



GREASE, CORROSION CONTROL LUBRICANT

WSS-M1C172-A3

1. SCOPE

The material defined by this specification is a calcium soap thickened, mineral oil based grease that falls between NLGI grades 1 and 2.

2. APPLICATION

This specification was released originally for grease used in wheel pilot bores to prevent corrosion and seizure of the wheel to the hub. It is recommended for in-service temperatures up to 200 °C.

3. REQUIREMENTS

3.1 APPROVED SOURCES

This specification requires the use of approved sources. Only the sources identified on the Ford Approved Source List (ASL) can be used when this specification is listed on the drawing, CAD file, or other documents. The list of approved sources is located within Ford at www.mats.ford.com or available externally through a Ford Materials Engineer.

This specification was released to allow this material to be purchased by Ford Purchasing. The specification number is also the part number in WERS. Material performance and selection is determined by line trials and design verification testing on the components for which it is used.

The approved source for this specification is Eastern Oil Eastlube 172R (NA Tox Number 197001).

3.2 COLOR (Visual)

Brown

3.3 WORKED PENETRATION, tenths of a millimeter (ASTM D217, DIN ISO 2137, 60 Strokes)

290-320 mm/10

3.4 DROPPING POINT (ASTM D556, ASTM D 2265, DIN ISO 2176)

260 °C min

4. GENERAL INFORMATION

The information given below is provided for clarification and assistance in meeting the requirements of this specification. Contact gmfs@ford.com for questions concerning Engineering Material Specifications.

4.1 TYPICAL PROPERTIES

This data is for informational purposes only and is not a requirement.

4.1.1 Prolonged Worked Penetration, 100,000 Strokes (ASTM D217, DIN ISO 2137)

< 30 mm/10 change
from 3.3 result
(< 40mm/10 max)

4.1.2 Water Washout (ASTM D1264, DIN 51807 T02, 79 °C)

< 3% loss
(< 10% loss max)

Date	Action	Revisions	Rev. 0
2016 06 01	Released		



Documents

G. Taylor, FNA



4.1.3 Bearing Corrosion

4.1.3.1	Distilled Water (ASTM D1743)	Pass
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4.1.3.2	5% Sea Water (ASTM D5969)	Pass
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4.1.4	Oil Separation During Storage (ASTMD 1742, DIN 51817 or FTMS 791 C 321.3)	< 3.0% (< 4.0% max)
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4.1.5	Ball Wear Test, Wear Scar dia (ASTM D 2266, DIN 51350 T 5 40 kg, 1200 rpm, 75 °C, 1 h)	0.45 mm (0.6 mm max)
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4.1.6	4-Ball Load Wear Index (ASTM D2596)	60 (20 min)
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4.1.7	4-Ball Weld Point (ASTM D2596)	500 kg (200 kg min)
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4.1.8	Timken OK Load Value (ASTM D2509)	30 kg (11 kg min)
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4.1.9	Pumpability (-18 °C (0 °F), 1034 kPa (150 psi))	0.2 g/s
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4.1.10	Base Oil Viscosity (ASTM D445, DIN 51562, ISO 3104, 40 °C)	120 mm ² /s (120 cSt) (104-124 mm ² /s)
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4.2 APPROVAL OF MATERIALS

Suppliers desiring approval of their materials shall first obtain an expression of interest from Purchasing, Design or Product Development, and Materials Engineering. The supplier shall submit a completed copy of their laboratory test reports, signed by a qualified and authorized representative of the test facility, demonstrating full compliance with all the requirements of the Material Specification. Tested material samples must be available for review upon request and kept for a minimum of one year. Upon request, the supplier will review the associated quality control documents (Process Failure Mode and Effects Analysis, Control Plans, Certification testing) with Ford.

4.3 SUPPLIER'S ONGOING RESPONSIBILITY

All materials must be equivalent in all characteristics to the material upon which approval was originally granted.

Prior to making any changes to the material originally approved, whether or not such changes affect the material's ability to meet the specification requirements, the supplier shall notify the affected Supplier Technical Assistance (STA), Purchasing, and Materials Engineering activities of the proposed changes (with reasons) by submission of a completed Suppliers Request for Engineering Approval, SREA.

For parts and components using Ford Engineering Material Specifications, all samples tested to the specifications for Design Verification (DV), Production Verification (PV) and Production Part Approval Process (PPAP) sign off must be kept until Job 1.