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## Dow Corning Construction Industry System General Test Laboratory Report - Sealant Adhesion

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**Project Name:** General Test - Mitsubishi Plastics Composites America, Inc., Chesapeake, Virginia UNITED STATES  
**Job Number:** 0000065884  
**Job Name:** Mitsubishi Plastics Composites America, Inc. - General Test - Composite Panels  
**Job Address:** 401 Volvo Parkway  
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**Customer:** Mitsubishi Plastics Composites America, Inc.  
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ADHESION TESTING (Modified ASTM C794 Adhesion-in-Peel of Elastomeric Joint Sealants) or (ETAG 002 Paragraph 8.3.2.4)

This letter summarizes the final results of the peel adhesion testing of the Dow Corning® Weatherproofing Sealants as you requested.

**Method Description:** Substrates are cleaned and primed if necessary. The requested Dow Corning sealant is applied to the prepared substrate and a mesh is imbedded to a uniform depth into the wet sealant. More sealant is applied over the first bead and mesh screen; and then the excess sealant, while still wet, is removed beyond the edge of the mesh screen. Samples are allowed to cure 7 days at 73 +/- 4 Deg F and 50% +/- 5% RH. A pull test is then performed. The sample is then immersed in water for one day, and another pull test is performed.

**General Test Guidelines:** The attached test results performed as a "General Test" do not constitute an approval by Dow Corning for any Dow Corning Sealant application. The substrates provided, tests performed and test results were made at your request according to ASTM C794 testing with reporting of peel strength (lbs/in) and mode of failure (% cohesive). Dow Corning disclaims any responsibility and/or liability for use of the peel strength and mode of failure test results in any project specific application as conditions and methods of use are beyond our control. The results of these tests are not sufficient to obtain a Dow Corning warranty on a current or future project. If a Dow Corning warranty is required or requested for an intended end use, additional samples and retesting must be performed by a Dow Corning test lab as outlined in the Americas Technical Manual.

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Adhesion Test Results										
Product	Primer	Material Failure	1 Day Cure at Room Temperature		7 Day Cure at Room Temperature		1 Day Water Immersion		7 Day Water Immersion	
			Peel Strength (pli)	Cohesive Failure %	Peel Strength (pli)	Cohesive Failure %	Peel Strength (pli)	Cohesive Failure %	Peel Strength (pli)	Cohesive Failure %
<b>1. Substrate:</b> Aluminum - Kynar Fluoropolymer Paint , White CUX Paint Finish, Painted Face										
<b>Solvent :</b> Isopropanol										
<b>Received on :</b> 29 Mar 2011										
756SMS	1200-OS	N			56	100	60	100		
756SMS	NONE	N			52	0	32	40		
790	1200-OS	N			26	90	24	100		
790	NONE	N			24	100	22	100		
791	1200-OS	N			30	100	28	100		
791	NONE	N			34	100	30	100		
795	1200-OS	N			20	100	28	90		
795	NONE	N			20	100	24	60		
795	PRIMER_CN	N			32	100	32	100		
983SGS	1200-OS	N	16	100	16	100	20	100	20	100
983SGS	NONE	N	2	0	8	50	4	0	12	80
983SGS	PRIMER_CN	N	16	100	16	100	24	100	26	100
995	1200-OS	N			42	100	38	100		
995	NONE	N			38	100	42	100		
995	PRIMER_CN	N			40	100	42	100		
<b>2. Substrate:</b> Aluminum - Kynar Fluoropolymer Paint , Primed Back on CUX Panel, Back										
<b>Solvent :</b> Isopropanol										
<b>Received on :</b> 29 Mar 2011										
795	1200-OS	N			22	90	26	90		
795	NONE	N			10	10	12	0		
795	PRIMER_CN	N			26	100	28	100		
983SGS	1200-OS	N	20	100	16	100	18	100	16	100
983SGS	NONE	N	14	0	12	100	20	100	18	100
983SGS	PRIMER_CN	N	26	100	24	100	20	100	26	100
995	1200-OS	N			30	100	38	100		
995	NONE	N			26	100	26	100		
995	PRIMER_CN	N			34	100	34	100		

