

# Chemraz® 663

Provides enhanced plasma resistance in low-temperature Etch and Deposition environments (down to -40°C)

## Plasma-Resistant FFKM Down to -40°C

Chemraz® 663, a perfluoroelastomer (FFKM), is engineered to withstand low-temperature Etch and Deposition applications where plasma resistance and the ability to maintain sealing force in a vacuum are critical, such as electrostatic chuck assemblies.

### Recommended Process Applications

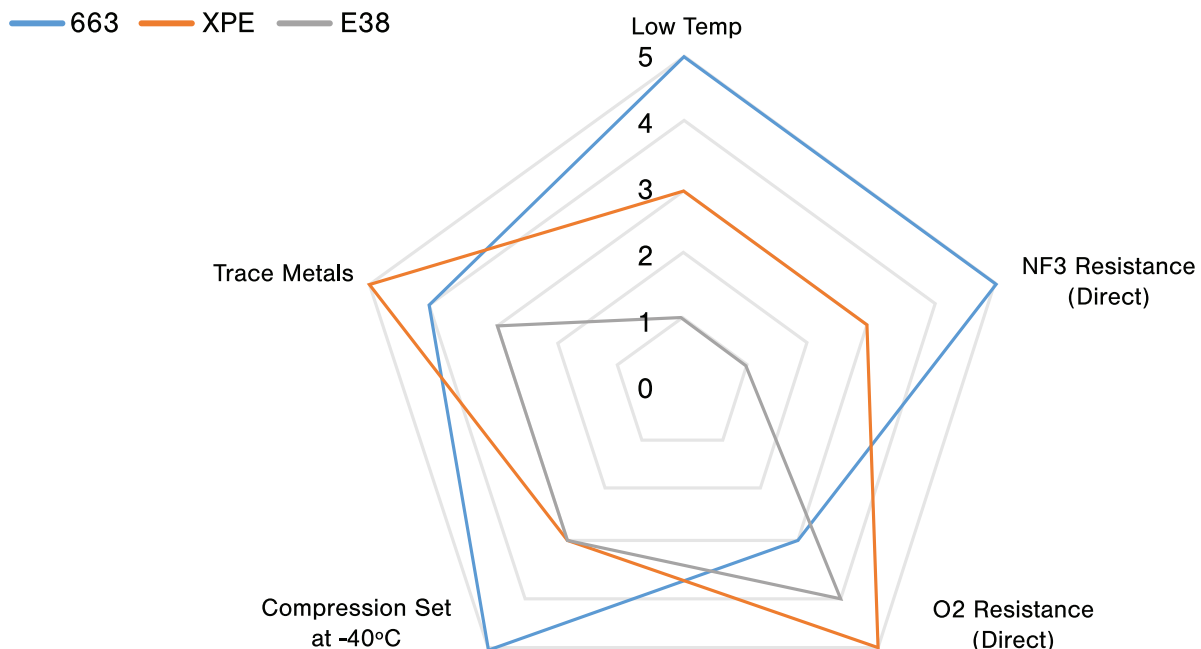
- Deposition
- Conductor Etch
- Dielectric Etch



### Applications

- Electrostatic chuck (ESC)
- Low-temperature, vacuum environments

*Note: Due to the nature of the material, slight variations in this color may exist in Chemraz® 663. Darker or lighter areas may also be present on the parts. These natural variations should be considered cosmetic, and will not affect the performance of the parts.*



# Chemraz® 663 Properties

Compound No./Material Name: <b>Chemraz® 663</b>	Polymer Type: <b>FFKM</b>	Manufacturing Method: <b>Compression Molded</b>	Color: <b>Off-white</b>
Description		Chemraz® 663	
<b>Physical Properties (ASTM Standard)</b>			
Specific Gravity		2.07	
Hardness, Shore A (Buttons) (D2240)		70	
<b>Mechanical Properties (ASTM Standard)</b>			
Tensile Strength, psi [MPa] (D1414)		1215 [8.37]	
Elongation, % (D1414)		250	
Modulus @ 100%, psi [MPa] (D1414)		368 [2.54]	
Modulus @ 50%, psi [MPa] (D1414)		243 [1.68]	
<b>Thermal Properties (ASTM Standard)</b>			
Glass Transition [TG by DSC], °F [°C] (E831-14)		-27 [-33]	
Temperature Retraction [10%], °F [°C] (D1329 TR10)		-15 [-26]	
Operating Range, °F [°C]		-40 to 356 [-40 to 180]	
<b>Coefficient of Thermal Expansion (CTE) (ASTM Standard)</b>			
40°F [-40°C] to -40°F [20°C], um/[m°C] (E831-14)		274.1	
68°F [20°C] to 212°F [100°C], um/[m°C] (E831-14)		349.2	
212°F [100°C] to 356°F [180°C], um/[m°C] (E831-14)		377.4	
<b>Compression Set (ASTM Standard)</b>			
70 Hours @ 347°F [175°C], in Air, % of Original Deflection, % (D395)1		27	
70 Hours @ 248°F [120°C], in Air, % of Original Deflection, % (D395)1		23	
22 Hours @ -4°F [-20°C], in Air, % of Original Deflection, %1		6	
22 Hours @ -40°F [-40°C], in Air, % of Original Deflection, %1		6	

## Greene Tweed

1684 South Broad Street, PO Box 1307 | Lansdale PA 19446 USA | Phone: (+1) (215) 256-9521 | [www.gtweed.com](http://www.gtweed.com)

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.

© 2022, Greene Tweed all rights reserved. All trademarks are property of their respective owners.

10/18-GT DS-US-SC-174