

VM125-75 for Aerospace Applications

O-Ring Division



AMS7287 Applications

AMS7287 supersedes the long time specification, AMS-R-83485, for the aerospace industry. Covering a wide variety of gas turbine engine lubricants, higher thermo-oxidative stability (HTS) lubricants like Mil-PRF-23699 (HTS), Mil-PRF-7808 Grade 4 and AS5780 Class HPC, as well as a variety of jet fuels, the specification demands a material with superior chemical resistance. With respect to temperature, AMS7287 also calls for a thermally stable compound, for seal functionality at very high and low temperatures.

Parker's VM125-75 has the chemical resistance, high temperature compression set resistance and low temperature flexibility to meet the increasing demands of the industry. Approved to qualified products list, VM125-75 meets AMS7287, as well as the preceding document, AMS-R-83485.



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Product Features:

- Best in class compression set
- -40°F to +400°F (-40°C to +204°C)
- Outstanding HTS turbine oil compatibility
- Outstanding jet fuel compatibility
- Outstanding hydraulic fluid compatibility
- AMS7287 QPL approved, AMS-R-83485 approved



ENGINEERING YOUR SUCCESS.

Compression Set Resistance

VM125-75 offers improved high temperature compression set resistance compared to typical industry “GLT” type fluorocarbon elastomers. Both short and long term testing at 392°F (200°C) show a marked difference in elastomer rebound.

Broad Temperature Resistance

VM125-75 has comparable high temperature stability as traditional A-type fluorocarbon elastomers, but offers improved performance at cold temperatures. Traditional fluorocarbons lose resiliency and begin to leak at around -15°F (-26°C) in many applications. VM125-75 is a low temperature fluorocarbon that results in seal performance down to -40°F (-40°C). This sealing ability across a wide range of temperatures makes VM125-75 an excellent material for broad temperature applications.

Outstanding Fluid Resistance

Fluorocarbon elastomers, as a family, have outstanding chemical resistance. VM125-75 is fully compatible with all aerospace jet fuels and hydrocarbon-based hydraulic oils.

VM125-75 is specifically designed for maximum service life in aggressive HTS turbine oils. Even in long-term testing, the material does not significantly harden, lose elongation, or take a severe compression set.

AS568-214 Test Data (Date: June 14, 2013)

PROPERTY	AMS7287	VM125-75
Original Physical Properties ASTM D1414, D2240, D297		
Shore A hardness	75 +/- 5	73
Tensile strength, min., psi	1600	1825
Ultimate elongation, min., %	120	202
Specific Gravity	As determined	1.77
Low Temperature Retraction, D1329		
TR-10, max, °F	-20	-22
Compression Set, ASTM D395 Method B		
22h @ 392°F, max, % loss of original deflection	20	9
336h @ 392°F, max, % loss of original deflection	50	44
Heat Age (70h @ 527°F) ASTM D573		
Hardness change, pts.	+/- 5	+1
Tensile strength change, max., %	-35	-18
Ultimate elongation change, max., %	-10	+7
Weight change, max., %	-12	-12
Fluid Resistance Fuel B (70h @ 73°F) ASTM D471		
Hardness change, pts.	+/- 5	-3
Tensile strength change, max., %	-30	-18
Ultimate elongation change, max., %	-20	-11
Volume change, %	+1 to +10	+4
Fluid Resistance AMS 3085 Mobile Jet Oil (70h @ 392°F) ASTM D471		
Hardness change, pts.	-10 to 0	-3
Tensile strength change, max., %	-35	-16
Ultimate elongation change, max., %	-20	+13
Volume change, %	+1 to +20	+15
Compression set, ASTM D395 Method B, % loss of original deflection	15	0

Compression Set at 392°F (200°C)

