CHEMRAZ® 678

Delivering Excellent RGD Resistance in Low Temperature Environments

PERFLUOROELASTOMERS ENABLE SEALING SOLUTIONS IN SUBSEA & SUBZERO APPLICATIONS

Greene, Tweed understands the challenges of exploration and production in arctic and subsea environments and the need for reliable and safe sealing solutions under extreme low temperature conditions. Chemraz® 678 compound, (90 durometer), expands the portfolio of low temperature perfluoroelastomers and maintains excellent sealing integrity at high pressures and in temperatures as low as -40°F (-40°C). In addition, Chemraz 678 has excellent RGD (Rapid Gas Decompression) properties as verified by an independent third party lab*.

The Akron Rubber Development Lab has independently qualified Chemraz 678 to the ISO 23936-2 global standard for RGD resistance. Under stringent testing conditions mandated by this standard, Chemraz 678 passed with the best possible score of "0000"; this score means that after the conclusion of testing, no blisters or internal cracks were observed in the material. A score of "0000" provides the peace of mind required for safe and reliable operations.

Chemraz 678 delivers the same exceptional chemical resistance as our other market-leading compounds along with a wide temperature range of -40°F to 445°F (-40°C to 230°C). This material also provides excellent compression set and thermal shock resistance, allowing our seals to be utilized in a wide variety of industry applications. In addition, the material allows for greater flexibility in tooling due to a comparable shrink rate with our other high-performance sealing solutions.

Greene,Tweed's latest expansion of its Chemraz portfolio is part of the company's broad initiative to enable next generation exploration and production technologies. Customers can rely on the same exceptional sealing performance they have come to expect of our Chemraz solutions – in colder temperatures than ever thought possible.

Chemraz 678 seals

FEATURES & BENEFITS

- Excellent RGD resistance reduces the risk of costly seal failure, loss of production time, and environmental damage
- Exceptional performance in extreme low temperatures to enable applications in harsh environments
- Superior resistance to hostile reservoir chemistries, drilling fluid additives and production chemicals for improved sealing performance
- Excellent compression set and thermal shock resistance for expanded application capabilities

APPLICATIONS

O-rings, G-T® Rings, GTL™ Rings and other sealing elements used in:

- Wireline sensors and other fluid-filled tools stored and utilized in arctic climates and subzero applications
- Subsea equipment including production systems, hydraulic systems, and chemical injection systems
- Completions systems used in water injection wells
- Drilling tools used in deepwater applications

**Note: third party test report available upon request.*

TYPICAL PROPERTIES*		
Physical	**ASTM Method**	**Typical Value**
Color		Black
Polymer Type		Perfluoroelastomer
Specific Gravity	D792	1.95
Hardness, Shore A**	D2240	90
Hardness, Shore M	D1414	90
Mechanical		
Compression Set @ 25% Deflection, % – 70 hours @ 392°F (200°C) – 70 hours @ 550°F (288°C)	D1414	 20 31
Elongation, %	D1414	120
Fluid Aging, Methanol, 168 hr at room temperature, % Swell	D471	2.0
Modulus @ 100% Elongation, psi (MPa)	D1414	1,590 (11.0)
Rapid Gas Decompression+, 90/10 Methane/CO_2 @ 212°F (100°C),150 bar (2,715 psig), Decompression Rate: 20 bar/min (290 psi/min), Cycles: 8	ISO 23936-2	0,0,0,0
Tensile Strength, psi (MPa)	D1414	1,940 (13.4)
Thermal		
Maximum Service Temperature		446°F (230°C)

**Note: Unless otherwise indicated, all tests are performed on AS 568A (-214) O-rings.*
***Note: Test performed on button samples.*
+ Rapid Gas Decompression, ISO 23936-2 (Third party testing): Rating "0" means no cracks.

Contact Us

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