



GREASE, PERFLUOROPOLYETHER OIL, PTFE THICKENED

WSS-M1C280-A

1. SCOPE

The material defined by this specification is a white, creamy grease based on perfluoropolyether (PFPE) oil and thickened with polytetrafluoroethylene (PTFE). NLGI Grade 2.

2. APPLICATION

This specification was released originally to lubricate the rubber spark plug boots and prevent them from tearing during assembly.

3. REQUIREMENTS

3.1 STANDARD REQUIREMENTS FOR PRODUCTION MATERIALS

Material suppliers and part producers must conform to the Company's Standard Requirements For Production Materials (WSS-M99P1111-A).

3.2 COLOR
(Visual)

White

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

268 – 292

3.4 BASE OIL VISCOSITY
(ASTM D445, DIN 51562, ISO 3104)

3.4.1 Kinematic Viscosity at 40 °C

40 – 60 mm²/s

3.4.2 Kinematic Viscosity at 100 °C

6.5 – 9.0 mm²/s3.5 OIL SEPARATION FROM GREASE
(ASTM D6184, 30h at 99 °C)

10% max

4. GENERAL INFORMATION

This 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. Grease approved to this specification should have the following typical properties.

4.1 PENETRATION
(ASTM D217, DIN ISO 2137)

4.2.1 Worked Penetration, 60 strokes

268 – 292

4.2.2 Prolonged Worked Penetration, 100,000 strokes

257 (-6% from orig)

4.2 DROPPING POINT
(ASTM D556, ASTM D2265, DIN ISO 2176)

171 °C min

Date	Action	Revisions	Rev. 0
2012 02 20	Activated		



Documents

A. Wedepohl, FNA



4.3 OIL SEPARATION FROM GREASE (ASTM D6184, 30h at 99 °C)	2.7%
4.4 OIL SEPARATION (ASTM D1742, DIN 51817 or FTMS 791 C 321.3, 30hr at 100 °C)	2.7%
4.5 EVAPORATION (ASTM D2595, 22 hours)	
4.5.1 22 hours at 99 °C	5.5%
4.5.2 22 hours at 204 °C	21.0%
4.6 OXIDATION STABILITY (ASTM D942 or DIN 51808, 100hr at 99°C)	6.89 kPa (+1 psi)
4.7 COPPER CORROSION (ASTM D4048, 24hr at 100 °C)	1B
4.8 WATER SPRAYOFF (ASTM D2265, DIN 51807 T01, 5 min at 38 °C)	60.3%
4.9 GREASE LIFE ESTIMATION (ASTM E1858 method A)	
DSC at 210 °C	No exotherm after 120 min
DSC at 250 °C	No exotherm after 240 min
Weight loss of grease at test end:	-21.05%
4.10 INTERFACE COMPATIBILITY	
4.10.1 Chemical Attack to Painted Surfaces (FLTM BJ 126-01)	
Note: Not tested for initial application of this grease. Grease must be tested for chemical attack to painted surfaces for applications that come in contact with paint surfaces, ex. E-coat and powder coat.	
4.10.2 Resistance to Stress Cracking (FLTM BO 127-03)	
Note: Not tested for initial application of this grease. Grease must be tested for resistance to stress cracking when used for additional applications that come in contact with polymers such as PC, ABS, PC+ABS, ASA or acrylic	
4.10.3 Elastomer Compatibility, Silicone Rubber per WSS-M2D8-B2 (ASTM D4289, DIN 53505, DIN 53504, SAE AMS 3217/2A, 70 hrs, 100 °C)	
4.10.3.1 Volume Swell	+0.32%
4.10.3.2 Hardness Change, Durometer A Points	0%