



Material Name

Specification Number

SEALER, BUTYL RUBBER, SOLVENT FREE

WSS-M4G261-B3

1. SCOPE

The material defined by this specification is a solvent free, hot applicable (140 +/- 2 C) butyl rubber sealer with polyisobutylene plasticizer.

2. APPLICATION

This specification is released originally for material used for bonding and sealing of water shield to door inner panel.

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.

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.

Date	Action	Changes
1996 06 04	Activated	W. Scholz



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3.4	COLOR	Black
3.5	SOLIDS, min (FLTM BV 150-10)	98 %
3.6	ASH, max (FLTM BV 150-10)	20 %
3.7	WEIGHT PER VOLUME AT 23 C (ASTM D 1475)	1.1 +/- 0.1 kg/l
3.8	CONE PENETRATION AT 23 C (Penetration according to ASTM D 5, 1.5 N total load mass, 5 s dwell time, data in 0.1 mm)	
3.8.1	As Received	
3.8.1.1	At 23 +/- 2 C	58 +/- 8
3.8.1.2	At - 30 +/- 2 C	20 +/- 8
3.8.1.3	At 60 +/- 2 C	100 +/- 15
3.8.2	After Aging, max (14 days at 80 +/- 2 C)	25 % loss based on the value obtained in para 3.8.1.1
3.9	FLOW RATE (FLTM BV 153-01, Method A, except 30 minutes at 120 +/- 2 C or current repair oven temperature)	No flow
3.10	COLD FLEXIBILITY AFTER AGING	No loss of adhesion, chipping or cracking
Test Method:		
1. Apply a 250 x 30 x 3 mm ribbon of material under test, heated to 140 +/- 2 C, centrally to 300 x 100 mm test panels prepared according to FLTM BI 103-02, Method Bb.		
2. Expose test assemblies in a mechanically convected air-drying oven at 80 +/- 2 C for 14 days.		
3. After cooling to 23 +/- 2 C expose test assemblies and bending fixture (see FLTM BV 153-04, except 50 mm mandrel) in a cold box at minus 30 +/- 2 C for 4 h.		
4. While still in the cold box bend test assemblies within 2 s around a 50 mm diameter through an angle of 90 degrees.		
3.11	SHEAR ADHESION	
3.11.1	At 23 +/- 2 C, min	45 kPa



3.11.2 At - 30 +/- 2 C\* No loss of  
adhesion based on  
the value obtained  
in para 3.11.1

3.11.3 At 60 +/- 2 C\* 25 kPa

Test Method:

1. Prepare 25 x 125 mm test panels of current production enamel according to FLTM BI 103-02, Method Bb.
2. Bond specimens according to Figure 1 with sample material heated to 140 +/- 2 C.
3. Test shear adhesion at a rate of pull of 25 mm/minute and calculate in kPa.

\*30 minutes conditioning time

3.12 PEEL ADHESION, min 5.5 N/cm  
(FLTM BU 151-1, Method B1, y = 1 mm, except  
apply sealer of a temperature of 140 +/- 2 C  
to test panel and cover with PVC sheeting  
(SK-M2F9504-A))

3.13 COMPRESSION LOAD 300 - 600 N  
(FLTM BU 114-1, thickness 6 mm, width 8 mm)

3.14 RESISTANCE TO DEWAXING COMPOUND U-MB 005-800 No leaks

Test Method:

1. Prepare 150 x 300 mm test panels according to FLTM BI 103-02, Method Bb.
2. Apply sealer of a temperature of 140 +/- 2 C to test panels in a 3 mm bead as shown in Figure 2 and cover with PVC sheeting according to SK-M2F9504-A.
3. Press down sealer bead to a thickness of approximately 1 mm.
4. After 2 h at 23 +/- 2 C fill assembly with 10 ml dewaxing compound and suspend in vertical position for 24 h at 23 +/- 2 C.

3.15 HEAT AGING

Specimens prepared according to para 3.10 shall show no evidence of blistering after exposure in a mechanical convection oven maintained at 80 +/- 2 C for 2 weeks. Evaluation after 1 h at 23 +/- 2 C.

3.16 STORAGE STABILITY, min 6 months  
(From date of receipt at Ford Motor Company)

When stored in sealed unopened containers out of direct sunlight at ambient temperatures between 5 C and 32 C.