



Chemraz® 513

Universal Compound for Conventional Applications

Chemraz® 513 is recommended for a wide variety of semiconductor equipment dry processing applications where seal reliability with minimal contamination is required. The material offers excellent performance in static plasma, photolithography, and diffusion processes where temperatures do not exceed 410°F (210°C) and high-sealing loads are not used. The hardness of this material allows for some hardware finish inconsistency.

Features & Benefits

- Good plasma resistance and physical properties
- Minimal contamination
- Excellent performance history as “universal product”

Applications

- Door seals
- Slit valves
- Window seals
- Isolator valve seals
- Lid seals
- Gas inlet seals
- KF fitting seals

Recommended Process Applications

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



Chemraz® 513 Typical Properties

| Physical Properties | Typical |
|---|---------------------------------|
| Color | White |
| Polymer Type | Perfluoroelastomer |
| Specific Gravity | 2.22 |
| Hardness, Shore A* | 80 |
| Mechanical | |
| Tensile Strength, psi (kPa) | 1600 (11032) |
| Elongation, % | 165 |
| Tensile Modulus, psi (kPa) | |
| Modulus @ 50% Elongation | 540 (3723) |
| Modulus @ 100% Elongation | 1050 (7239) |
| Compression Set: 70 Hours @ 204°C @ 25% Deflection, % | 25 |
| Thermal Properties | |
| Service Temperature Range | -22°F to 410°F (-30°C to 210°C) |

Not to be used for specification purposes. Unless otherwise indicated, all tests are performed on AS 568A (-214) o-rings.

** Test performed on button samples.*

Note: Color variations and dark spots that might be observed in Chemraz® parts are considered cosmetic and an inherent result of the polymer curing process. They are not foreign matter and not anticipated to adversely affect the performance of the part in service. Please contact a Greene Tweed applications engineer for additional information.

Greene Tweed

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