



LUBRICANT, ALUMINUM SHEET

WSS-M9G24-A1

1. SCOPE

This specification defines the requirements for lubricant coatings intended to be used for the stamping of aluminum sheet.

The lubricant coatings shall be specified in conjunction with the appropriate base aluminum and surface treatment specifications.

2. APPLICATION

This specification was originally released for a hot melt lubricant to be used for stamped aluminum automobile body parts.

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.

3.2 PRODUCT CHARACTERISTICS

3.2.1	Appearance, 20°C (Visual)	Light Brown to Dark Brown
3.2.2	Melting Point (ASTM D127)	44 - 52 °C
3.2.3	Kinematic Viscosity at 82.2°C (ASTM D445, DIN 51562, ISO 3104)	6.4 – 8.1 mm ² /s
3.2.4	Saponification Value (ASTM D94, DIN 51559-1, or technical equivalent)	12.7 – 18.0 mg/g
3.2.5	Percent Free Fatty Acidity (as oleic) (Quaker GTM 1000, or technical equivalent)	0.0 – 2.5 %

3.3 PERFORMANCE OR PROCESS CHARACTERISTICS

3.3.1	Coating Weight, average (ASTM F2217, or technical equivalent)	0.35 – 0.85 g/m ² /side
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Date	Action	Revisions	Rev. 3
2016 06 27	Revised	See Summary of Revisions	K. Morgan, NA
2015 03 26	Revised	See Summary of Revisions	C. Mracna, NA
2013 02 01	Activated		C. Mracna, NA



3.2.3 Bake Staining (FLTM AB 107-01)

There shall be no objectionable bake staining following a T82 tempering process per FLTM AB 107-01 based on a jury evaluation of at least two people from Ford Product Development Engineering

3.4 COATING UNIFORMITY

The coating shall be uniformly applied across the substrate surface. The applicator will be responsible and will document the measurable in the control plan.

The product shall not be applied in an application system with temperatures below 54 °C. The temperature of the substrate shall not exceed 50°C for longer than 20 minutes post application.

3.5 STRUCTURAL ADHESIVE PERFORMANCE REQUIREMENTS

Material supplied to this specification shall demonstrate acceptable stress durability performance as detailed in the adhesive performance specification, WSS-M2G410-A, Sec. 3.5.2, up to a max coating weight of 1.25 g/m²/side.

3.6 SEALANT PERFORMANCE REQUIREMENTS

Material supplied to this specification shall demonstrate acceptable performance as detailed in the applicable sealant material specification defined by Product or Materials Engineering, up to a max coating weight of 1.25 g/m²/side.

3.7 PAINTABILITY

The paintability requirements of the appropriate base aluminum material specification shall apply for a max coating weight of 1.25 g/m²/side.

3.8 WELDABILITY (FLTM BB 113-07)

The weldability requirements of the appropriate base aluminum material specification shall apply for a max coating weight of 1.25 g/m²/side.

The weldability shall meet the performance requirements outlined in FLTM BB 113-07. Final approval of weldability will be determined by the affected manufacturing facility.

3.9 SHELF LIFE

The lubricated aluminum substrate shall have a shelf life of 1 year when transported and stored in the manufacturer's recommended environmental conditions.

3.10 FUNCTIONAL APPROVAL

Materials being evaluated for approval to this specification shall be subjected to a production trial. Functional trial results must be approved by the affected stamping and assembly operation and Design Engineering. Results shall be made available to Materials Engineering prior to material approval.

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.