



PERFORMANCE, INTERIOR TRIM COMPONENTS WITH APPLIQUES

WSS-M15P34-E

1. SCOPE

This specification defines the minimum performance requirements for interior decorative trim components with multilayer construction. It defines requirements for both the appliqué/decoration supplier and the production part supplier.

2. APPLICATION

This specification was released originally for components used on instrument panels and interior door trim panels. This specification includes constructions of wood, film, hydrographics, aluminum and excludes chrome plated plastics covered by WSS-M1P83-D1 or latest version and instrument clusters which are covered by WSS-M15P52-A or latest version.

3. REQUIREMENTS

3.1 STANDARD REQUIREMENTS FOR PRODUCTION MATERIALS

Material suppliers and part producers must conform to the Company's Standard Requirements for Production Materials (WSS-M99P1111-A).

The use of regrind is permitted, for economic/environmental reasons, with compliance as indicated in WSS-M99P1111-A.

3.2 CONSTRUCTION APPROVAL PROCESS

Construction approval of the technology must be obtained prior to any production part testing at DV or later. Construction approval is required before any production part will be approved by Materials Engineering.

3.2.1 Appliqué / Decoration New Technology or New Supplier Requirements

The following samples are the minimum required for a technology or new supplier approval by Materials Engineering. Full specification testing is required.

Films	3 different ink patterns using the same construction (Recommend wood grain, metallic, and a geometric pattern)
Hydrographics	3 different ink patterns using the same construction (Recommend wood grain, metallic, and a geometric pattern)
Real Wood	3 different wood types with one being a burl
Aluminum	2 different patterns (Recommend a brushed and geometric pattern)

Date	Action	Revisions	Rev 04
2017 08 02	Editorial	See Summary of Revisions	A. Collins, NA
2016 03 29	Editorial	See Summary of Revisions	S. Draheim, NA
2013 12 03	Released		S. Draheim, NA



3.2.2 Part Approval Process

Part approval consists of Construction Approval, MCDCC (Material Color Durability Compliance Certification) Form Approval and DV/PV Testing.

3.2.2.1 Required Testing

Testing required based on your level of approval is identified in Table 1.

3.2.2.2 Supplier Responsibility

Appliqué/Decoration supplier

The Appliqué/Decoration Supplier is responsible for Construction Approval and New Color and Pattern testing. Tests shall be performed on plaques with a substrate material or surrogate parts processed in the same manner as production components.

Production Part Supplier

The Production Part Supplier is responsible for DV and PV testing. Tests shall be performed on actual components processed through the production process. Where this is not possible, plaques can be used if approved by Materials Engineering. These shall be the same substrate material processed in the same manner as production components.

When plaques are used as a substitute for actual components, this must be clearly reported on the PSW or the laboratory test report.

3.2.2.3 Appliqué/Decoration Construction Approval Form

For each new construction the following must be noted on the Construction Approval Form found in paragraph. 4.1

Substrate	Material type i.e. ABS, PC, PC+ABS, PP, Glass Filled PA, TPO or as specified on the Engineering Document. Thickness not required
Backing Sheet	Material type and thickness range i.e. ABS, PC, PC+ABS, (This is the layer that will be bonding to the substrate) This is for films only.
Middle Layers	Inking layer and or any other layers other than top coat layer material type and thickness range.
Top Coat	Material type and thickness range suitable to meet the requirements of this specification.

Note: Any deviation to the ranges identified on the Construction Approval Form will require a new submittal to Materials Engineering.



3.3 TEST SPECIMEN PREPARATION

All test panels or specimens must be conditioned in a controlled atmosphere of 23 +/- 2 °C and 50 +/- 5% relative humidity for not less than 24 hrs prior to testing and tested under the same conditions unless otherwise specified.

3.4 THICKNESS OF LAYERS

Report Values

(FLTM BI 117-01 Metallic Substrates, PELT or equivalent,
ASTM B487, Non-Metallic Substrates, PELT or equivalent)

All areas of the component visible after assembly must be evaluated/tested, including flanges, parting lines, styling lines and grooves. Measurements must be taken on all layers except substrate. Values must be within the range specified in the Materials Engineering Approved Construction Form unless mutually agreed upon by Materials Engineering

3.5 APPEARANCE

Color, pattern, gloss, grain, tactile effect and surface finish shall match master Trim Sample and/or Master Appearance Sample as approved by Corporate Design.

The top coating shall exhibit no craters, pinholes, solvent popping, seediness, abnormal roughness, excessive flow or any other detrimental defect.

3.5.1 Color

(FLTM BI 109-01, Visual Assessment and/or
SAE J1545, Three-Angle CMC)

Shall match
the Master
Approved
Sample.

