

## Material Profile: Superior® FC605 FFKM

Superior® FC605 is newly developed High Temperature resistant high-performance perfluoroelastomer (FFKM). Specifically designed for thermal processes with sealing locations up to 300°C and maximum excursion temperature to 340°C, while providing low outgassing and compression set. Superior® FC605 is an excellent match for Diffusion and Lamp Anneal along with excellent chemical compatibility in a wide range of industrial applications.

### Features and Benefits

- Excellent High Temperature Resistance
- Extremely Low Outgassing
- Outstanding Plasma Resistance
- Wide Chemical Resistance
- High Physical Properties
- Cost Effective

### Recommended Applications

- Diffusion
- RTP (Rapid Thermal Process/Lamp Anneal)
- Metallization: PVD, Sputtering and Evaporation
- Deposition: CVD, APCVD HDPCVD, LPCVD, PECVD, RPCVD, SACVD
- Dry Plasma Etch
- Dry Asher



**Superior® FC605 (FFKM)**

Note: Color variations and non-uniformities might be observed in Superior O-rings, which are mere cosmetic phenomenon and caused by inherent characters of polymer curing process. They are not foreign materials and not effect to the performance of the parts.



### Typical Physical Properties

Color	Black
Hardness (Duro A, Peak) <sup>1*</sup>	75
Tensile Strength, psi (MPa) <sup>2*</sup>	4177 (28.8)
100% Modulus, psi (Mpa) <sup>2*</sup>	928 (6.4)
Elongation <sup>2*</sup>	220%
Specific Gravity <sup>3*</sup>	2.02
Compression Set: 70 hrs at 280/ 300/ 340°C <sup>4*</sup>	16% / 19% / 63%
1000 hrs at 300°C <sup>4*</sup>	56% (1000 hrs)
Service Temperature Range	0 to 340°C (32 to 644°F)

Not to be used for specification purposes.

<sup>1\*</sup> JIS K6253-3

<sup>2\*</sup> JIS K6251

<sup>3\*</sup> ASTM D297-13

<sup>4\*</sup> ASTM D395-03, B with AS568A-214, 300°C x 70h, 25% compression (considering CTE)

The information contained herein is believed to be reliable, but no representation, guarantees or warranties of any kind are made to its accuracy or suitability for any purpose. The information presented herein is based on laboratory testing and does not necessarily indicate end product performance. Full scale testing and end product performance are the responsibility of the user.

EKKSC\_Material\_Profile\_FC605\_FFKM\_20221103 REV01