



## ELASTOMERIC PARTS, INTERIOR PERFORMANCE

WSS-M9P8-C

### 1. SCOPE

The performance characteristics defined by this specification may be used to evaluate the environmental resistance of elastomeric parts in the passenger compartment.

### 2. APPLICATION

This specification was released originally to be used in conjunction with industry standards or material specifications to provide a coherent structure for all environmental testing of elastomeric parts.

An elastomeric part is defined as a material with a Durometer A hardness of 90 and below (Such as Soft TPE's TPE-V, SEBS, TEEE, TPU, etc) which fall in the 2D category.

Testing must be conducted on parts when possible.

#### 2.1 LIMITATIONS

Not applicable for dynamic sealing (WSS-M9P9-C/latest), weather strips (WSS-M9P10-B/latest), throw in mat assemblies (WSS-M9P11-A/latest), cargo/trunk mats (WSS-M9P11-A2/latest).

### 3. REQUIREMENTS

#### 3.1 APPROVED SOURCES

This specification is performance based and does not have approved sources.

#### 3.2 CONDITIONING AND TEST CONDITIONS

All test values are based on material conditioned for not less than 24 h prior to testing in a controlled environment of 23 +/- 2 °C and 50 +/- 5% relative humidity. Testing of the material should occur in the conditioning environment or soon after removal.

#### 3.3 DV/PV TEST PLAN

PEC/FEC/PV testing must be conducted in compliance with program milestones unless otherwise specified by Ford Engineering. See Table 1 for DV/PV testing.

#### 3.4 APPEARANCE

Color, gloss, grain, tactile effect shall match master Trim Sample and/or Master Appearance Sample as approved by Color and Materials.

#### 3.5 ENVIRONMENTAL TESTING

3.5.1 Short Term Environmental Cycling  
(FLTM BO 040-01 Procedure A, XX °C)

Rating 4 min

3.5.2 Long Term Environmental  
(FLTM BO 040-01 Procedure B, XX °C)

Rating 4 min

| Date       | Action   | Revisions                | Rev. 2             |
|------------|----------|--------------------------|--------------------|
| 2017 09 01 | Revised  | See Summary of Revisions | M. Nestorowich, NA |
| 2017 07 24 | Revised  | See Summary of Revisions | M. Nestorowich, NA |
| 2016 05 24 | Released |                          | B. Haggart, NA     |



The temperature to be used for testing of Short and Long Term Environmental is identified by vehicle location as shown in the table below

| Vehicle Location                                       | Test Temperature |
|--------------------------------------------------------|------------------|
| Horizontal or vertical parts at or above the belt line | 100+/- 2 °C      |
| Horizontal or vertical parts Below the belt line       | 90 +/- 2 °C      |
| Non – Sun Loaded                                       | 80 +/- 2 °C      |

**3.5.3 Humidity Exposure**  
(14 d at 38 +/- 1 °C, 95 - 100% R.H.)

**Requirements:**

The assemblies shall remain relatively unaffected by the exposure cycles during and after the tests as demonstrated:

- (1) Tactually/visually - no excessive tackiness, or surface-color change (AATCC Procedure 1, Rating 4, min); no cracking, chalking, wrinkling, distortion, blistering, warping, delamination, blushing, iridescence, hazing, milkiness, staining, waviness, bloom or other objectionable visual appearance.
- (2) Functionally - no excessive expansion, shrinking, or warping that will interfere with normal functional operations.
- (3) Any successful attempt to separate the components of coated and/or composite parts must result in cohesive failure only. Any adhesive failure will be cause for rejection.

**3.5.4 Cold Flexibility at -30°C** No cracks  
(180° bend over a 20 ± 1 mm diameter mandrel, sample size 50 x 150 ± 1 mm)

**3.5.5 Ozone Resistance (Except for TPE, TPO)** Rating 0 max  
(FLTM BP 101-01, Procedure A)

**3.6 COLOR PROPERTIES**

**3.6.1 Contact and Migration Staining of Paint**  
(FLTM BP 153-01 AATCC Evaluation Procedure 2)

No migration staining Rating 5 min  
Slight contact staining permitted Rating 4 min

(NOTE: Only required when an elastomeric part comes in contact with a painted surface.)

**3.6.2 Crocking Test** Rating 4 min  
(FLTM BN 107-01, AATCC Evaluation Procedure 2, Wet Method)

**3.6.3 Soiling and Cleanability (for light colors only)**  
(FLTM BN 112-08, AATCC Evaluation Procedure 2)

Standard Soil Rating 3 min  
Grease Rating 3 min  
Coffee Rating 3 min