



SEALER, VINYL, LOW DENSITY, EXTRUDABLE, SPRAYABLE ABRASION RESISTANT, NON-PAINTABLE

WSS-M4G252-E2

1. SCOPE

The material defined by this specification is a vinyl based, extrudable, sprayable, sag resistant, abrasion resistant, non-paintable, heat cured sealer.

2. APPLICATION

This specification was released originally as an interior seam sealer and underbody stone chip resistance material. The material will not have good appearance when top-coated and therefore should be used only on non-paintable surfaces. This material can be sealer gun extruded and spray applied to body electrocoat primed surfaces. Recommended material cure schedules are specified in para 5.3. A 0.50 mm wet film thickness is recommended for abrasion resistance.

3. REQUIREMENTS

Material specification requirements are to be used for initial qualification of materials.

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 SOLIDS

95% min

(ASTM D2834, except heat at
102 +/- 1 °C for 3 h in a mechanical convectional oven.
Save sample for next test, para 3.3)

3.3 ASH (Based on solids weight), (ISO 3491, Method A, 760 +/- 30 °C)

The ash content tolerance for any one supplier shall be +/- 5% based on the recorded ash content for their originally approved production sample. See paragraph 4.4.

3.4 WEIGHT PER VOLUME (ASTM D816)

0.87 kg/L, max

0.93 kg/L sprayed max

The weight per volume shall be measured after the material has undergone airless spraying.

- Spray the sealer at a 300 mm distance thru a -0.79 mm/60° tip at 20 MPa onto a clean steel panel.
- Measure the density of sprayed sealer with a pycnometer.

The weight tolerance for any one supplier shall be +/- 0.06 kg/L, based on the recorded weight of his original approved production sample See paragraph 4.5.

Date	Action	Revisions	Rev. 04
2017 07 07	Revised	See Summary of Revisions	S. Short, NA
2017 06 27	Editorial	Corrected footer	A. Collins, NA
2006 10 27	Activated		M. Mohandru

3.5 VISCOSITY

(SAE J1524, VIS-2, 1.32 mm orifice, 280 kPa)

Final approval of a specific material viscosity for production shipments shall be made by the affected manufacturing activity. In all cases, the viscosity shall be within process limits as identified on the material control plan.

The viscosity tolerance for any one supplier shall be +/- 10%, based on the recorded viscosity of the original approved production sample.

- | | | |
|-------|---|---------------|
| 3.5.1 | As Received Viscosity
(Unagitated - Method "A") | +/- 10% |
| 3.5.2 | Aged Viscosity
(Material aged in closed container
for increase 72 h at 40 +/- 1 °C,
Unagitated - Method "A") | original +50% |

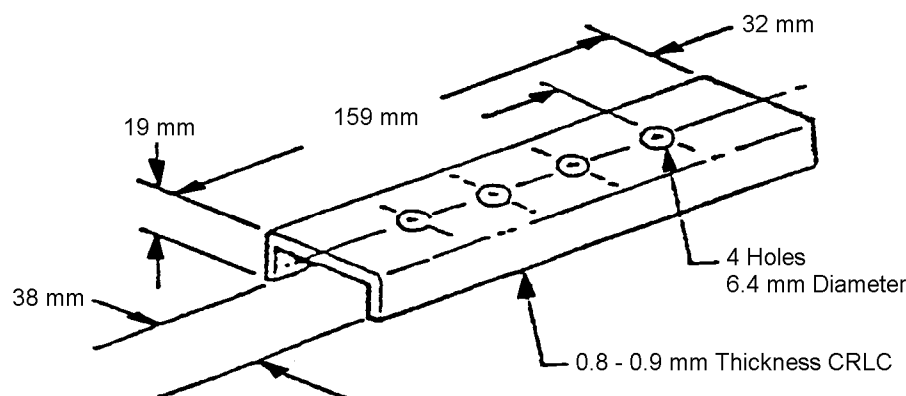
3.6 BRIDGING

6.4 mm max

Test Method:

- Apply a 13 mm diameter material bead over the 6.4 mm diameter holes shown in sketch below.
- Condition the test fixture with material bead for 15 minutes at 23 +/- 2 °C, then bake fixture at the minimum bake schedule per para 4.3.
- Measure the amount of material sag through hole.

BRIDGING TEST FIXTURE





3.7 SAG RESISTANCE

3.7.1	Horizontal	6.4 mm max
3.7.2	Vertical	6.4 mm max
3.7.3	Inverted	No loss of material

Test Method:

- Apply a 3 x 30 x 200 mm ribbon of material along the center line of three electrocoated panels prepared per para 4.2
- Scribe panels to mark the initial material location.
- Position the panels with the material in the attitude above for 1 h.
- Immediately after conditioning, place panels in an oven to cure material at the minimum bake schedule per para 4.3. Maintain panels in the specified attitude during baking and cooling.
- Allow the panel to cool to 23 +/- 2 °C.
- Determine the sag by measuring the material movement below the scribe mark.

3.8 ADHESION

Shall not be peeled off in a continuous film at any thickness.

Test Method:

- Apply 6.4 - 0 mm tapered material ribbon on two electrocoated panels prepared per para 4.2. See sketch below.
- Subject one test panel, to the minimum bake schedule and the other test panel to the maximum bake schedule identified per para 4.3.
- Condition panels after baking at 23 +/- 2 °C for 1 h minimum.
- Evaluate adhesion by cutting a 25 mm wide strip across the tapered ribbon. Using the tip of a square spatula, lift the material at both the thin and thick film edges then attempt to had peel material at 90° from substrate.
- Save test panels for Heat Stability Test, para 3.9 and Corrosion Resistance Test, para 3.10.