



PERFORMANCE, ACOUSTICAL AND INSULATORS, INTERIOR ASSEMBLIES

WSS-M99P32-E1

1. SCOPE

This specification defines the minimum durability requirements of all interior, luggage compartment, and climate control sound absorption/insulation applications, where various materials are combined to provide an assembly having acoustical sound absorption/barrier/insulation and/or functional features. This does not include engine (hood) compartment insulators, thermal insulators, and/or exhaust shields. In addition, ultra-high temperature parts exposed to heat from turbochargers, EGR systems, exhaust pipes, fender stuffers and quarter wheelhouse insulators are not included.

2. APPLICATION

This specification was released originally for materials used as interior, luggage compartment, or climate control for sound absorption/insulation applications.

The following components are not in the scope of this performance specification

- Acoustic wheel arch/well liners: WSS-M99P32-E2/E3 (or latest)
- Acoustical underbody/engine shields: WSS-M99P32-E4/E5 (or latest)
- Engine compartment/hood/tunnel Insulators: WSS-M99P32-E6 (or latest)
- Foams without the primary purpose of NVH:
 - Without pressure-sensitive adhesive: WSS-M99P48-A1 (or latest)
 - With pressure-sensitive adhesive: WSS-M99P48-A3 (or latest)
 - For high temperature applications: WSS-M99P48-A4 (or latest)

3. REQUIREMENTS

3.1 APPROVED SOURCES

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

3.2 FINISHED PART REQUIREMENTS

Detailed part construction must be submitted along with results for the testing listed in Table 1 for initial approval. Data must be submitted via the Ford Materials Database (FMD) template. Design Verification (DV) is done on the part to verify supplier feasibility and Product Verification Testing (PV) is done on production parts. DV/PV and sample sizes are defined in Table 2.

In addition to the following minimum requirements, production assemblies must withstand normal handling during shipping, installation, use, and service, without tearing, breaking, or permanently deforming.

3.3 WEIGHT

Weight of each layer of a composite and the total composite shall be included on Engineering Drawing.

3.3.1 Weight per Unit Area (Non-Foams)
(FLTMM BN 106-01 Procedure A)

Report units (g/m²)

Date	Action	Revisions	Rev. 1
2017 07 27	Revised	See summary of revisions	Z. Jatkowski, NA
2017 02 16	Released		L. Sornig, Z. Jatkowski, NA



3.3.2 Net Density (Foams)
(FLTM BN 106-01 Procedure B)

Report units (kg/m³)

3.4 ODOR
(FLTM BO 131-03)

Rating 3 max

3.5 FOGGING
(SAE J1756, 3 h at 100 °C heating, 21 °C
cooling plate, posttest conditioning 16 h)

Fog Number

70 min

The formation of a clear (oily) film, droplets or crystals is cause for rejection.

All materials, parts and components should be stored in an open environment for 14-28 days after manufacture, and then must be bagged in heat sealed polyethylene (PE) or PE coated aluminum bags for shipping. Sample shall be tested as part of a production assembly composite if it is 100% bonded. If not 100% bonded, test each component separately. Parts for testing must be labelled with supplier and date of manufacture.

3.6 FLAMMABILITY
(ISO 3795)

Burn Rate

100 mm/minute max

If test specimens cannot be prepared with the proper dimensions (please refer to the test method listed above for the appropriate dimensions) using material cut from the part, properly sized/prepared specimens must be taken from material that has been molded into a blank.

Flame should be applied to the exposed side of the component, or both sides, if the A and B surfaces are exposed to high temperatures. Supplier shall document test conditions in their Control Plan (for PV).

3.7 CONSTRUCTION PROPERTIES

3.7.1 Resistance to Mildew
(7 days at 98 +/- 2% relative humidity and 38 +/- 2 °C,
Specimen size 100 mm x 100 mm)

Remove the part from the cabinet and evaluate (smell the sample) immediately. The part shall exhibit no visible evidence of mildew growth and / or objectionable odor after the 7-day exposure. In addition, part must not separate layers or show any other visual deterioration.

3.7.2 Environmental Testing
Conduct with the NVH or approved surrogate assembly mounted on an actual or simulated production support foundation with the approved retention methods.

3.7.2.1 Short Term Environmental Cycling
(FLTM BO 040-01, Procedure A, 80 °C)

3.7.2.2 Long Term Environmental
(FLTM BO 040-01, Procedure B, 80 °C)

*For Paras. 3.7.2.1 and 3.7.2.2, if it is agreed upon by Soft Trim Core Engineering that the maximum use temperature of a component is above the 80 °C requirement is not applicable.