

Perlast® ICE G90LT

Low temperature, ED resistant, perfluoroelastomer



Description

Perlast® ICE G90LT offers a unique combination of excellent chemical resistance, outstanding explosive decompression resistance and low temperature capability down to -46°C (-51°F).

Perlast® ICE G90LT has been formulated to provide excellent resistance to a broad range of chemicals by carefully controlling the molecular architecture. In addition, this perfluoroelastomer has low permeability and as a result, it is less prone to swelling, leading to extended in-service performance in valves, pumps and mechanical seals.

Ideal for use in exploration and completion applications and equipment operating or stored in sub-zero conditions. Perlast® ICE G90LT is suitable for both dynamic and static applications and can be fully moulded into O-rings (any size up to 2.5m/8ft internal diameter) and custom shapes.

Key Attributes

- ▶ Excellent Explosive Decompression resistance.
- ▶ Tested to **NORSOK M710** standard
- ▶ Tested to **TOTAL GS PVV 142** standard
- ▶ Tested to **NACE TM0297** standard
- ▶ Exceptional resistance to methanol, sour gas, hot water, steam, oils, acids and amines beyond that of conventional TFE/P (Aflas®) and FKM polymers.
- ▶ Excellent low-temperature sealing capability.
- ▶ Suitable for use in **API 6A & 6D** wellhead equipment and valves.

Typical Applications

- ▶ Drilling tools (deepwater)
- ▶ Wellhead equipment
- ▶ Completion tools
- ▶ Pipe connectors
- ▶ Downstream refinery & petrochem equipment
- ▶ Pumps
- ▶ Valves
- ▶ Compressors
- ▶ Mechanical seals

Other materials in this range

Perlast® ICE G75LT (low temperature FFKM 75 IRHD grade)

Perlast® G75TX (high temperature FFKM grade)

Perlast® G92E (ED resistant FFKM grade)

V71C (low temperature FKM)

Potassium Formate, 12.7 ppg, HCOOK 400 hrs @ 110°C (230°F)	Result
Hardness change, IRHD	0
Tensile Strength change, %	-15.7
Elongation at Break change, %	44.2
Volume change, %	0.5



Typical Material Properties

Property	ASTM	ISO	Value
Material Type	FFKM	FFPM	
Colour			Black
Hardness: (IRHD)	D1415	ISO48	90
	D2240	ISO7619	89
Tensile Strength (MPa)	D412	ISO37	18.0
Elongation at break (%)	D412	ISO37	115
100% Modulus (MPa)	D412	ISO37	17
Compression Set (%): 70 hrs @ 200°C (392°F)	D395	ISO815	21
Glass Transition: Tg	D3418		-30°C (-22°F)
	TR10	D1329	-31°C (-24°F)
Minimum Operating Temperature			-46°C (-51°F)
Maximum Operating Temperature			+240°C (+464°F)
Coefficient of Thermal Expansion (°C ⁻¹)			3.0x10 ⁻⁴

SPECIAL NOTE: This information is to the best of our knowledge accurate and reliable. However, PPE Ltd makes no warranty, expressed or implied, that parts manufactured from this material will perform satisfactorily in the customer's application. It is the customer's responsibility to evaluate parts prior to use, especially in applications where their failure may result in injury and/or damage. It should also be noted that all elastomeric parts have a finite life, therefore a regular program of inspection and replacement is strongly recommended. The material properties above should not be used for specification purposes.

Perlast® is a registered trademark of Precision Polymer Engineering Limited.



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