

ENGINEERING MATERIAL SPECIFICATION

Material Name

Specification Number

**ADHESIVE, HOT MELT, SYNTHETIC RESIN, HOT
APPLIED 170 - 190 °C**

WSK-M2G237-B2

1. SCOPE

The material defined by this specification is a heat activated nonsolvent synthetic resin type adhesive with good hot tack and good high and low temperature resistance.

2. APPLICATION

This specification was originally released for material used to bond polyethylene backed polypropylene carpet to mineral filled polypropylene door trim panels.

3. REQUIREMENTS

3.0 STANDARD REQUIREMENTS FOR PRODUCTION MATERIALS

Material suppliers and part producers must conform to the Company's Standard Requirements For Production Materials (WSS-M99P1111-A).

3.4 COLOR

Amber or as
specified on
Engineering Drawing

3.5 SOLIDS, min (FLTM BV 150-10)

96 %

3.6 DENSITY (ASTM D 792)

Initial Sample +/-
0.05 g/cm³

3.7 SOFTENING RANGE (ASTM E 28, ring and ball apparatus)

Above 140 °C

3.8 VISCOSITY, mPa.s (ASTM D 4402, Brookfield RVF, Spindle No. SC4/27)

180 +/- 2 °C, 10 rpm

4,500 – 22,000
Must be within
+/- 20 % of
initial sample

Date	Action	Revisions
2003 01 17	Revised	Para 3.0 inserted ; Para 3.1, 3.2, 3.3, 3.14, 4 deleted
1992 02 03	EP00E01076261000	Released K. Wolters J. Schult

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3.9 PEEL ADHESION

90 °

Test method: 3 test specimens for each exposure condition.

Prepare test assemblies on substrates per 4.4

Apply a 6 mm bead of the adhesive at the application temperature of 170 - 190 °C to a 50 x 300 mm plastic substrate section.

Immediately place a 50 x 380 mm carpet section over the adhesive and roll once forward and once backward with a roller per ASTM D 1000. Roller speed 50 mm/s. Allow to cool to 23 +/- 2 °C for 30 minutes prior to determination of the original value.

After each exposure, allow conditioning for 30 minutes at 23 +/- 2 °C. Conduct 180 ° hand peel adhesion tests with a Hunter gage or equivalent. Pull at a rate of 25 mm/minute.

3.9.1	Original	525 N/m
3.9.2	After Environmental Cycling (FLTM BQ 104-07, Procedure 5, 5 cycles)	525 N/m
3.9.3	After Heat Aging (14 days at 70 +/- 2 °C)	876 N/m
3.9.4	After Humidity Aging (14 days at 38 +/- 2 °C and 95 - 100 % relative humidity)	88 N/m
3.9.5	After Cold Slam Adhesion Cycles (FLTM BV 101-02, 100 slams)	525 N/m

3.10 QUALITY

The adhesive shall be a smooth, homogeneous mixture, free from foreign materials. The material must be adaptable for application in accordance with the appropriate Ford Motor Company Process Specification and must be compatible with all related materials.

3.11 ODOR

Shall be free from objectionable or irritating odors, both at room temperature and at application temperature.

3.12 FOGGING

(SAE J1756, 3 h at 100 °C cooling plate, post test conditioning 1 h and 16)

Fog Number, min 90

Formation of clear film, droplets or crystals is cause for rejection.