Engineering Material Specification

Material Name | Specification Number

GREASE - POLYMER THICKENED - MOLYBDENUM DISULFIDE ADDED — ESA-M1C194-A

1. SCOPE

The grease defined by this specification is polymer thickened NLGI No. 0 to 1 grade grease blended with high viscosity mineral oil.

2. APPLICATION

This specification was released originally for grease used for the lubrication of brake shoe ledges.

3. REQUIREMENTS

3.1	Polymer, by weight, min	20%
3.2	Molybdenum Disulfide, by weight, min (FLTM AJ 5-1)	2.5%
3.3	Titanium Dioxide (whitener), by weight, min (Optical Emission Spectroscopy)	20%
3.4	Mineral Oil, by weight, min (ASTM D 128)	35-42.5%
3.4.1	Flash point, min (ASTM D 92)	250°C
3.4.2	Pour point, max (ASTM D 97)	-15°C
3.4.3	Viscosity at 40°C (ASTM D 445)	740-820 cSt(mm^2/s)
3.4.4	Viscosity at 100°C (ASTM D 445)	36.7-40.6 cSt(mm^2/s)
3.4.5	Viscosity index, min (ASTM D 2270)	90
3.5	Dropping Point, min (ASTM D 566)	300°C

Date	Para. No.	Revisions	Approval
1982-08-06	3.6	REM "AUTO IGN. TEMP" CEM2-892442-C6	
1981-09-15		RELEASED CEL2-892284-C	

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3.6	Copper Strip Corrosion Rating (ASTM D 130)	1
3.7	Oxidation Stability, pressure drop, max (ASTM D 942, 100 h)	55 kPa
3.8	Penetration (ASTM D 217)	
3.8.1	Worked 60 strokes	330-360
3.8.2	Worked 10,000 strokes	330-360
3.9	Water Resistance (FLTM AJ 4-1)	No break or corrosion
3.10	Timken OK Value, min (ASTM D 2509)	18 kg (40 lb)
3.11	Film Strength Durability (FLTM BJ 1-4, 4.54 kg load, 800 rpm)	
	No score, min	8 h
	Scar width, max	1.0 mm
3.12	Bleed Tendency, max (FTMS 791-A, method 321.2, 30 h at 160°C)	3%

3.13 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 1-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 1-A. Approved new suppliers will be added to the Engineering Materials Approved Source List.

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