



PERFORMANCE, VEHICLE INTERIOR ENVIRONMENT QUALITY MATERIAL REQUIREMENTS

WSS-M99P2222-F1

PERFORMANCE, VEHICLE INTERIOR ENVIRONMENT QUALITY MATERIAL ALLERGY AND DIRECT SKIN CONTACT REQUIREMENTS

WSS-M99P2222-F2

1. SCOPE

The purpose of this document is to establish guidelines pertaining to certain materials with regards to Odor, Fogging, the emission of Volatile Organic Carbon Compounds (VOC's) and direct skin contact with the vehicle occupants as required by regions to support governmental restrictions for manufacturing and sale of vehicles within the given region.

2. APPLICATION

WSS-M99P2222-F1 is applicable to requirements for odor, fogging, and the emission of VOCs only.

WSS-M99P2222-F2 is applicable to requirements for allergy and direct skin contact testing only.

The requirements established by this Standard apply to materials only defined by this document supplied to Ford and assembled into the cabin space. They apply equally to Tier 1 Suppliers, Full Service Suppliers, Proprietary (black box), and Ford-specified items.

3. REQUIREMENTS

3.1 APPROVED SOURCES

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

3.2 CONDITIONING AND TEST CONDITIONS

Table 1 lists test material type and criteria for testing.

Material supplier responsibilities:

- Shall use the Material Information Label in Appendix 1
- Sampling the test material immediately after manufacturing
- Preferred process-material supplier conditions the test specimens according to Table 1, Conditioning Period column
- After the 14 – 28 conditioning period or after manufacturing, test specimens must be placed in a new polyethylene (PE) coated aluminium bag or wrapped tightly in silicone-free aluminium foil then placed in a new PE bag for shipping to a test laboratory
- Test material shall be shipped to the test laboratory within the next business day of bagging/packaging

Test laboratory responsibilities:

Date	Action	Revisions	Rev. 02
2018 04 25	Editorial	See Summary of Revisions	D. Stark, NA
2017 07 27	Revised	Revised Organotin Compound limits 3.6.3	S. Riewer, EU
2017 03 17	Released		D. Stark, NA

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- Inspect test material bagging/packaging upon delivery. Damage to the bagging/packaging of the test material is cause for rejection and the test laboratory shall request additional test material from the material supplier
- If the test material has not been conditioned by the material supplier: within 5 business days of receiving the test material, cut out test specimens according to appropriate test methods listed under paragraph 3.4 of this specification
- Condition test specimens according to Table 1, Conditioning Period column
- After the 14 – 28 conditioning period, test specimens must either be tested immediately or placed in a new PE-coated aluminium bag or wrapped tightly in silicone-free aluminium foil then placed in a new PE bag until testing. Testing must be performed within 30 days of receiving the test material

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 TEST MATERIAL INFORMATION (WSS-M99P2222-F1 ONLY)

Table 1 Test material types and criteria for testing

Table 1: Test material types and criteria for testing				
Test Material Type	Test Material Dimensions	Conditioning Period	Color / Grain	Manufacturing Location
Leather (seating, steering wheel, IP, trim)	½ hide	14 – 28 days after manufacturing	Any color Note: Change in color or grain DOES NOT require material to be re-tested	Change in manufacturing location from original material approval DOES require material to be re-tested
Fabric (seating, headliner, trim)	1 m ²			
Polymeric Film (seating, IP, trim)				
Carpet (floor, luggage compartment, trunk, package tray, throw-in floor mats)				

3.4 REPORTING FORMAT AND DATA EXCHANGE

The data exchange file shall be constructed as follows. VOC concentrations as well as all other relevant parameters shall be reported and exchanged as a csv-formatted data file. Parameter values shall be separated by a comma, ASCII-Code #h2C. The decimal marker of numerical values shall be a point, ASCII-Code #h2E. Lines shall be terminated by carriage return, ASCII-Code #h0D. No thousands separators shall be used.

3.5 MATERIAL REQUIREMENTS (WSS-M99P2222-F1 ONLY)

Reference Appendix 3 for the list of capable laboratories that can conduct required testing
Use the reporting format listed in 3.4 REPORTING FORMAT AND DATA EXCHANGE

3.5.1 Odor
(FLTM BO 131-03)

Condition 1	Rating 3, max
Condition 2	Rating 3, max
Condition 3	Rating 3, max

3.5.2 10-L Bag Method
(FLTM BZ 108-01)

3.5.2.1	Formaldehyde	Report Values, $\mu\text{g}/\text{m}^3$
3.5.2.2	Acetaldehyde	Report Values, $\mu\text{g}/\text{m}^3$
3.5.2.3	Acrolein	Report Values, $\mu\text{g}/\text{m}^3$
3.5.2.4	Benzene	Report Values, $\mu\text{g}/\text{m}^3$
3.5.2.5	Toluene	Report Values, $\mu\text{g}/\text{m}^3$
3.5.2.6	Ethylbenzene	Report Values, $\mu\text{g}/\text{m}^3$
3.5.2.7	Xylenes	Report Values, $\mu\text{g}/\text{m}^3$
3.5.2.8	Styrene	Report Values, $\mu\text{g}/\text{m}^3$
3.5.2.9	Total VOC as Toluene equivalent	Report Values, $\mu\text{g}/\text{m}^3$

3.5.3 Fogging

3.5.3.1	Photometric (SAE J1756, 3 h at 100 °C heating, 21 °C Cooling plate, post-test conditioning 16 h)	70 min
Formation of clear film, droplets or crystals is cause for rejection		
3.5.3.2	Gravimetric (Leather Only) (SAE J 1756, Method B, 16 h at 100 °C heating, 21 °C cooling Plate, post conditioning 4 h)	4.0 mg. max or as required in Material Specifications

3.6 ALLERGEN REQUIREMENTS (WSS-M99P2222-F2 ONLY)– INTERIOR DIRECT SKIN CONTACT FOR LEATHER, FABRICS, POLYMERIC FILMS, WEBBING AND STEERING WHEEL IN-MOLD PAINT

These tests are obligatory for all materials which have a foreseeable direct skin contact longer than 30 seconds.

See Appendix 2 for affected components

See Appendix 3 for a list of capable laboratories that can conduct the tests required