Product	Primer	Material Failure	1 Day Cure at Room Temperature		7 Day Cure at Room Temperature		1 Day Water Immersion		7 Day Water Immersion	
			Peel Strength ( pli )	Cohesive Failure %	Peel Strength ( pli )	Cohesive Failure %	Peel Strength ( pli )	Cohesive Failure %	Peel Strength ( pli )	Cohesive Failure %
<b>3. Substrate:</b> Aluminum - Kynar Fluoropolymer Paint , MTLC SMX Silver Paint, Painted Face										
<b>Solvent :</b> Isopropanol										
<b>Received on :</b> 29 Mar 2011										
756SMS	1200-OS	N			60	100	42	10		
756SMS	NONE	N			32	30	36	60		
790	1200-OS	N			24	100	22	100		
790	NONE	N			24	100	30	100		
791	1200-OS	N			34	100	32	100		
791	NONE	N			36	100	28	100		
795	1200-OS	N			24	100	30	100		
795	NONE	N			5	0	14	10		
795	PRIMER_CN	N			30	100	28	100		
983SGS	1200-OS	N	24	100	16	100	16	100	22	100
983SGS	NONE	N	20	0	10	0	16	100	16	100
983SGS	PRIMER_CN	N	26	100	16	100	22	100	24	100
995	1200-OS	N			34	100	36	100		
995	NONE	N			36	100	32	100		
995	PRIMER_CN	N			38	100	40	100		
<b>4. Substrate:</b> Aluminum - Kynar Fluoropolymer Paint , Primed Back on SMX Panel, Back										
<b>Solvent :</b> Isopropanol										
<b>Received on :</b> 29 Mar 2011										
795	1200-OS	N			24	100	30	100		
795	NONE	N			26	100	28	100		
983SGS	1200-OS	N	24	100	16	100	22	100	22	100
983SGS	NONE	N	24	60	12	100	18	100	20	100
995	1200-OS	N			34	100	36	100		
995	NONE	N			32	100	38	100		

Product	Primer	Material Failure	1 Day Cure at Room Temperature		7 Day Cure at Room Temperature		1 Day Water Immersion		7 Day Water Immersion	
			Peel Strength ( pli )	Cohesive Failure %	Peel Strength ( pli )	Cohesive Failure %	Peel Strength ( pli )	Cohesive Failure %	Peel Strength ( pli )	Cohesive Failure %
<b>5. Substrate:</b> Aluminum - Polyester Painted, White Polyester SWT Paint, Painted Face										
<b>Solvent :</b> Isopropanol										
<b>Received on :</b> 29 Mar 2011										
756SMS	1200-OS	N			50	30	42	20		
756SMS	NONE	N			42	10	32	0		
790	1200-OS	N			2	0	2	0		
790	NONE	N			2	0	4	0		
791	1200-OS	N			30	100	28	100		
791	NONE	N			32	100	28	100		
795	1200-OS	N			22	100	28	100		
795	NONE	N			26	100	32	100		
795	PRIMER_CN	N			26	100	30	100		
983SGS	1200-OS	N	22	100	8	100	18	100	20	100
983SGS	NONE	N	24	100	16	100	16	100	22	100
983SGS	PRIMER_CN	N	28	100	16	100	20	100	22	100
995	1200-OS	N			36	100	36	100		
995	NONE	N			38	100	36	100		
995	PRIMER_CN	N			38	100	44	100		
<b>6. Substrate:</b> Stainless Steel, Stainless Back on SWT Panel, Back										
<b>Solvent :</b> Isopropanol										
<b>Received on :</b> 29 Mar 2011										
795	1200-OS	N			30	100	32	80		
795	NONE	N			28	100	24	100		
983SGS	1200-OS	N	28	100	18	100	18	100	26	100
983SGS	NONE	N	26	100	20	100	18	100	28	100
995	1200-OS	N			40	100	34	100		
995	NONE	N			34	100	34	100		

