INCH-POUND

MIL-R-83248B
Amendment 1
13 February 1991

MILITARY SPECIFICATION

RUBBER, FLUOROCARBON ELASTOMER, HIGH PERFORMANCE FLUID, AND COMPRESSION SET RESISTANT

This amendment forms a part of MIL-R-83248B dated 13 July 1990, and is approved for use by all Departments and Agencies of the Department of Defense.

PAGE 2

2., add:

"MIL-L-7808 Lubricating Oil, Aircraft Turbine Engine, Synthetic Base, NATO Code No. 0.148"

PAGE 3

2.2, add:

"SOCIETY OF AUTOMOTIVE ENGINEERS (SAE)

AMS 3021 Reference Fluid for Testing Di-Ester (Polyol) Resistant Material"

PAGE 5

Table I, lines 29 through 43, delete and substitute:

"Oil age 70 hours at 347°F ± 5°F in AMS 3021		
Tensile strength decrease, %, max.	30	30
Elongation decrease, %, max.	20	20
Hardness change, points	+0,-15	+0,-15
Volume change, %	+1 to +20	+1 to +20
Compression set, % of original deflection, max.		
under 0.100 inch	30	35
over 0.100 inch	10	15
Fuel age 70 hours at 75°F ± 5°F in TT-S-735, type III		
Tensile strength decrease, %, max.	20	20
Elongation decrease, %, max.	20	20
Hardness change, points	±5	±5
Volume change, %	+1 to +10	+1 to +10"

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Table II, lines 15 through 19, delete and substitute:

"Oil age 70 hours at 347°F ± 5°F in AMS 3021		
Tensile strength decrease, %, max. 2/	30	30
Elongation decrease, %, max. 2/	20	20
Compression set, % of original deflection, max.	10	15"

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Table III, lines 22 through 34, delete and substitute:

"Oil age 70 hours at 347°F ± 5°F in AMS 3021		
Tensile strength decrease, %, max.	25	25
Elongation decrease, %, max.	20	20
Hardness change, points	+0,-15	+0,-15
Volume change, %	+1 to +20	+1 to +20
Compression set, % of original deflection, max.	15	20
Fuel age 70 hours at 75°F ± 5°F in TT-S-735, type III		
Tensile strength decrease, %, max.	20	20
Elongation decrease, %, max.	20	20
Hardness change, points	±5	±5
Volume change, %	+1 to +10	+1 to +10"

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Table IV, lines 15 through 19, delete and substitute:

"Oil age 70 hours at 347°F ± 5°F in AMS 3021		
Tensile strength decrease, %, max. 2/	25	25
Elongation decrease, %, max. 2/	20	20
Compression set, % of original deflection, max.	15	20"

PAGE 11

4.3.1, delete and substitute:

"4.3.1 Control fluid. The control fluid used to conduct the oil aging in this specification shall be in accordance with AMS 3021. It consists of a MIL-L-7808 standard production base fluid plus 0.5 percent phenothiazine. New fluid shall be used for each aging test."

PAGE 19

4.6.3.1, line 2: Delete "392°F ± 5°F" and substitute "347°F ± 5°F".

4.6.5.2, delete and substitute:

"4.6.5.2 Oil aged test for specimen. Compression set shall be determined on specimens aged 70 hours at 347°F ± 5°F immersed in fluid conforming to AMS 3021. The compression set plates for testing type I material shall be approximately 0.375 inch by 2 inches by 4 inches. There shall be six 1/4-inch bolt holes; one on each corner and one located in the middle of each 4-inch edge and on the center line of the corner holes. There shall also be 1/4-inch holes through the middle of each half of the plates to allow fluid to be in contact with the inside diameter of the O-rings. The compression set plates for type I compression seals other than O-rings and type II material shall be in accordance with ASTM D 395. The original thickness of the specimens shall be measured and the test fixtures shall be assembled using two test specimens. The specimens shall be compressed 25 percent. The test fixture shall be placed in a 1-liter stainless steel beaker and 800 milliliters of fluid conforming to AMS 3021 shall be added to the beaker. The beaker shall be fitted with a suitable vented stainless steel cap. The cap shall be sealed with an O-ring conforming to type I, class 1 of this specification (size-240, ARP 568 has been used). The beaker shall be placed in a suitable oven at 347°F ± 5°F with vent open. After the fluid has reached the test temperature (approximately 2 hours) the vent shall be closed and the beaker left in the oven for a total aging time of 70 hours. At the end of the aging time, the specimens shall be removed from the compression plates immediately and allowed to cool on paper towels for 30 minutes. Excess fluid shall be blotted from the specimens with paper towels and the final thickness determined."

PAGE 24

6.5, delete.

Custodians:
Army - MR
Navy - AS
Air Force - 11

Preparing activity:
Air Force - 11

Review activities:
Navy - SH
Air Force - 82, 99

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