

**Parofluor ULTRA™ FF200-75 and Parofluor™ V8545-75 for AMS 7257C Aerospace Applications**

No. 5716B1-USA

**New Materials Meet/Exceed AMS 7257C Requirements**

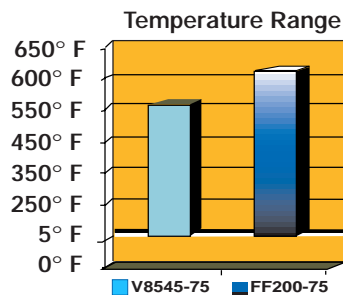
Parker's Parofluor ULTRA FF200-75 and V8545-75 seal materials are part of an ever-growing family of Parker perfluorinated compounds. Formulated to provide ultimate sealing, these compounds handle continuous exposure to high temperature, provide near universal chemical compatibility, and possess high retention of sealing force, low compression set and good 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, test report). 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 to 608° F (320° C)  
V8545-75 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**

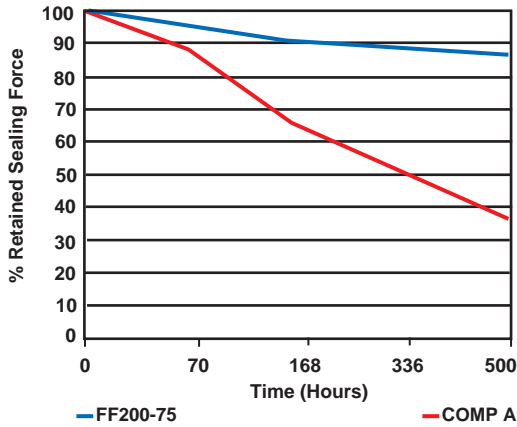
- "Quasi-static" sealing capability where vibration or limited motion is present
- Improved low viscosity media sealing performance

**Fluid compatibility**

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

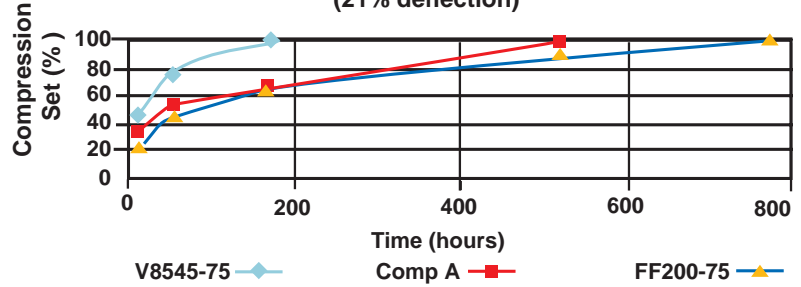
**Figure 1.**

**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*
<b>Original Physical Properties ASTM D1414,D2240</b>			
Shore A hardness	75±5	79	79
Tensile strength, min., psi	1500	1728	1859
Ultimate elongation, min., %	120	124	175
<b>Fluid Resistance AMS 3021 (70h @ 175°C) ASTM D471</b>			
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
<b>Fluid Resistance AS 1241 (70h @ 125°C) ASTM D471</b>			
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
<b>Fluid Resistance ASTM Fuel B (70h @ 23°C) ASTM D471</b>			
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
<b>Heat Age (70h @ 290°C) ASTM D573</b>			
Hardness change, (Shore A), pts.	-5 to +5	-3	-1
Tensile strength change, max., %	-20	+8	+10
Ultimate elongation change, max., %	-5	+37	-2
Weight loss, max., %	5	2.6	3.3
<b>Compression Set (70h @ 230°C) ASTM D1414</b>			
Percent of original deflection, max., %	40	17.1	31
<b>TR-10, ASTM D1329</b>			
TR-10, max., °C	+5	-2	+0.6

\*Previously reported on KK2203

This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provides product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application and review the information concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through his or her own analysis and testing is solely responsible for making the final selection of the products and systems and assuring that all performance safety and warning requirements of the application are met.

2/01-3M-CE

Parker Hannifin Corporation  
**O-Ring Division**  
 2360 Palumbo Drive, Lexington, KY 40509  
 Phone: (859) 269-2351 Fax: (859) 335-5128  
 www.parker.com/o-ring

**Build With the Best!**  
 QS 9000/ISO 9001/AS 9000  
 Certified

