

Parker Materials Meet/Exceed AMS 7257C Requirements

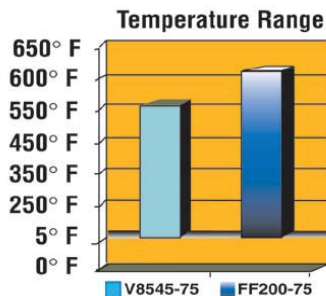
Parker's Parofluor ULTRA FF200-75 and V8545-75 seal materials are part of an ever-growing family of Parker perfluorinated compounds. Formulated to provide ultimate sealing, these compounds handle continuous exposure to high temperature, provides near universal chemical compatibility, has high sealing force retention, low compression set and outstanding mechanical properties.

AMS 7257C and Beyond

Aerospace applications for AMS 7257C material are characterized by severe high temperatures and intricate and varied media environments. By itself, the AMS 7257C specification establishes a baseline for elastomeric materials considered capable of withstanding long term exposure to 550°F (see reverse). When the operating environment demands extreme sealing performance, customers often specify a material that exceeds the AMS 7257C standard.

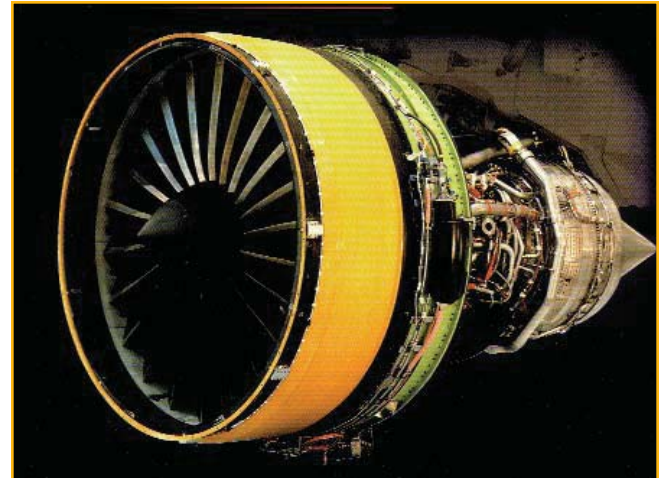
608°F Sealing Solution for Aerospace Applications

While Parofluor V8545-75 meets the requirements of AMS 7257C, Parofluor ULTRA FF200-75 exceeds them. Parofluor ULTRA FF200-75 exhibits superior retention of mechanical properties and resistance to compression set after long term high temperature and fluid exposure. Parofluor ULTRA FF200-75 accomplishes this without the cost penalty normally associated with performance enhancements.



Typical Applications Include:

- Gas turbine engine lubrication systems
- Bleed air management and ducting systems
- High temperature propulsion units and their associated control devices utilizing NTO, MMH, JP4 and other strong oxidizers or propellants
- Any environments in which high heat and aggressive chemistries are present



Parofluor ULTRA FF200-75 and Parofluor V8545-75 Features and Benefits:

High temperature capability

FF200-75 up to 608°F (320°C)
V8545-75 up to 550°F (288°C)

- Expanded range of product application
- Increased margin of safety

Low compression set

- Longer expected seal life
- Increased low and high pressure sealability

High seal force retention

- "Quasi-static" sealing capability where vibration or limited motion is present
- Improved low viscosity media sealing performance

Fluid compatibility

- Superior retention of desirable/required physical properties
- Highly reliable seal performance
- Ease of assembly versus non elastomeric or elastic/plastic seal types

Parker ULTRA for... AMS 7257C Aerospace Applications...

Figure 1.

