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TEST REPORT

PRODUCT: FBR 1950
 SUPPORT: PORON FOAM
 SUBSTRATE: PC ABS
 CERT NO.: 221215 - 1432



GMW 16443-TYPE-II-EXTERIOR-CYCLE-C

OEM Rev Date: Aug 18
 Adhesion Performance Requirements For Adhesive Backed Light Trim and Foam
 Type II - An adhesive backed foam composite that is retained by the adhesive for the life of the vehicle

Passing Type II Meets and Exceeds 3.5.1 Type I Exposure Requirements

TAPE REQUIREMENTS:

3.5.2 TYPE-II Exposure

SECTION 3.3.3 Edge Adhesion

3.5.3, Initial, As Received - 24 hrs @ RT

3.5.4, Heat Aged 168 hrs @ 80°C per ISO 188

3.5.5, After Humidity 168 hrs @ 38°C / 100% RH per GMW 14729 Option A

3.5.6, Cycle Exposure, GMW 14124, 2x Cycle C
 17 hrs @ -30°C
 72 hrs @ 70°C
 24 hrs @ 38°C / 100% RH
 7 hrs @ -30°C
 24 hrs @ 38°C / 100% RH
 7 hrs @ 70°C
 24 hrs @ 38°C / 100% RH

3.5.8, Cold Shock, 72 hrs @ 54°C, 4 hrs @ -30°C

<u>Specification</u>	<u>Results</u>	<u>Status</u>
Securely Bonded	Stable, No Lifting or Removal	Pass
Securely Bonded	Stable, No Lifting or Removal	Pass
Securely Bonded	Stable, No Lifting or Removal	Pass
Securely Bonded	Stable, No Lifting or Removal	Pass
Securely Bonded	Stable, No Lifting or Removal	Pass
Securely Bonded	Stable, No Lifting or Removal	Pass

SECTION 3.4 Peel Adhesion

ISO 8510-2

3.5.3, Initial, As Received - 24 hrs @ RT

3.5.4, Heat Aged 168 hrs @ 80°C per ISO 188

3.5.5, After Humidity 168 hrs @ 38°C / 100% RH per GMW 14729 Option A

3.5.6, Cycle Exposure, GMW 14124, 2x Cycle C
 17 hrs @ -30°C
 72 hrs @ 70°C
 24 hrs @ 38°C / 100% RH
 7 hrs @ -30°C
 24 hrs @ 38°C / 100% RH
 7 hrs @ 70°C

3.5.8, Cold Shock, 72 hrs @ 54°C, 4 hrs @ -30°C

<u>Specification</u>	<u>Results</u>	<u>Mode</u>	<u>Status</u>
525 N / m	657.9	CF	Pass
525 N / m	666.1	CF	Pass
525 N / m	457.1	CF	Pass
525 N / m	672.5	CF	Pass
525 N / m	566.8	AF-P	Pass

SECTION 3.5.8 Cold Shock

3.5.8, Cold Shock, 72 hrs @ 54°C, 4 hrs @ -30°C

<u>Specification</u>	<u>Results</u>	<u>Status</u>
No Separation from 2	No Impact Separation	Pass

SECTION: 3.7.1 Release Liner

3.7.2, Liner Removal @ RT

<u>Specification</u>	<u>Results</u>	<u>Status</u>
< 65 N / m	15.8	Pass

CERTIFIED BY:

Dave Nichols Jr, Automotive Lab Technician

ISSUE DATE: 1-1-24

Materials tested to OEM requirements @ 72°F +/- 2°F and 50% RH +/- 5%. Test uncertainty and minor exclusions are available online or upon request.

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Status opinion based upon measurements obtained by personnel with appropriate training and professional experience.

This laboratory is not accredited for the calibrations or tests marked *.

Appendix A Table A2

PRODUCT: **FBR 1950**
 SUPPORT: **PORON FOAM**
 SUBSTRATE: **PC ABS**
 CERT NO.: 221215 - 1432

Table A2: GMW16443 Type II Applications Test Data Form

Section	Test	Standard	Requirements	Sample	Visual Edge Adhesion	Peel N/m	Failure Mode
3.5.3	Initial, As Received - 24 hrs @ RT	ISO 8510-2	Minimum of 525 N/m and Cohesive Failure of One or Both of the Adherends	1	Stable, No Lifting or Removal	800.3	CF
				2	Stable, No Lifting or Removal	705.8	CF
				3	Stable, No Lifting or Removal	467.6	CF
3.5.4	Heat Aged 168 hrs @ 80°C per ISO 188			1	Stable, No Lifting or Removal	616.4	CF
				2	Stable, No Lifting or Removal	591.9	CF
				3	Stable, No Lifting or Removal	789.8	CF
3.5.5	After Humidity 168 hrs @ 38°C / 100% RH per GMW 14729 Option A			1	Stable, No Lifting or Removal	443.1	CF
				2	Stable, No Lifting or Removal	458.8	CF
				3	Stable, No Lifting or Removal	469.3	CF
3.5.6	Cycle Exposure, GMW 14124, 2x Cycle C			1	Stable, No Lifting or Removal	711.0	CF
				2	Stable, No Lifting or Removal	579.7	CF
				3	Stable, No Lifting or Removal	726.8	CF
				1			
				2			
				3			
3.5.8	Cold Shock, 72 hrs @ 54°C, 4 hrs @ -30°C	1	Stable, No Lifting or Removal	537.6	CF		
		2	Stable, No Lifting or Removal	544.6	CF		
		3	Stable, No Lifting or Removal	618.2	CF		

Section	Test	Standard	Requirements	Sample	Result
3.6	Tape Wet Out, GMW15851	GMW 15851 is restricted and we cannot purchase	85% Tape Wet Out	1	Not Tested
				2	Not Tested
				3	Not Tested
3.7.1	Release Liner Contact	To Be Determined @ Tier	No Lift Prior To Vehicle Install	1	TBD
				2	TBD
				3	TBD
3.7.2	Liner Removal	ISO 8510-2	Less Than Or Equal To 65 N/m	1	12.3
				2	17.5
				3	17.5