Excursion temperature*	-10 °C to +300 °C +14 °F to +572 °F

Properties	Standard	Typical Results
Density	ISO 2781	1.99 g/cm ³ /0.072 lb/in ³
Tensile Strength	ISO 37	21.6 MPa/3133 psi
Modulus at 50% Elongation	ISO 37	9.9 MPa/1436 psi
Modulus at 100% Elongation	ISO 37	19.1 MPa/2770 psi
Elongation at Break	ISO 37	109%
Compression Set 24 h/+200 °C/+392 °F 72 h/+275 °C/+527 °F	ISO 815 Type B	19.9% 30%
Low Temperature Behavior TR 10 point	ISO 2921	-4 °C/+24.8 °F
High Temperature Steam Aging: 168 h/+300 °C/+572° F Change in Tensile Strength Change in Elongation at Break Change in Hardness Change in Weight	ISO 1817	+11% -17% 0 Shore A -0.8%
Fluid Immersion Testing: 70% Nitric Acid 168 h/+70 °C/+158 °F Change in Volume	ISO 1817	+11.2%
Fluid Immersion Testing: Toluene 168 h/+23 °C/+73.4 °F Change in Volume	ISO 1817	+0.9%
Fluid Immersion Testing: Sodium Hydroxide 50% 168 h/+100 °C/+212 °F Change in Volume	ISO 2921	-0.4%

*Maximum and minimum temperatures have to be agreed according to specific application criteria

