



CHEMRAZ® 653

High Temperature Material For Diffusion Processing

SEALING SOLUTIONS

Chemraz® 653 is a black perfluoroelastomer specifically formulated to meet the extreme demands of diffusion, LPCVD and thin dry processing applications. It exhibits superior compression set resistance and is recommended for static and dynamic high temperature applications up to 324°C (615°F).



FEATURES & BENEFITS

- Carbon-loaded material
- For use in systems where contamination is less critical
- Suitable for higher temperature applications
- Superior compression set
- Excellent plasma resistance

APPLICATIONS

- Quartz rod seals
- Bell jar seals
- High-temperature valve seals
- KF fitting seals

RECOMMENDED PROCESS APPLICATIONS

- **Oxidation (LPCVD)**
- **Diffusion**
- **Rapid thermal processing (RTP)**
- Metalization (CVD, PVD, sputtering, evaporation)
- Deposition (CVD, PECVD, RPCVD, HDPCVD, APCVD, SACVD, DCVD)
- Dry plasma etch
- Remote plasma cleans
- Dry ashing
- Implant anneal

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TYPICAL PROPERTIES*	
Physical	Typical Value
Color	Black
Polymer Type	Perfluoroelastomer
Specific Gravity	1.99
Hardness, Shore A	80
Mechanical	
Tensile Strength, psi (kPa)	1830 (12618)
Elongation, %	135
Tensile Modulus, psi (kPa)	
Modulus @ 50% Elongation	360 (2482)
Modulus @ 100% Elongation	1090 (7516)
Compression Set: 70 hours @ 204°C @ 25% Deflection, %	14
Compression Set: 70 hours @ 288°C @ 25% Deflection, %	26
Thermal	
Service Temperature Range	-18°C to 324°C (0°F to 615°F)

* Note: Unless otherwise indicated, all tests are performed on AS 568A (-214) O-rings.

Statements and recommendations in this publication are based on our experience and knowledge of typical applications of this product and shall not constitute a guarantee of performance nor modify or alter our standard warranty applicable to such products.

Prior to actual use it is recommended compatibility tests be run to determine suitability in a specific application. This is critical where failure could result in injury or damage. A regular program of inspection and replacement should be implemented. Greene, Tweed technical personnel are available to help with a recommendation.