



ENGINEERING MATERIAL SPECIFICATION

Material Name

Specification Number

ADHESIVE, POLYAMIDE, HOT APPLIED 170 - 180 C

WSK-M2G270-B

1. SCOPE

The material defined by this specification is a hot melt adhesive with high filler content, based on polyamide.

2. APPLICATION

This specification was originally released for material used to bond hardboard parts of the ventilation air duct.

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 tests according to these specifications shall be performed in a controlled atmosphere of 23 +/- 2 C and 45 - 55 % relative humidity if not otherwise specified.

3.4 COLOR

Black, or as specified on Engineering Drawing.

3.5 SOLIDS, min (FLTM BV 150-10)

99 %

3.6 ASH, max (FLTM BV 150-10)

44 %

Date	Release No.	Release/Revision
1991 02 01	CO1089481000	Released K. Wolters

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- 3.7 DENSITY Initial Sample +/- 0.05 g/cm³;
(ASTM D 792) max 1.62 g/cm³
- 3.8 SOFTENING POINT 140 - 155 C
(ASTM E 28, ring and ball
apparatus)
- 3.9 VISCOSITY
(ASTM D 4402, Brookfield RVT/D
Thermosel, Spindle No. SC4/27
or equivalent equipment)
- | | |
|----------------|------------------------|
| 160 C: 1 rpm | 94 000 - 126 000 mPa.s |
| 170 C: 2.5 rpm | 52 000 - 73 000 mPa.s |
| 180 C: 2.5 rpm | 35 000 - 53 000 mPa.s |

- 3.10 SHEAR STRENGTH, min
(FLTM BU 151-01, Method A,
Figure 4)

Test Method:

Apply adhesive at an application temperature of 170 - 180 C to a 25 x 10 mm area of a 25 x 75 mm non-impregnated canvas fabric piece to a thickness of approximately 1 mm.

Immediately after adhesive application place the adhesive side of the canvas specimen on a hard board panel of 60 x 150 mm in production thickness and roll the overlapped area once with a 2 kg roller per ASTM D 1000.

- 3.10.1 Original Value, min 4 MPa or break of substrate

After 1 h at 23 +/- 2 C determination of shear strength at a rate of 25 mm/minute.

- 3.10.2 After Aging, min 4 MPa or break of substrate

Age specimen for 14 days at 90 +/- 2 C and 14 days at 100 +/- 2 C.

Evaluation after conditioning 1 h at 23 +/- 2 C.

No loss of shear strength based on the original measured value.