



PERFORMANCE SPRAYABLE COATING, ACOUSTIC, INTERIOR AND EXTERIOR, BODY PANELS

WSS-M99P30-A

1. SCOPE

This specification defines the performance requirements for solvent free material with good acoustical efficiency, which is applied to body panels either in body-in-white or in the paint shop.

2. APPLICATION

This specification was originally released for materials to be sprayed on or applied with wide slit nozzle in visible or non-visible areas of roof, floor, side panel, rocker panel, doors, liftgate etc. where body panel damping, gravel noise reduction and/or panel stiffening is required. The material is applied onto oily surfaces or dry electrocoat.

Type 1: The coating is applied to an oily metal surface prior to cleaning, phosphating and paint process. The material is hot applied and will set after cooling to room temperature without further bake process.

Type 2: The coating is applied to an oily metal surface prior to cleaning, phosphating and application of electrocoat. The material will cure during the electrocoat bake process.

Type 3: The coating is applied to an electrocoated metal panel prior to application of primer surfacer and/or color coat. The material will cure through the primer surfacer and/or color coat bake process.

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. Part producers must use a process control plan which has been approved by STA and/or the relevant Materials Activity.

3.2 FILM THICKNESS, Dry

As specified on
Engineering Drawing

3.3 ABRASION RESISTANCE

(ASTM D968, only applicable for materials used as underbody coating, see Engineering Drawing)

There shall be no exposed metal area showing after 370 L gravel impact. No loss of adhesion on and around the area of stone impact.

Date	Action	Revisions	Rev. 04
2017 06 27	Editorial	Corrected footer	A. Collins, NA
2016 07 05	Revised	See Summary of revisions	W. Janitschke, FoE
2002 07 31	Activated		W. Janitschke, FoE





Test Method: Prepare the test panels as follows:

- 3.3.1 Test panels of 300 x 100 mm prepared according to FLTM BI 120-01 shall be coated by material under test centrally 10 mm away from the edges to produce the min required dry thickness which is required to fulfill acoustical requirements. Panels with Type 1 and Type 2 materials shall be baked separately for the min and max curing cycles acc. to FLTM BV 150-05, for the applicable region, and Type 3 materials acc. to FLTM BV 150-05 for the applicable region.
- 3.3.2 After conditioning for 24 h at 23 +/- 2 °C determine the abrasion resistance according to ASTM D 968, except I.D. of tube 25 mm and at a gravel through put rate of 30 - 40 L/h. For each specimen 5 L of fresh gravel shall be used.

GRAVEL: Type "GABBRO" grain size 5 - 8 mm or equivalent

SUPPLY SOURCE: ODENWALDER HARTSTEIN INDUSTRIE GMBH
Erbacher Strasse 62
D-6101 Rossdorf
or equivalent

3.4 CORROSION RESISTANCE, LABORATORY CYCLIC CORROSION TEST CETP 00.00-L-467

The material shall protect the test panel from corrosion. Under the material and at the border line of material edges it shall be seen no corrosion, no flaking or any evidence of loss of adhesion of the material.

Test Method:

Prepare test specimens in accordance to the test method described in para 3.3.1. Panels shall be cured for the min and max cycle times as stated in FLTM BV 150-05, for the applicable region.

After conditioning for 24 h at 23 +/- 2 °C, expose samples to CETP 00.00-L-467 as follows:

Samples applied to BIW surfaces: 6 weeks
Samples applied to e-coated surfaces: 12 weeks

Examine for corrosion resistance. Disregard the area 10 mm from the edges of test panel.

3.5 CORROSION RESISTANCE, PROVING GROUND (CETP 00.00-R-343)

New material technologies require total vehicle corrosion testing prior to approval and their introduction. Test details including film thickness, method of application, number of test cycles, etc. for the individual cars are defined by Materials Engineering, PV&T.

3.6 CONDENSING WATER VAPOR TEST (FLTM BI 104-02, Method A, 72 h panels as of para 3.3.1)

No blisters,
swelling, no loss
of adhesion, no
re-dispersion

3.7 COLD ADHESION at - 40 °C (FLTM BV 151-01, specimens preparation according to para 3.3.1. Test Load A 300 x 300 x 0.9 +/- 0.05 mm panels, full area coated)

No flaking, no
loss of adhesion



3.8 PEEL RESISTANCE

(only applicable for materials used as underbody coating, see Engineering Drawing)

The material at all ranges of coating thickness must not be peeled off in a coherent film.

Test Method:

- 3.8.1 Coat 300 x 100 mm test panels, prepared according to FLTM BI 120-01 in such a manner (airless) that after the min and max cycle times as quoted in FLTM BV 150-05, for the applicable region, a dry coating thickness of nominally 2.0 mm beginning at one edge of the test panel and tapering to zero at the other is obtained.
- 3.8.2 After 24 h at 23 +/- 2 °C make two cuts through the coating along the 300 mm length of the test panel and 30 mm apart and try to peel off coating starting at the edge with the lowest film thickness.

3.9 STAINING

(only if required on Engineering Drawing)

No staining or other deleterious effects to production enamels.

Test Method: Condition panels prepared as in para 3.3.1. for 24 h at room temperature.

Mask one half of the test panels and expose for 200 h in the Fluorescent and Sunlamp Cabinet (FLTM BU 152-02). For examination compare the exposed and unexposed area of the test specimen.

3.10 PAINT ADHESION TO MATERIAL UNDER TEST

(only if required on Engineering Drawing)
(FLTM BI 106-01, Method C, preparation of specimens according to para 3.3.1, plus paint in line with process)

No chipping, no flaking, no loss of adhesion.

3.11 PANEL SINK MARKS

No visible sink marks at outer panels where the material is applied at inner side after final cure

3.12 VOLUME EXPANSION

+/- 5% based on accepted Initial Sample

Test Method:

- 3.12.1 Determine the volume V1 of the test panel, see Figure 1, prepared in accordance with FLTM BZ 150-11, oiling grade "normal", by water displacement.
- 3.12.2 Apply test material in the groove of the test panel, scrape flush with the adjoining surfaces and determine volume V2.
- 3.12.3 Expose test specimens in a mechanical convection oven to the min curing cycle. The test specimens are to be cured in a horizontal position and protected from direct air flow. After heat curing and cooling to room temperature determine volume V3.
- 3.12.4 The volume increase in % of the original volume shall be determined as follows