



ENGINEERING MATERIAL SPECIFICATION

Material Name

Specification Number

ADHESIVE, POLYURETHANE, TWO COMPONENT,
POLYOL, PAINTED METAL TO TRIM PARTS

WSK-M2G376-A1

ADHESIVE, POLYURETHANE, TWO COMPONENT,
ISOCYANATE, PAINTED METAL TO TRIM PARTS

WSK-M2G376-A2

1. SCOPE

The materials defined by these specifications are a polyol based adhesive (WSK-M2G376-A1) and an isocyanate based hardener (WSK-M2G376-A2). Both materials are solvent free and reach an initial strength within 2 hours curing at room temperature.

2. APPLICATION

These specifications were released originally for materials used for bonding of outer trim panels of PUR-RRIM e.g. spoiler to enameled body panels both in connection with adhesion promoter according to SK-M2G9538-A or WSK-M2G377-A1. Before bonding, trim panel has to be grinded and both surfaces, trim panel and painted body panel, have to be cleaned with solvent (WSK-M5B401-A1).

3. REQUIREMENTS

3.1 STATISTICAL PROCESS

Suppliers must conform to the requirements of Ford Quality System Standard Q-101. A mutual acceptable Control Plan as described therein is required for material/source approval. Appropriate statistical tools must be used to analyze process/product data so that variation in the final product is continuously reduced.

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 correspond 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.

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1994-04-18	C10397186	Released W. Scholz

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	A1	A2
3.4 MATERIAL	Polyol	Isocyanate
3.5 COLOR	White	Black
3.6 SOLIDS AND ASH (FLTM BV 150-10)		
3.6.1 Solids, min, %	98.0	98.0
3.6.2 Ash, max, %	35.0	1.0
3.7 DENSITY AT 23 C, kg/L (ASTM D 1475)	1.30 - 1.40	1.00 - 1.10
3.8 VISCOSITY AT 23 C, Pa.s (ASTM D 1084, Brookfield DV II, spindle No. 7, 100 rpm)	15 - 35	30 - 50

Note: All samples shall produce also flow diagrams including viscoelasticity established by using rotational test equipment as Physica, Haake, Eprecht, Rheometrix etc. to identify characteristic of material.

3.9 MIXING RATIO (Parts by volume)	100	100
3.10 ASSEMBLING TIME AT 23 C, max		10 minutes
3.11 CURE RATE		

A 6 x 150 mm diameter bead shall be tack free in 30 minutes and completely cured after 48 h at 23 +/- 2 C and 50 +/- 5 % relative humidity.

3.12 STORAGE STABILITY (From date of receipt at Ford Motor Company)	
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3 months for barrels, hobbocks and 300 ml cartridges, 12 months for 60 and 80 ml cartridges when stored between 10 - 30 C.

3.13 SHEAR STRENGTH OF MIXED COMPONENTS

Test Method

Clean bonding surface of two 100 x 25 x 0.8 mm enameled steel test panels using production as well as repair enamel with solvent according to WSK-M5B401-A1.

After 5 minutes conditioning at 23 +/- 2 C prime both surfaces of enameled steel test panels with primer according to SK-M2G9538-A or WSK-M2G377-A1.