3.5.2 Gloss

(FLTM BI 110-01, ASTM D 523)

Per
Engineering
Drawing

Gloss Table

A:	20° Glossmeter	92
B:	60° Glossmeter	76 - 84
C:	60° Glossmeter	66 - 74
D:	60° Glossmeter	58 - 66
E:	60° Glossmeter	47 - 53
F:	60° Glossmeter	33 - 38
G:	60° Glossmeter	17 - 23
H:	60° Glossmeter	7 - 13
J:	60° Glossmeter	4 - 6
K:	60° Glossmeter	2 - 4
L:	60° Glossmeter	0.5 - 2.0
N:	60° Glossmeter	1.8 - 2.4
R:	60° Glossmeter	1.2 - 1.6

The color, pattern and finish shall match the approved Design Center master sample, or shall be as specified on the Engineering Document.

Note: Obtaining an accurate gloss reading must be performed on a smooth flat surface or ungrained part. Use the table above to translate the gloss measurements to the appropriate Rating.

**3.6 RESISTANCE PROPERTIES**

- 3.6.1 Adhesion, Scribe Test
(FLTM BI 106-01, Method B, except use a knife) Grade 0 max
- Real Wood Appliques only
(FLTM BI 106-01, Method D, except use a knife) 10% max,
No complete Diamond
Removed
- 3.6.2 Water Resistance,
(FLTM BI 104-01, 96 hrs) Grade 0 max
- No blistering, softening, dulling or loss of adhesion when tested for adhesion per paragraph 3.6.1 within 30 minutes of removal from water.
- Real Wood Appliques only 10% max,
No complete Diamond
Removed
- No blistering, softening, dulling when tested for adhesion per paragraph 3.6.1 between 24 and 30 hrs. after removal from water.
- 3.6.3 Long Term Heat Exposure
(ISO 105-A02/AATCC Procedure 1) Rating 4 min
- Test one previously unexposed part as follows:
- 3.6.3.1 Horizontal or vertical parts AT OR ABOVE THE BELT-LINE:
7 days at 100 +/- 2 °C
- 3.6.3.2 Horizontal or vertical parts BELOW THE BELT-LINE:
7 days at 90 +/- 2 °C
- 3.6.3.3 SCUFF PLATES AND LOAD FLOOR parts:
7 days at 80 +/- 2 °C
- Appearance Evaluation: no evidence of cracks, blisters or change in gloss when compared with original un-aged sample is allowed.
- The Maximum temperature at which the parts were tested must be clearly reported on the PSW or the laboratory report.
- 3.6.3.4 Adhesion after Long Term Heat Exposure
And Water Resistance
(Per Paragraph 3.6.2, except 24 hrs.) Grade 1 max
- Real Wood Appliques only 10% Max,
No complete
Diamond
Removed



3.6.4 Short Term Heat, Humidity and Cold Cycle (ISO 105-A02/AATCC Procedure 1)

Rating 4 min

3.6.4.1 Horizontal or vertical parts AT OR ABOVE THE BELT-LINE (e.g. sail; A-, B-, C, and D-Pillars; upper quarter panels; center finish panels, demisters and roof-rail moldings):

5 h at -30 +/- 2 °C
30 min at 23 +/- 2 °C and 50 +/- 5% Relative humidity
5 h at 100 +/- 2 °C
30 min at 23 +/- 2 °C and 50 +/- 5% Relative humidity
2 h at 50 +/- 2 °C and 95 +/- 5% Relative humidity
30 min at 23 +/- 2 °C and 50 +/- 5% Relative humidity
5 h at -30 +/- 2 °C
30 min at 23 +/- 2 °C and 50 +/- 5% Relative humidity
5 h at 100 +/- 2 °C

3.6.4.2 Horizontal or vertical parts BELOW THE BELT LINE (e.g. lower door panels, lower quarter trim panels, consoles).

5 h at -30 +/- 2 °C
30 min at 23 +/- 2 °C and 50 +/- 5% Relative humidity
5 h at 90 +/- 2 °C
30 min at 23 +/- 2 °C and 50 +/- 5% Relative humidity
2 h at 50 +/- 2 °C and 95 +/- 5% Relative humidity
30 min at 23 +/- 2 °C and 50 +/- 5% Relative humidity
5 h at -30 +/- 2 °C
30 min at 23 +/- 2 °C and 50 +/- 5% Relative humidity
5 h at 90 +/- 2 °C

3.6.4.3 SCUFF PLATES AND LOAD FLOOR parts.

5 h at -30 +/- 2 °C
30 min at 23 +/- 2 °C and 50 +/- 5% Relative humidity
5 h at 80 +/- 2 °C
30 min at 23 +/- 2 °C and 50 +/- 5% Relative humidity
2 h at 50 +/- 2 °C and 95 +/- 5% Relative humidity
30 min at 23 +/- 2 °C and 50 +/- 5% Relative humidity
5 h at -30 +/- 2 °C
30 min at 23 +/- 2 °C and 50 +/- 5% Relative humidity
5 h at 80 +/- 2 °C

Appearance Evaluation: No evidence of cracks, blisters or change in gloss when compared with original un-aged sample.

The maximum temperature or cycle at which the parts were tested must be clearly reported on the PSW or the laboratory report.

3.6.4.4 Adhesion after Short Term Heat, Humidity and Cold Cycle And Water Resistance (Per Paragraph 3.6.2, except 24 hrs)

Grade 1 max.

Real Wood Appliques only

10% Max,
No complete
Documents
Removed



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