



ENGINEERING MATERIAL SPECIFICATION

Material Name

Specification Number

SEALER, SOLVENT RELEASE, NON-SETTING

SP-M4G9112-F

1. SCOPE

The material defined by this specification is a non-setting sealing compound which is resistant to temperatures between - 40 C and + 250 C within joint faces. The sealer will resist automotive fluids well in excess of normal operating temperatures and gives good clamping force retention even where vibration may be encountered.

The sealer is supplied, in a range of dilutions, with a solvent which is allowed to evaporate between application and fitting to leave a flexible, coherent film.

2. APPLICATION

The material is used for sealing clean matting surfaces on engine or transmission and/or as specified on Engineering drawings.

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.

Date	Action	Changes
1999 01 05	Revised	Deleted A-E & G-H; Comp. rev & Updated K. Bruley
1994 12 21		Revised and Retyped, was 8 pages
1982 02 01	SM/ER1231 TC	Released

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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.

3.4 The grade of sealer supplied shall be suitable for the method of application as defined by the relevant Component Engineer and Manufacturing Division.

3.5 COLOR Blue

3.6 ORIGINAL MATERIAL REQUIREMENTS FOR SOLIDS CONTENT 45 ± 3 %
(FLTM BV 150-10, except heat crucible to
constant weight at 105 C)

3.7 ASH CONTENT 20 ± 4 %
(FLTM BV 150-10)

Preparation of Test Panels: Para 3.8 to 3.10

The test panels are to be made of aluminum alloy to BS 1470 S1c/DIN 1745 Al 99, size 200 x 25 x 0.7 mm approximately. Dress the panels with grade 00 emery paper and degrease thoroughly by washing with inhibited methyl chloroform (Genklene 0). Coat the lower three quarters of one side of the panel with the sample to give a wet film thickness of 0.2 mm and allow to dry for 24 hours at room temperature in well ventilated area.

3.8 PLASTICITY AFTER HEAT AGEING
(16 h at 150 ± 2 C, 1 h at 23 ± 2 C)

The film shall remain plastic and coherent after bending 180 deg around a 100 mm mandrel.