



ENGINEERING MATERIAL SPECIFICATION

Material Name

Specification Number

SUBSEQUENT TREATMENTS FOR FASTENER SURFACE FINISHES

WSS-M21P27-A1
WSS-M21P27-A2
WSS-M21P27-A3

1. SCOPE

These specifications identify the performance requirements for subsequent treatments applied to fastener surface finishes.

2. APPLICATION

The treatments identified in these specifications are intended for use on Worldwide Standard and Utility parts requiring a subsequent treatment to alter the performance. For example, subsequent treatments may be the addition of waxes for sealing on sheet metal screws or wax on hose clamps to lower the friction between the clamp and the hose thus improving the clamp load.

These subsequent treatments are specified by adding a designation code to the Standard or Utility part finish code, see Worldwide Standard WX100 Section 3.

3. REQUIREMENTS

The application of these treatments is to provide performance in addition to all applicable requirements of WX100 Clause 5.

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.

Date	Release No.	Release/Revision
1993 06 30	NGA1E10269419005	Released A2 & A3 B.Edwards FOE A.Cockman EM&S
1993 03 31	NGA1E10269419002	Released A. Cockman EM&S

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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 PERFORMANCE REQUIREMENTS

3.4.1 Standard Part Suffix Identifier 'XA' (WSS-M21P27-A1)

Position: Screws having a length of 10 mm or less shall be coated from the point to a distance of 0.25 mm to 2.50 mm from the underside of the screw head; screws longer 10 mm shall be coated from the point to a distance of 0.25 mm to 3.8 mm from the underside of the screw head, or end of the screw diameter section, as applicable. The sealer thickness shall increase the major thread diameter not less than 0.50 mm or more than 1.50 mm. Adhesion of the sealer to the screw must be greater than the cohesive strength of the material so that the sealer tends to separate rather than strip from the screw.

Paint Staining: Shall not show any migration staining after 72 h exposure.

Test Method: Samples of sealing compound are secured tightly to production enamel surface and placed in the fluorescent sunlamp fixture as described in FLTM BV 107-02.

Water Leakage Test	No leaks permitted
. As received	After 4 h under a 25 mm static head of water
. Aged 7 days at 70 +/- 2 C	After 4 h under a 25 mm static head of water
. Cold Shocked	After 4 h under a 25 mm static head of water, and after test panel has been slammed 6 times, following 24 h at - 30 C in slam fixture as described in FLTM BV 101-01
. Aged 50 minutes at 115 +/- 3 C	After 4 h under a 25 mm static head of water