



Grease, High Temperature Water Spray Resistant, No. 1-2

1 Scope

1.1 Material Description. This specification covers high temperature, water spray resistant grease having uniformly dispersed short fibers and zinc oxide fillers.

1.2 Symbols. Not applicable.

1.3 Applicability. The grease is intended for the lubrication of automotive hardware mechanisms that are subjected to possible high temperatures and excessive water spray and/or water flow exposures as encountered in automotive body preparations and paint application currently used in production.

2 References

Note: Only the latest approved standards are applicable unless otherwise specified.

2.1 External Standards/Specifications.

ASTM D88

ASTM D566

ASTM D4049

ASTM D217

ASTM D3232

2.2 GM Standards/Specifications.

GMW3059

2.3 Additional References.

TMC003 Material Safety Data Sheet guidance documents (available at www.gmsupplypower.com).

3 Requirements

3.1 Requirements on Delivery.

3.1.1 Chemical Requirements. Typical chemical composition, by mass percent (%), is as follows:

- Aluminum Complex: 6 to 9.
- Zinc Oxide: 4 to 6.
- Moisture (water): 1.0 maximum.
- Sand or gritty material: 0.03 maximum.
- Polypropylene: 4 to 6.

3.1.2 Mechanical Requirements. Functional requirements shall be at the discretion of the engineering laboratory.

3.1.3 Physical Requirements. See Table 1.

Table 1: Physical Properties

Properties	Values	Test Methods
Consistency (penetration) worked, 25 °C (1/10 mm)	280 to 330	ASTM D217
Dropping Point	230 °C Minimum	ASTM D566
Bleeding, 160 °C, 1 h	The grease shall neither slide down the panel nor show any indication of oil bleeding out.	ASTM D3232
Viscosity of oil at 40 °C	Saybolt Universal Seconds (SUS): 550 to 850	ASTM D88
Water Spray Resistance	A maximum of 25 mass percent (%) of the grease may be lost on the test panels following the spray exposure.	ASTM D4049

3.1.4 Additional Requirements.

3.1.4.1 The grease shall be short fibered, of uniform texture and consistency; it shall not be perfumed and shall not become rancid or show component separation over long time periods. It shall not be toxic or injurious to personnel engaged in its handling or use.

3.1.4.2 Conformance with Approved Sample. It is intended that each purchaser will establish the following standards for each fluid found to be satisfactory:

- An infrared trace produced on any suitable infrared spectrophotometer which is expected to be available for checking production shipments.

3.1.4.2.1 Traces made on the same equipment on samples taken from each shipment shall conform to the standard trace established for the supplier and product involved within a tolerance of ± 3 points on the transmittance scale.

3.2 Processing Requirements. Subparagraphs were not applicable.

3.3 Performance Requirements. The material shall perform satisfactorily in application and service. Failure to do so shall constitute reason for rejection regardless of compliance with requirements of this specification.

3.3.1 Chemical Requirements. Not applicable.

3.3.2 Mechanical Requirements. Not applicable.

3.3.3 Physical Requirements. Not applicable.

3.3.4 Additional Requirements. Not applicable.

3.4 Requirements on other Stages during Life Cycle. Subparagraphs were not applicable.

4 Manufacturing Process

Not applicable.

5 Rules and Regulations

5.1 Legal Regulations. All materials must satisfy applicable laws, rules, regulations and recommendations valid in the country of usage.

5.2 Language. In the event of conflict between the English and domestic language, the English language shall take precedence.

5.3 Inspection and Rejection. All shipments of material or parts under contract or purchase order manufactured to this specification shall be equivalent in every respect to the initial samples approved by Engineering. There shall be no changes in either formulation or manufacturing processes permitted without prior notification and approval by Engineering. Lack of notification by the supplier constitutes grounds for rejection of any shipment. While samples may be taken from incoming shipments and checked for conformance to this specification, the supplier shall accept the responsibility for incoming shipments meeting this specification without dependence upon purchaser's inspection.

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