



**PERFORMANCE, INNER BODY WATERSHIELD, NON-EXPOSED,
SELF-SUPPORTING, PRESSURE SENSITIVE ADHESIVE,
REPOSITIONABLE**

WSS-M15P36-A3

**PERFORMANCE, INNER BODY WATERSHIELD, EXPOSED,
SELF-SUPPORTING, PRESSURE SENSITIVE ADHESIVE,
REPOSITIONABLE**

WSS-M15P36-A4

1. SCOPE

These specifications define the minimum performance requirements of inner body watershields. They are composed of a pressure sensitive adhesive bead on one side of a polymeric base material affixed to production painted inner body assemblies. The polymeric base material typically has three-dimensional thermoformed features that permit conformation to uneven surfaces where mechanical hardware and wiring is present. The watershield shall have sufficient inherent stiffness to permit ease of handling and positioning/repositioning during assembly without wrinkling, folding, or bending.

2. APPLICATION

These specifications were released to define the performance of polymeric watershields where removal and repositioning may be performed within 72 hours after application without damage. The constructions described in these specifications are for use within the internal body spaces such as the door inner, quarter panel, liftgate, and similar enclosed regions.

WSS-M15P36-A3: For watershields not requiring compliance to FMVSS 302 (not exposed to the vehicle interior-covered by interior trim panel).

WSS-M15P36-A4: For watershields requiring compliance to FMVSS 302 (exposed to the vehicle passenger interior-such as "stripped chassis units").

Note: Some pressure sensitive adhesives can soften above 80 °C allowing the watershield to slide downward. If the three-dimensional design features of the watershield or trim panel interference do not prevent sliding, additional mechanical fastening features may be required. Pressure sensitive adhesives may not be applied to contaminated, moist, or chilled surfaces. Contamination of the adhesive during watershield installation (i.e., lint from gloves) must be avoided.

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).

Additionally, approval to this specification assumes that the finished article meets all applicable SDS, CETP, ES, and Functional Trial requirements.

Date	Action	Revisions
2007 07 10	Activated	



Documents

B. Witkowski

Document Sharing Hub

**3.2 WATERSHIELD STORAGE STABILITY AND SEPARATION BEHAVIOR (BLOCKING)**

This test evaluates the resistance of stacked production parts from adhering to one another during transportation and storage. Table 1 is provided as a reference for test requirements.

Table 1 Test Matrix

Test Requirement	Material As Received	Summer Cycle	Winter Cycle
Thickness	X		
Flammability (WSS-M15P36-A4 only)	X		
Odor	X		
Fogging	X		
Water Absorption	X		
Mildew Resistance	X		
Low Temperature Flexibility	X		
Separation Behavior		X	X
Dimensional Stability		X	X
Adhesive Bridging	X		
Water Leak Test & Repositionability	X		
Tensile Load to Break	X		
Elongation	X		
Tear Strength	X		
Initial Peel Adhesion	X		
Peel Adhesion after Humidity Aging	X		
Peel Adhesion after Heat Aging	X		

Test Method: Production parts with pressure sensitive adhesive bead, (including release papers), shall be stacked and subjected to conditions described below. The number of parts in a stack and their orientation shall be the same as that of actual shipping and storage, if production storage and shipping racks have a vertical orientation, three panels may be used for the following test. Partial panels may be used for the separation behavior and dimensional stability testing, provided that documentation is provided to prove part orientation. (Note: 5 watershields may be used in place of a full stack, provided that a mass equivalent to a full stack of watershields (less the 5 parts for the test) is placed evenly over the top of the panels. Documentation should be provided for the number of panels tested, their orientation, and the type of shipping/storage system used.

- 3.2.1 Simulated Summer Storage Conditions: Place the stack of watershields horizontally in an oven maintained at 70 +/- 2 °C for 8 hours. Carefully remove the stack from the oven, lifting from the bottom, and allow it to rest undisturbed for 16 hours at 23 +/- 2 °C at 50 +/- 5% R.H. Repeat this for a total of 10 heat cycles. Material may rest between oven exposures at 23 +/- 2 °C at 50 +/- 5% R.H. for a period of 48 hours maximum to accommodate weekend downtime, with a maximum of two downtime periods for the test. At the end of 10 cycles, turn the stack over and individually separate the bottom three watershields by peeling them off at a 90° angle and evaluate samples per section 3.4.6.1.



- 3.2.2 Simulated Winter Storage Conditions: Place a stack of watershields horizontally in a freezer maintained at -30 ± 2 °C for 8 hours. Carefully remove the stack from the freezer, lifting from the bottom, and allow it to rest undisturbed for 16 hours at 23 ± 2 °C at $50 \pm 5\%$ R.H. Repeat this for a total of 10 cold cycles. Material may rest between oven exposures at 23 ± 2 °C at $50 \pm 5\%$ R.H. for a period of 48 hours maximum to accommodate weekend downtime, with a maximum of two downtime periods for the test. At the end of 10 cycles, turn the stack over and individually separate the bottom three watershields by peeling them off at a 90° angle and evaluate samples per section 3.4.6.2.

3.3 BASE MATERIAL

	WSS-M15P36-A3	WSS-M15P36-A4
3.3.1 Thickness, mm, min (ISO 1923)	As specified on the Engineering Drawing	As specified on the Engineering Drawing
3.3.2 Flammability, max (ISO 3795/SAE J369)	Not Required	100 mm/minute

3.4 BASE MATERIAL WITH ADHESIVE

Note: Generic base material description and adhesive type will be documented in the Approved Source List in the General Comments Section.

3.4.1 Odor, max (SAE J1351)	Rating 3
3.4.2 Fogging, min (SAE J1756, 3 h at 100 °C heating, 21 °C cooling plate, post test conditioning 1 h and 16 h. Include a quantity of adhesive at the same ratio of adhesive to base material as that of the complete watershield. Bond aluminum foil to the exposed adhesive and place sample with polymer base material on top, aluminum foil covered adhesive facing downward into the test vessel.)	70
3.4.3 Water Absorption, % by weight, max (ASTM D 1056)	5%
Include a quantity of adhesive at the same ratio of adhesive to base material as that of the complete watershield.	
3.4.4 Mildew Resistance (168 h, 38 °C $\pm$ 2 °C, 95% R.H. Prepare 100 mm x 300 mm test pieces with adhesive)	No evidence of mildew and odor rating of 2 maximum
3.4.4.1	Evaluate panel for formation of mold and mildew growth via visual inspection, noting any growth, black/white spots, any evidence of growth will be considered a failure.