



ENGINEERING MATERIAL SPECIFICATION

Material Name	File Control No.	Specification Number
ADHESIVE, POLYESTER - HOT MELT	SMT5002GB6130	ESK-M2G318-A1

1. SCOPE

The material defined by this specification is a thermoplastic, hot melt adhesive based on polyester.

2. APPLICATION

This specification was released originally for material to seal foglamp opening on PC bumper before in situ foaming.

3. REQUIREMENTS

3.1 STATISTICAL PROCESS

Suppliers must conform to the requirements of Ford Quality System Standard Q-101. A mutually 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 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	Release No.	Release/Revision
1988 07 08	SM/EQ5767 TP	Released

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- 3.4 COLOUR opaque or as specified on Eng. drawing
- 3.5 SOLIDS, min (FLTM BV 150-10) 99,0 %
- 3.6 ASH, max (FLTM BV 150-10) 0,5 %
- 3.7 DENSITY AT 20 C (ASTM E 12) 1,30 +/- 0,05 g/cm³
- 3.8 SOFTENING POINT 137 +/- 10 C
(ASTM E 28, Ring and Ball Apparatures, in Silicone Oil)
- 3.9 VISCOSITY
(Brookfield RTV/Thermosel, Spindle No., SC4/27, rotational frequency 1/minute, testing time 2 minutes, conditioning time up to the measurement 20 minutes)
- 3.9.1 At 160 C 210 Pas +/- 20 %
- 3.9.2 At 170 C 150 Pas +/- 20 %
- 3.9.3 At 180 C 83 Pas +/- 20 %
- 3.10 SHEAR STRENGTH
- Test Method
1. Apply sufficient hot melt adhesive at the application temperature of 190 +/- 5 C to a 10 x 25 mm smooth area of a 4 x 25 x 100 mm PC panel (according to ESK-M4D441-A).
 2. Immediately after adhesive application place on the adhesive side a second PC panel (Fig. 1).
 3. Clamp panels together. Use 1 mm spacers to give 1 mm adhesive thickness.
 4. After 1 h at 23 +/- 2 C unclamp specimen and test shear strength at a rate of 25 mm/minute.
- 3.10.1 Original
- | | |
|----------------------|-----------------------|
| At 23 +/- 2 C, min | 100 N/cm ² |
| At 90 +/- 2 C, min | 25 N/cm ² |
| At - 40 +/- 2 C, min | 60 N/cm ² |
- 3.10.2 After Heat Ageing
(After 14 d at 70 +/- 2 C,
1 h at 23 +/- 2 C)
- no loss from original value obtained per clause 3.10.1