Product	Primer	Material Failure	1 Day Cure at Room Temperature		7 Day Cure at Room Temperature		1 Day Water Immersion		7 Day Water Immersion	
			Peel Strength ( pli )	Cohesive Failure %	Peel Strength ( pli )	Cohesive Failure %	Peel Strength ( pli )	Cohesive Failure %	Peel Strength ( pli )	Cohesive Failure %
<b>7. Substrate:</b> Copper, Copper CCM Panel, Face										
<b>Solvent :</b> Isopropanol										
<b>Received on :</b> 29 Mar 2011										
756SMS	1200-OS	N			54	100	62	100		
756SMS	NONE	N			38	0	24	20		
791	1200-OS	N			36	100	28	100		
791	NONE	N			16	0	18	40		
795	1200-OS	N			34	90	32	100		
795	NONE	N			8	0	4	0		
983SGS	1200-OS	N	26	100	18	100	16	100	26	100
983SGS	NONE	N	2	0	2	0	4	0	10	50
995	1200-OS	N			38	100	38	100		
995	NONE	N			40	100	42	100		
<b>8. Substrate:</b> Copper, Copper Back on CCM Panel, Back										
<b>Solvent :</b> Isopropanol										
<b>Received on :</b> 29 Mar 2011										
795	1200-OS	N			20	100	26	80		
795	NONE	N			18	50	14	0		
983SGS	1200-OS	N	30	0	18	100	18	100	24	100
983SGS	NONE	N	2	0	18	100	10	0	2	0
995	1200-OS	N			34	100	32	100		
995	NONE	N			38	100	38	100		
<b>9. Substrate:</b> Zinc, EM ZR Zinc ZCM Panel, Face										
<b>Solvent :</b> Isopropanol <b>Received on :</b> 29 Mar 2011										
756SMS	1200-OS	N			62	100	40	80		
756SMS	NONE	N			32	0	22	10		
790	1200-OS	N			24	100	16	100		
790	NONE	N			26	100	18	100		
791	1200-OS	N			36	100	36	100		
791	NONE	N			36	100	26	100		
795	1200-OS	N			26	100	34	100		
795	NONE	N			18	20	8	0		
983SGS	1200-OS	N	26	100	16	100	16	100	24	100
983SGS	NONE	N	2	0	16	100	12	80	16	50
995	1200-OS	N			32	100	32	100		
995	NONE	N			28	100	22	100		

Product	Primer	Material Failure	1 Day Cure at Room Temperature		7 Day Cure at Room Temperature		1 Day Water Immersion		7 Day Water Immersion	
			Peel Strength ( pli )	Cohesive Failure %	Peel Strength ( pli )	Cohesive Failure %	Peel Strength ( pli )	Cohesive Failure %	Peel Strength ( pli )	Cohesive Failure %
<b>10. Substrate:</b> Zinc, Zinc Back on ZCM Panel, Back										
<b>Solvent :</b> Isopropanol										
<b>Received on :</b> 29 Mar 2011										
795	1200-OS	N			28	100	32	100		
795	NONE	N			22	90	26	100		
983SGS	1200-OS	N	24	100	20	100	20	100	26	100
983SGS	NONE	N	8	0	18	100	16	100	16	100
995	1200-OS	N			36	100	34	100		
995	NONE	N			40	100	36	100		
<b>11. Substrate:</b> Stainless Steel, EM Stainless 220M Stainless Panel, Face										
<b>Solvent :</b> Isopropanol										
<b>Received on :</b> 29 Mar 2011										
756SMS	1200-OS	N			62	100	22	0		
756SMS	NONE	N			58	100	8	0		
790	1200-OS	N			24	90	4	0		
790	NONE	N			16	20	4	0		
791	1200-OS	N			36	100	32	100		
791	NONE	N			34	100	30	100		
795	1200-OS	N			32	90	26	70		
795	NONE	N			28	80	30	50		
983SGS	1200-OS	N	18	100	16	100	22	100	20	100
983SGS	NONE	N	24	100	16	100	14	20	6	30
995	1200-OS	N			34	100	38	100		
995	NONE	N			38	100	40	100		
<b>12. Substrate:</b> Stainless Steel, Stainless Back on 220m Stainless Panel, Back										
<b>Solvent :</b> Isopropanol										
<b>Received on :</b> 29 Mar 2011										
795	1200-OS	N			28	90	32	90		
795	NONE	N			34	100	36	90		
983SGS	1200-OS	N	18	100	18	100	22	100	22	100
983SGS	NONE	N	18	100	18	100	14	80	14	80
995	1200-OS	N			32	100	38	100		
995	NONE	N			38	100	42	100		