Sealing Force Retention of Parofluor ULTRA FF200-75 @ 392° F

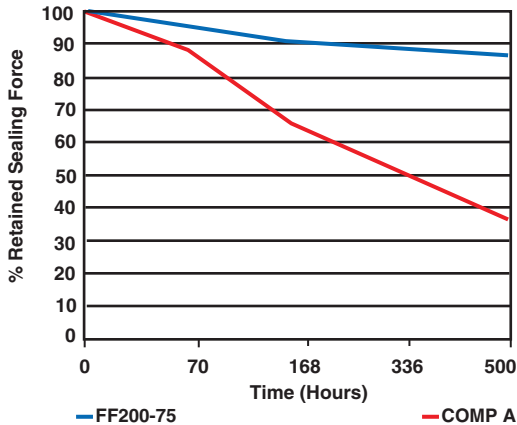
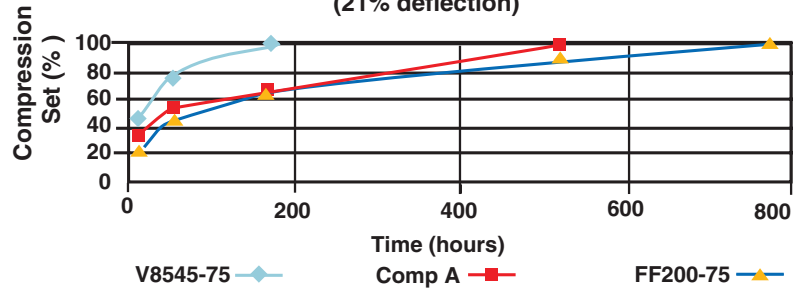


Figure 2.

Compression Set at 600° F (21% deflection)



Compound	Color	Low Temperature Operating Limit	High Continuous Use Temperature
V8545-75	Black	+5°F	550°F
FF200-75	Black	+5°F	608°F



Test Report for AMS 7257C Requirements

Parker Compounds: FF200-75 and V8545-75

Date: August 17, 2000

Test samples:
2-214 size o-rings

Specification:
general comparison

Specification limits
shown in parentheses

PROPERTY	AMS 7257C Requirements	FF200-75 2-214 O-ring Results	V8545-75* 2-214 O-ring Results
Original Physical Properties ASTM D1414, D2240			
Shore A hardness	75 ± 5	79	79
Tensile strength, min., psi	1500	1728	1859
Ultimate elongation, min., %	120	124	175
Fluid Resistance AMS 3021 (70h @ 175°C) ASTM D471			
Hardness change, pts.	-5 to +5	-5	-2
Tensile strength change, max., %	-10	+4	-6
Ultimate elongation change, max., %	-15	+9	+2
Volume change, %	0 to +5	+1.8	+1.2
Fluid Resistance AS 1241 (70h @ 125°C) ASTM D471			
Hardness change, pts.	-15 to 0	-5	-2
Tensile strength change, max., %	-40	+9	-12
Ultimate elongation change, max., %	-15	+15	+23
Volume change, %	0 to +15	+3	+5.1
Fluid Resistance ASTM Fuel B (70h @ 23°C) ASTM D471			
Hardness change, pts.	-5 to +5	-4	+1
Tensile strength change, max., %	-20	+2	+6
Ultimate elongation change, max., %	-15	-2	+8
Volume change, %	0 to +5	+0.2	+0.3
Heat Age (70h @ 200°C) ASTM D573			
Hardness change, pts.	-5 to +5	-3	-1
Tensile strength change, max., %	-20	+8	+10
Ultimate elongation change, max., %	-5	+37	-2
Volume change, %	5	2.6	3.3
Compression Set (70h @ 230°C) ASTM D1414			
Percent of original deflection, max., %	40	17.1	31
TR-10 ASTM D1329			
TR-10 max., °C	+5	-2	+0.6



Parofluor and Parofluor ULTRA are trademarks of Parker Hannifin Corporation, Cleveland, OH.

Copyright © 2004, Parker Hannifin Corporation, Cleveland, OH. All rights reserved.

Parker Hannifin Corporation
O-Ring Division
2360 Palumbo Drive
PO Box 11751
Lexington, KY 40512-1751
Phone: (859) 269-2351 Fax: (859) 335-5128

AS9100 / ISO9001 / QS9000
Registered

www.parkerorings.com



12/04-2M-CE

Printed in the USA.