



# Fusion® 665

## Sealing Systems



Greene Tweed's Fusion® FKM 665 is a new generation, ultra-low-temperature, and chemical-resistant elastomer. It achieves outstanding low-temperature performance without compromising high-temperature performance.

Fusion® 665 is specifically formulated to meet and exceed the requirements of Aerospace Material Specification (AMS) 7379 and AMS-P-83461.

Before Fusion® 665, elastomer material selection required trade-offs – optimal low-temperature performance meant sacrificing high-temperature operating range, chemical compatibility, or dynamic sealing performance. Fusion® 665 was developed as a true -65°F (-53°C) FKM elastomer to overcome existing limitations of comparable materials:

### Features and Benefits

- Low-temperature FKM (-70°F/-57°C)
- High-temperature capabilities (450°F/232°C)
- Excellent chemical compatibility
- Exceeds AMS 7379 and AMS-P-83461 specification requirements



Low-Temperature Sealing



High-Temperature Sealing



Broad Chemical Compatibility



Abrasion Resistance

Fusion® 665	NBR	FVMQ	FKM
✓	✓	✓	✗
✓	✗	✗	✓
✓	✗	✗	✓
✓	✓	✗	✓
	NBR (Nitrile Butadiene Rubber)	FVMQ (Fluorosilicone Rubber)	FKM (Fluorocarbon Rubber)

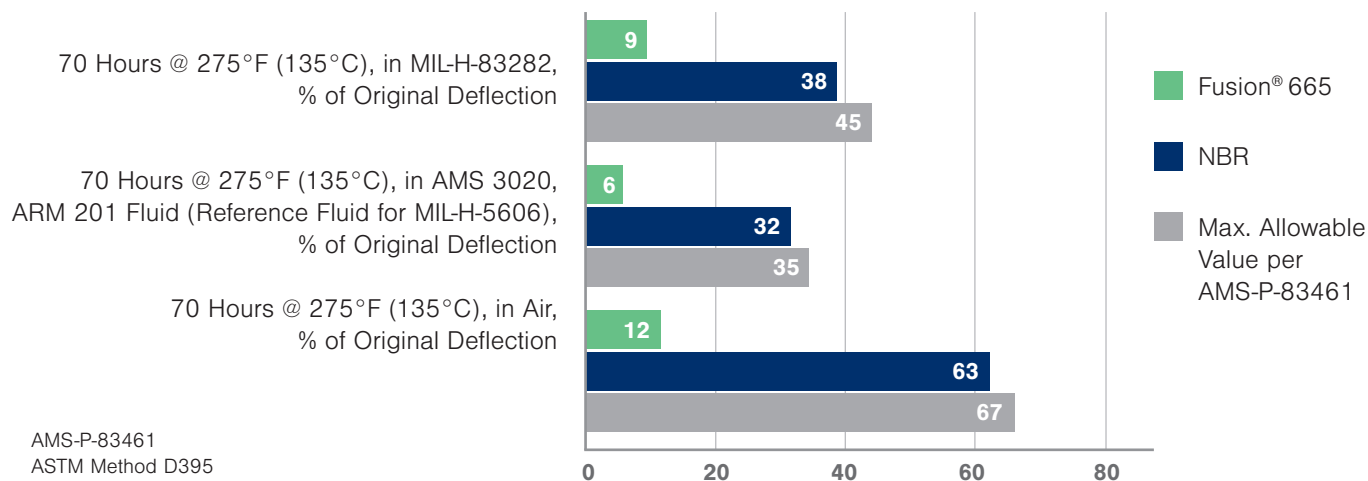
### Fusion® 665 – A Variety of Products and Shapes

From simple o-rings to metal-bonded jackets, and all standard Greene Tweed seals, Fusion® 665 is available in many different products and shapes.



Compression set at high temperatures is one of the leading causes of seal leakage, particularly when those seals are then required to operate at low temperatures. How Does Fusion® 665 Compare to NBR?

## Compression Set Results



## Typical Properties (AMS Standard)

Color	Black
Hardness, Shore A, Points (AMS 7379)	75
Tensile Strength, psi (MPa) (AMS 7379)	1,570 (10.8)
Ultimate Elongation, % (AMS 7379)	170
Compression Set @ 25% Deflection, % of Original Deflection, 70 Hours @ 275°F/135°C, in MIL-PFR-83282 Fluid (D1414)	6
Compression Set @ 25% Deflection, % of Original Deflection, 336 Hours @ 275°F/135°C, in MIL-PFR-83282 Fluid (D1414)	9
Low-Temperature Retraction, °F/°C, TR-10/50, O-Rings (D1329)	-50°F/-46°C

## Greene Tweed

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