



PERFORMANCE, CLEANER, BODY SHEET METAL

WSS-M14P18-B1

1. SCOPE

This specification defines the performance requirements of cleaner materials used on the sheet metal and assemblies made from steel and aluminum, which are subsequently painted.

2. APPLICATION

This specification was released originally for two-package liquid alkaline cleaners used in the zinc phosphate and thin-film pretreatment systems. The materials are used for cleaning iron, steel, zinc or zinc alloy coated steel, or aluminum parts where the maximum paint adhesion, chipping, and corrosion resistance is required. The cleaner provides clean, grease-free, surface for depositing pretreatment coating and subsequent painting.

3. REQUIREMENTS

The supplier shall contact the responsible Materials Engineer prior to initiating qualification testing. Typical quality documentation requirements are listed in section 4.1 of this document. All materials approved under this specification shall meet all engineering requirements when applied under assembly plant conditions.

3.1 APPROVED SOURCES

This specification is performance based and does not have approved sources.

3.2 MATERIAL ANALYSIS

Ford Motor Company, at its option, may conduct analysis of materials, supplied to this specification. The analyses may include, but are not limited to, material chemical analysis, subsequent pretreatment and paint coating analysis, and corrosion and mechanical resistance testing.

If a chemical material analysis is established for initial approval, it shall constitute reference standards, and all samples shall produce the results within specified ranges of the corresponding reference standards when tested under the same conditions. All the key material component ranges, and the key material manufacturing control limits must pass standard Gauge Repeatability and Reproducibility requirements (AIAG, MSA 2010 - Measurement Systems Analysis Reference Manual).

3.3 MATERIAL COMPATIBILITY

The supplier shall notify the responsible Materials Engineer if any incompatibility with other process related materials (e.g. sealers, adhesives, etc.) is anticipated. The supplier shall keep abreast of changes in technology of the process related materials which may affect the compatibility and performance of the pretreatment products. The supplier shall review the potential incompatibilities with the responsible Materials Engineer to agree on the appropriate material compatibility testing. The appropriate material compatibility testing shall be done to ensure the process will deliver required performance.

Date	Action	Revisions	Rev. 0
2015 10 26	Released		



Documents

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3.4 PREPARATION OF TEST PANELS

Testing shall be conducted on standard test panels representing the current production substrates, and current mill oils and lubricants.

3.4.1 Test Substrates

- Cold Rolled Steel (CRS)
- Electro Galvanized Steel (EG)
- Hot Dip Galvanized Steel (HDG)
- Aluminum 6111 Alloy (AA6111)
- Aluminum 6022 Alloy (AA6022), or equivalent low copper aluminum alloy

Other substrates may be requested as needed, and should be included in regional or plant specific testing when appropriate. This shall be specified by the responsible Materials Engineer.

3.4.2 Testing Sample Size

A minimum of three (3) test samples shall be prepared for each test variation, unless a different agreement is made between the responsible Materials Engineer and the supplier prior to testing. The same number of control panels shall be prepared with the cleaner materials currently approved and used in Ford Motor Company assembly production.

3.4.3 Test Panels Aging

This section is applicable to liquid oils and lubricants, and all substrates listed in section 3.4.1. The prepared panels are used for the Water-Break Free evaluation, Pretreatment Coating Quality evaluation, and Residual Surface Carbon analysis.

Clean the test panels with a lint-free cloth soaked with acetone. Rinse the test panels with acetone to ensure the lubricant free surface.

Allow the panels to air-dry at room temperature (23 ± 2 °C).

Immediately after drying, apply the lubricants using a #6 drawdown bar, or other suitable device to deposit a wet film approximately 0.014 mm thick or as specified by the Materials Engineer.

Place the test panels horizontally in a 50°C oven to age for 168 hours. The panels should have sufficient spacing to allow air flow between the panels.

3.4.4 Preparation of Aluminum Panels with Hot Melt ("Dry") Lubricants

This section is applicable to hot melt ("dry") lubricants, and aluminum substrates listed in section 3.4.1. The prepared panels are used for the Water-Break Free evaluation, Pretreatment Coating Quality evaluation, and Residual Surface Carbon analysis.

Prepare two sets of aluminum panel for evaluation.

1. Aluminum panels with the lubricant coating weight per WSS-M9G24-A1.
2. Aluminum panels with the lubricant coating weight of approximately 50% above the material specification.