



ENGINEERING MATERIAL SPECIFICATION

Material Name

Specification Number

SEALER, POLYVINYL CHLORIDE (PVC), PRIMER OVEN
CURING, PAINTABLE

WSK-M4G297-B

SEALER, POLYVINYL CHLORIDE (PVC), PRIMER OVEN
CURING, PAINTABLE

WSK-M4G297-B3

1. SCOPE

The material defined by this specification is a solvent release, heat curing, stone peck resistant PVC sealer for exterior body areas.

2. APPLICATION

This specification was released originally for material used as a stone peck protective coating for wheel house lip. The material is applied by a foam roller or airless spray on baked electrocoat in a wet film thickness of approximately 160 - 320 micrometer wet on wet with spray primer.

3. REQUIREMENTS

3.1 QUALITY SYSTEM REQUIREMENTS

Material suppliers and part producers must conform to Quality System Requirements, QS-9000. Material specification requirements are to be used for initial qualification of materials. A Control Plan for ongoing production verification is required. This plan must be reviewed and approved by the relevant Ford Materials activity and/or Ford Supplier Technical Assistance (STA) prior to production parts submission. Appropriate statistical tools must be used to analyze process/product data and assure consistent processing of the materials.

Part producers using this material in their products, must use Ford approved materials and must conform to a process control plan which has been approved by STA and/or the relevant Materials Activity.

Date	Action	Changes
1998 11 05	Revised	Added B3; Completely revised W. Scholz
1991 06 03	EP00E01089485000	Released W. Scholz Conc. J. Schult

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3.2 INFRARED SPECTROPHOTOMETRY AND/OR THERMAL ANALYSIS

Ford Motor Company, at its option, may conduct infrared and/or thermal analysis of material/parts supplied to this specification. The IR spectra and thermograms established for initial approval shall constitute the reference standard and shall be kept on file at the designated material laboratory. All samples shall produce IR spectra and thermograms that correspond to the reference standard when tested under the same conditions.

3.3 CONDITIONING AND TEST CONDITIONS

All test values indicated herein are based on material conditioned in a controlled atmosphere of 23 +/- 2 C and 50 +/- 5 % relative humidity for not less than 24 h prior to testing and tested under the same conditions unless otherwise specified.

Unless otherwise specified, use EC-coated test panels according to FLTM BI 120-01, type C. The sealer must be applied on the cured EC-coated test panel within 30 minutes after oven curing.

3.4	COLOR	Gray or as on Engineering Drawing
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3.5	SOLIDS, min (FLTM BV 150-10)	97.0 %
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3.6	ASH, max (FLTM BV 150-10)	28.0 %
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3.7	DENSITY AT 23 C, max (ASTM D 1475)	1.34 kg/L
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3.8 VISCOSITY AT 23 C

3.8.1 As Received

At 2.5 rpm	37 Pa.s + 10 %
At 5.0 rpm	26 Pa.s + 10 %
At 10.0 rpm	17 Pa.s + 10 %

3.8.2 After Aging, max

(WSK-M4G297-B: 120 h at 35 +/- 2 C)
(WSK-M4G297-B3: 336 h at 40 +/- 2 C)

At 2.5 rpm	50 Pa.s + 20 %
At 5.0 rpm	32 Pa.s + 20 %
At 10.0 rpm	22 Pa.s + 20 %



Test Method:

- . Brookfield viscometer type RVT/D, spindle No. 3.
- . Stir material for 1 minute with spatula.
- . Let the material rest for 30 minutes.
- . Insert spindle into material and start measuring with undisturbed material at a frequency of 2.5 rpm; measure at 3 minutes.
- . Continue measuring in the same way at frequencies of 5.0 rpm and 10.0 rpm.

3.9 CURING CONDITIONS

WSK-M4G297-B according to FLTM BV 150-05, Table 2 WSK-M4G297-B3

- (a) Two times 9 minutes at 140 +/- 2 C
- (b) Two times 9 minutes at 170 +/- 2 C

3.10 SURFACE CONDITION AFTER AGING
(120 h at 35 +/- 2 C)

The material shall be dry to touch after cooling to 23 +/- 2 C. It shall be free from cracks or bubbles and shall show a uniform paint film without staining or discoloration. After bending 90 deg around a mandrel of 100 mm diameter within 2 s (see FLTM BV 153-04) there shall be no evidence of chipping or loss of adhesion between the various layers.

Test Method:

- . Test panels 300 x 100 x 0.8 - 0.9 mm prepared according to FLTM BI 120-01, type C, shall be coated with the material (template 30 mm wide) under test so that after curing a dry coating thickness of 150 - 300 micrometer is obtained.
- . After 10 minutes at 23 +/- 2 C, coat specimens wet on wet with current production spray primer, to a dry film thickness of 25 - 35 micrometer.
- . After 10 minutes at 23 +/- 2 C, cure specimens separately
 - (a) min curing cycle, phase 1
 - (b) max curing cycle, phase 1
- . After 10 minutes at 23 +/- 2 C, spray separate specimens with light colored standard and metallic top coat enamel to a coating thickness of 30 - 40 micrometer.
- . After 10 minutes at 23 +/- 2 C, cure specimens separately
 - (a) Min curing cycle, phase 2
 - (b) Max curing cycle, phase 2
- . Condition for 2 h at 23 +/- 2 C and expose in mechanical convection oven maintained at 80 +/- 2 C for 120 h.
- . Test and examine after 24 h at 23 +/- 2 C.