

**PREFORMED SEALER TAPE, HEAT CURING, PAINTABLE
PERFORMANCE REQUIREMENT****WSS-M18P20-A1****1. SCOPE**

The specification defines the performance requirements for a paintable, hot-melt or heat-curing thermosetting sealer supplied as a discrete part.

2. APPLICATION

This specification was released originally for material used in applications, such as sealing floor pan holes or the roof ditch joint. The material is applied on the sealer deck after vehicle electrocoat, and it is suitable for use on vehicle interiors and must be paintable with topcoat enamels presenting an acceptable appearance free from tackiness, checks and porosity. The material can be heat staked to a metal clip which is inserted into the floor pan hole, and it can be tacky, dry, magnetic or some combination thereof. This material is not recommended for visible areas.

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. This specification concerns materials that require toxicology review and approved sources should be reviewed within each region. A globally approved material will have 4 approved source listings to reflect the toxicology reviews in each region.

3.2 CONDITIONING AND TEST CONDITIONS

All test values are based on material conditioned for not less than 24 h prior to testing in a controlled environment of 23 +/- 2 °C and 50 +/- 5% relative humidity. Testing of the material should occur in the conditioning environment or soon after removal.

3.3 INFRARED SPECTROPHOTOMETRY AND/OR THERMAL ANALYSIS

IR spectra and thermograms from initial material approval shall constitute the reference standard and shall be kept on file at the designated material laboratory. The material supplier shall ensure that all future material supplied to the specification shall produce IR spectra and thermograms that correspond to the reference standard when tested under the same conditions.

3.4 MATERIAL PROPERTIES**3.4.1 Consistency (Needle Penetration)**
(ASTM D1321, 100 g total load)**3.4.1.1 As Received****3.4.1.2 Aged, 72 h at 50 °C**

Date	Action	Revisions	Rev. 01
2017 08 29	Revised	See Summary of Revisions	Stephen Short, NA
2016 04 24	Released		C. Orr NA



The consistency tolerance for any one supplier shall be ± 1.0 mm based on the recorded consistency of their originally approved production sample.

- 3.4.2 Solids 98% min
(ASTM D2834, except heat at 102 ± 3 °C
for 3 h in a mechanical convection oven)

- 3.4.3 Ash (Based on solids weight) Report
(FLTM BV 150-10, 760 ± 30 °C)

The ash tolerance for any one supplier shall be $\pm 5\%$ based on the recorded percent ash of the originally approved production sample

- 3.4.4 Specific Gravity (Uncured material) ± 0.1
(ASTM D297, water displacement method)

The specific gravity tolerance for any one supplier shall be ± 0.1 based on the recorded specific gravity of the originally approved production sample

3.5 MANUFACTURING PROPERTIES

3.5.1 Flow Properties

Test Method:

Apply a preformed sealer tape section $150 \times 25 \times 2.0 \pm 0.1$ mm to the centerline of two $300 \times 100 \times 0.90$ mm electrocoated steel panels per para 4.2. Preheat the panels for 15 minutes at 110 ± 2 °C prior to sealer application. This will heat stake the sealer to the panel. Allow the panels to cool at 23 ± 2 °C for 30 minutes.

Place the electrocoated panels in a mechanical convection oven for 15 minutes at 150 ± 2 °C. Place one panel at a 45° angle with the 150 mm dimension of sealer in a horizontal attitude and the second panel in a horizontal position (flat).

Remove panels from oven, cool to room temperature, and measure the amount of flow. Save panels for para 3.6.3.

Acceptance Criteria:

Horizontal	5 mm max
45°	5 mm max

The flow property tolerance for any one supplier shall be ± 0.5 mm based on the recorded flows of their originally approved production sample.

3.5.2 Curl Test, (non-PSA/non-Tacky only)

Test Method:

Apply a section of preformed sealer tape $150 \times 25 \pm 0.1$ to three $300 \times 100 \times 0.80$ mm electrocoated steel panels per para 4.1.

Preheat panels for 15 minutes at 110 ± 2 °C prior to sealer application. This will heat stake the sealer to the panel. Allow the panels to cool at 23 ± 2 °C for 30 minutes.

Apply all regionally available traditional and 3 wet paint systems, utilizing all combinations of minimum and maximum primer and top coat cure cycles outlined in FLTM BV 150-05, by region. Record any curling of the film after initial paint application.

Using a razor blade, cut through the paint film at one side edge and the top edge of each

sample

Subject the panel to an additional basecoat/clearcoat cure cycle, using the same time at temperature as each panel's original cure cycle. Remove from oven and observe for evidence of curling. Repeat this procedure once more for a total of 3 basecoat/clearcoat bakes.

Acceptance Criteria:

No curl allowed after 2 rebakes.

Report any evidence of curling and the paint system used. Any evidence of curling is considered a failure for this test.

3.5.3 Bridging

10 mm min

3.5.3.1 Overlap Joint

Test Method: Prepare two test figures as shown in Figure 1 using electrocoated panels prepared per para 4.1.

FIGURE 1.

