Engineering Material Specification

Material Name	Specification Number
GREASE - CORROSION CONTROL LUBRICANT	ESA-M1C172-A

1. SCOPE

The material defined by this specification is an NLGI grade No. 1-1/2 non-filler grease consisting of a mineral oil and inorganic jell base to give the desired characteristics of corrosion control lubricant.

2. APPLICATION

This specification was released originally for grease used in the lubrication of disc brake calipers and anchor plate slides.

3. REQUIREMENTS

3.1	COLOR	Brown
3.2	CONE PENETRATION (ASTM D 217)	
3.2.1	Worked 60 Strokes, (mm/10)	290 - 320
3.2.2	Worked 1×10^6 Strokes, (mm/10)	20 max change from 60 strokes
3.3	DROPPING POINT, °C min (ASTM D 566)	260
3.4	SHELL FOUR-BALL WEAR TEST, max scar diameter (FLTM BJ 16-1, 1 hr., 1200 rpm, 40 kg, 75°C) mm	0.60
3.5	WATER WASHOUT, % loss max (ASTM D 1264, 80°C)	5.0
3.6	BEARING CORROSION (ASTM D 1743)	
3.6.1	Distilled Water, rating max	1
3.6.2	5% Sea Water, rating max	1

Date	Para. No.	Revisions	Approval
1979 01 10		Metricated and Retyped CAH2-823385	J W Jrap 11/28/78
1977 02 23		Released CAG2-761247-1	E.P. Francis 11-29-78

1978 11 30

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3.7	OXIDATION STABILITY, psi, kPa, Pressure Drop max (ASTM D 942, 100 hrs., at 100°C)	5 (34)
3.8	MINERAL OIL REQUIREMENTS	
3.8.1	Viscosity, at 100°C, cSt(mm^2/s) (ASTM D 445)	10 - 16
3.8.2	Pour Point, °C max (ASTM D 97)	-15
3.8.3	Flash Point, °C min	215
3.9	DENSITY	Greater than water

3.10 INFRARED SPECTROPHOTOMETRY

Ford Motor Company, at its option, may conduct infrared analysis of material/parts supplied to this specification. The curves established for initial approval shall constitute the reference standard and shall be kept on file at Central Laboratory. All samples shall produce curves that correspond to the reference standard when tested under the same conditions as those specified on the master curve.

3.11 SUPPLIER'S RESPONSIBILITY

Material supplied to this specification must be equivalent to that originally approved. Changes in formulation or processing shall not be made without prior approval as described in Supplier Procedure I-A.

4. APPROVAL OF SUPPLIERS

Suppliers to this specification must be approved by the affected Product Engineering Office. Procedure for gaining approval of a specific material to a new/existing ES-M specification is contained in Supplier Procedure I-A. Approved new suppliers will be added to the Engineering Materials Approved Source List.

5. GENERAL INFORMATION

This data is included for information only and is not a requirement.

For the disc brake caliper slide application, suppliers are permitted to cut the grease with mineral spirits solvent compatible with the automatic assembly processing equipment as approved by Chassis Product Engineering Offices. Suppliers shall obtain approval from Chassis Product Engineering Office prior to making any change in the mineral spirits solvent formulation or grease to solvent ratio.

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