Product	Primer	Material Failure	1 Day Cure at Room Temperature		7 Day Cure at Room Temperature		1 Day Water Immersion		7 Day Water Immersion	
			Peel Strength ( pli )	Cohesive Failure %	Peel Strength ( pli )	Cohesive Failure %	Peel Strength ( pli )	Cohesive Failure %	Peel Strength ( pli )	Cohesive Failure %
<b>13. Substrate:</b> EM Titanium TCM Panel, Face										
<b>Solvent :</b> Isopropanol										
<b>Received on :</b> 29 Mar 2011										
756SMS	1200-OS	N			38	0	22	0		
756SMS	NONE	N			16	0	8	0		
790	1200-OS	N			28	100	30	100		
790	NONE	N			18	0	8	0		
791	1200-OS	N			10	0	4	0		
791	NONE	N			4	0	4	0		
795	1200-OS	N			10	0	10	0		
795	NONE	N			6	0	10	0		
983SGS	1200-OS	N	12	10	12	30	16	50	6	0
983SGS	NONE	N	2	0	4	0	2	0	2	0
995	1200-OS	N			10	0	10	0		
995	NONE	N			6	0	2	0		
<b>14. Substrate:</b> Back of Titanium TCM Panel, Back										
<b>Solvent :</b> Isopropanol										
<b>Received on :</b> 29 Mar 2011										
795	1200-OS	N			34	90	38	70		
795	NONE	N			18	30	22	10		
983SGS	1200-OS	N	28	100	18	100	20	100	20	100
983SGS	NONE	N	6	0	14	90	2	0	2	0
995	1200-OS	N			42	100	46	100		
995	NONE	N			32	100	12	10		

Product	Primer	Material Failure	1 Day Cure at Room Temperature		7 Day Cure at Room Temperature		1 Day Water Immersion		7 Day Water Immersion	
			Peel Strength ( pli )	Cohesive Failure %	Peel Strength ( pli )	Cohesive Failure %	Peel Strength ( pli )	Cohesive Failure %	Peel Strength ( pli )	Cohesive Failure %

**15. Substrate:** Aluminum - Polyester Painted, TRD Red HPP Polyester Painted Panel, Painted Face

**Solvent :**Isopropanol

**Received on :**29 Mar 2011

756SMS	1200-OS	N			58	100	52	100		
756SMS	NONE	N			38	30	30	20		
790	1200-OS	N			22	100	24	100		
790	NONE	N			24	100	26	100		
791	1200-OS	N			38	100	36	100		
791	NONE	N			32	100	32	100		
795	1200-OS	N			28	100	32	100		
795	NONE	N			24	40	26	60		
795	PRIMER_CN	N			24	100	28	100		
983SGS	1200-OS	N	22	100	18	100	24	100	24	100
983SGS	NONE	N	16	90	16	100	22	100	24	100
983SGS	PRIMER_CN	N	24	100	18	100	20	100	24	100
995	1200-OS	N			28	100	32	100		
995	NONE	N			30	100	34	100		
995	PRIMER_CN	N			34	100	38	100		

**16. Substrate:** Aluminum - Mill Finished , Mill Finish on HPP Polyester Panel, Back

**Solvent :**Isopropanol

**Received on :**29 Mar 2011

795	1200-OS	N			28	90	30	80		
795	NONE	N			28	90	28	80		
983SGS	1200-OS	N	28	100	18	100	20	100	20	100
983SGS	NONE	N	24	100	16	100	18	100	18	100
995	1200-OS	N			30	100	44	100		
995	NONE	N			36	100	42	100		

PLI = Pound per Lineal Inch

Cohesive Failure= The sealant failed within itself versus adhesive failure when the sealant de-bonds from the substrate.

Preparation: Isopropyl alcohol (IPA) wipe

Conditions: 7 day cure (73 +/-4 F° and 50 +/- 5% Relative Humidity), 1 day water immersion.



The results of the Adhesion testing are valid for up to 12 months from the date of the letter or there is a material change (Batch#).

For further information regarding these test results, please contact your Dow Corning Construction Field Specialist, Shannon Peede, on 910-465-5057 at Wilmington, North Carolina UNITED STATES  
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