

ASNA PERFREZ® 6022

For Semiconductor Sub-fab applications

Technical Data Sheet (Jul 2019)

High Temperature Perfluoroelastomer that combines the benefits of chemical compatibility with thermal stability for Sub-fab Applications.

PERFREZ® 6022 is specially developed to handle aggressive oxygen and fluorine based exhaust gases while providing excellent thermal properties. It is specialized for both standard and customized NW/ISO fittings in sub-fab application as the best solution to be cost-effective as well as provide optimal sealing, along with the long life expectation of these type of sealing elements used across the sub-fab lines.



Features and Benefits

- Superior physical properties with low CTE value
- Assuring less extrusion, short life and leaks
- High temperature capabilities specialized for heated lines
- Excellent oxygen and fluorine compatibility
- Preventing build up or etched seals in exhaust lines or throughout the system
- Maintains excellent resilience throughout life of the seal.

Compatible Semiconductor Process

- ✓ Deposition: PECVD, APCVD, HDPCVD, RPCVD, SACVD
- ✓ Plasma Etch: Oxide and Metal
- ✓ Ashing & Stripping
- ✓ RTP
- ✓ Diffusion
- ✓ Various pumps
- ✓ Foreline and Abatement systems

Typical Physical Properties¹

Color ²	Off-white
Hardness, (Shore A)	80 (+/-5)
Elongation at break ³ , %	264
Tensile Strength, psi(MPa)	2885 (19.9)
Modulus @100%, psi(MPa)	916 (6.32)
Coefficient of Thermal Expansion	2.74x10 ⁻⁴
Min. Operating Temperature, °C(°F)	-20(-4)
Max. Operating Temperature, °C(°F)	280(536)

¹Not to be used for specification purposes

²Color variations may be observed in actual product. They are considered to be cosmetic and inherent as a result of curing process, not indicative for foreign matter and is not expected to have an adverse effect on the performance of the part in service.

³Even though elongation property is indicated, most perfluoroelastomer materials should not be stretched for optimal performance.

⁴ASTM D395-03, Method B

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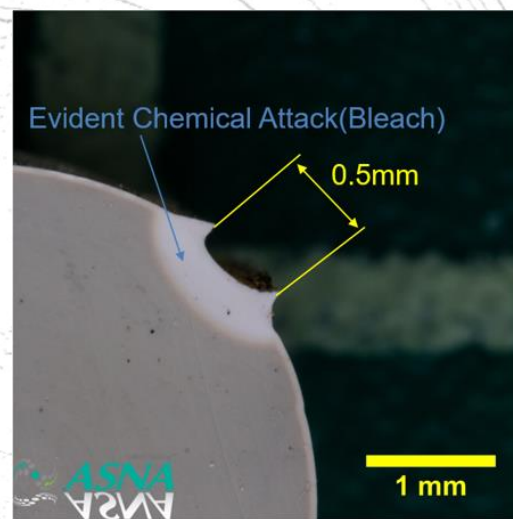
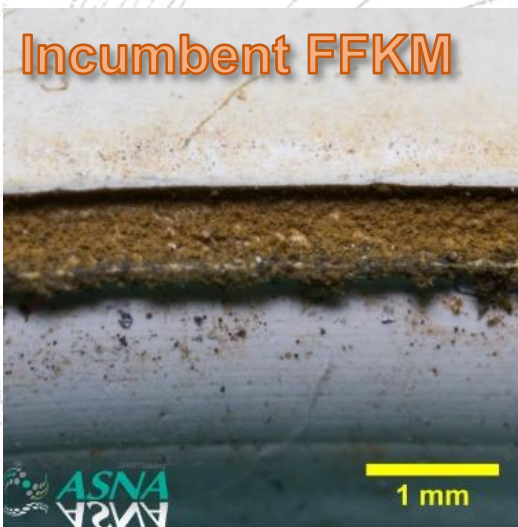
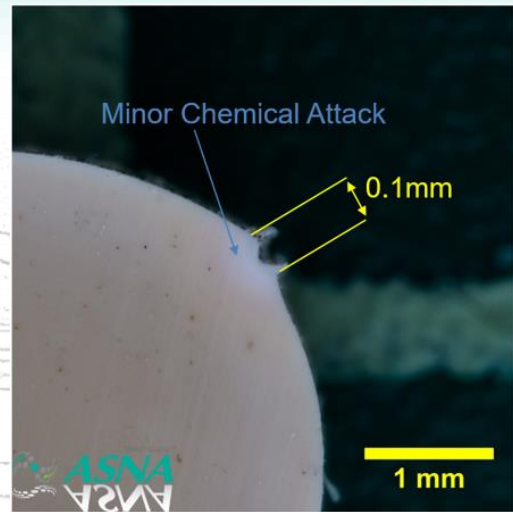
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CASE STUDY: Extended seal life and safety at Sub-Fab CVD Foreline

- The performance is evaluated based on the same CVD foreline system.
- The O-rings are exposed to identical chemistries under the same amount of time, which is approximately 16 months.

Chemical gases make way through gaps and make contact with the seal. After a period of time, erosion will occur and leave a concave trench effect on top and bottom along the ID periphery.



PERFREZ® 6022 exhibits improved, overall minimal erosion and build-up compared to the competitor's material. In result, it provides better sealing integrity and safety of the Sub-Fab environment.

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