

ADCHEM

The adhesive tape engineers®
TECHNICAL BULLETIN

LOW SURFACE ENERGY MATERIALS SIMULATED DIVIDED LITE FOAM TAPE SYSTEM

PRODUCT:	LSESDL G40		
PRIMARY USE:	<p>Provide long-term bonds for outdoor and weathering exposures to low surface energy (LSE) materials and finishes. A high mass 3.5 mils per side acrylic LSE adhesive is engineered for bonds to glass, ceramics, primed, painted aluminum, PVDF coated aluminum and other LSE plastic surfaces without silane / isopropanol pre-treatment.</p> <p>The double-coated cross linked closed cell polyethylene acrylic tape was engineered specifically for LSE surfaces, resistance to common environmental conditions, air, water, detergents, moisture, light and dust penetration. The gray foam fills any irregularities and functionally provides cushioning, absorbs vibration and shock, and allows for expansion and contraction of dissimilar materials due to temperature variations. See associated sheets for specific testing and performance data. Use in exterior signage, solar, SDL muntin bars and mounting LSE materials and surfaces in weathering applications.</p>		
DESCRIPTION:	A gray cross linked polyethylene foam coated on both sides with a high mass, high performance LSE specific acrylic adhesive system developed for extreme environmental exposures that does not require silane / isopropanol pre-treatment for adhesion to LSE materials and finishes, glass or ceramic surfaces.		
LINER:	74lb bleached paper liner		
TYPICAL PHYSICAL PROPERTIES:	Thickness	LSEFT G40	.040
		Liner (nominal)	5.5 mils
	Peel Adhesion	See Attached Data	
		NOTE: Peel tests are performed as per AAMA 800-08 , In general, for acrylic adhesives, longer residence time yields much higher peel values.	
Shear Adhesion	See Attached Data		

<u>Tests Performed</u>	<u>Conditionings</u>	<u>Time</u>	<u>Materials</u>
Dynamic Cleavage Static Cleavage Peel Strength Static Shear Dynamic Shear Weathering AAMA 813-11* GM Pluck Test Tensile Adhesion	Dry Water Immersion Detergent Immersion Hot and Cold Exposures UV Exposures with condensing humidity	Aging Initial 24 Hours 72 Hours Failure Point	Aluminum Glass Vinyl Wood Polyester Acrylic Paint PVDF Based Paints

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Property	Method	Conditioning	Substrate	Results
Static Cleavage	Adchem 4.10WI91E <i>Available on Request</i>	72 Hrs RT	PVDF Coated Aluminum on Glass	FF PVDF < 3days
			Aluminum on Glass	No Failure 10+ Days
		ASTM G154 Cycle 1 (42 Cycles)	PVDF Coated Aluminum on Glass	No Failure 10+ Days
			Aluminum on Glass	
Dynamic Cleavage	Adchem 4.10WI88E <i>Available on Request</i>	72 Hrs RT	PVDF Coated Aluminum To Glass	81 Lb FF PVDF/Glass
			Aluminum on Glass	73 Lb FF Aluminum
		ASTM G154 Cycle 1 (42 Cycles)	PVDF Coated Aluminum to Glass	130 Lb Foam split
			Aluminum On Glass	130 Lb Foam split
Cleavage Peel	AAMA 813-11*	AAMA 813 (56 Cycles)	Aluminum on Glass	73 Lb Vertical 63 Lb Horizontal
Pluck Test	GM 9774P	72 Hrs RT	PVDF Coated Aluminum To Glass	87 Lb Foam Split
			Aluminum To Glass	82 Lb FF From Al
		ASTM G 154 Cycle 1 (42 Cycles)	PVDF Coated Aluminum To Glass	97 Lb Foam Spit
			Aluminum on Glass	104 Lb Foam Split
Static Shear Liner Side	PSTC 107 150°F, 1" X 1"X 1Kg	PSTC 107	Glass	7+ Days
			Stainless Steel	7+ Days
Lap Shear	Adchem 4.10WI89E <i>Available on Request</i>	2 Weeks 72° F 50% RH Test Immediately	Vinyl on Glass	68 Lb Foam Split
			Aluminum on Glass	60 Lb Foam Split
			Wood on Glass	46 Lb Cohesive From Wood
		Wet Test 2 Weeks 140° F/100% RH Test Wet	Vinyl on Glass	38 Lb Clean From Glass
			Aluminum on Glass	52 Lb Failure From Foam
			Wood on Glass	28 Lb Clean from Glass
		Dry Test 2 Weeks 140° F/ 100% RH Test After 48 Hours	Vinyl on Glass	56 Lb Clean from Glass
			Aluminum On Glass	62 Lb Clean from Glass
			Wood On Glass	32 Lb Clean from Wood
		2 weeks -30°F Test @ - 30°F	Vinyl on Glass	158 Lb foam split
			Aluminum on Glass	157 Lb Foam Split
			Wood on Glass	153 lb Foam Split
Peel Test	AAMA 800-08	24 Hrs 32° F	Glass	> 15 lb Foam split
			Aluminum	> 15 lb Foam split
		24 Hrs 77° F	Glass	> 15 lb Foam split
			Aluminum	> 15 lb Foam split
		24 Hrs 120° F	Glass	> 11 lb Foam split
			Aluminum	> 11 lb Foam split

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Property	Method	Conditioning	Substrate	Results
Peel Test	PSTC 101 Method F	1 Hour Windex Immersion (Test wet)	Glass	> 10 lb Foam split
			Aluminum	6 lb Clean
			PVDF Coated Aluminum	6 lb Clean
		1 Hour Windex Immersion Test after 4 hours	Glass	> 13 lb Foam split
			Aluminum	7 lb Clean
			PVDF Coated Aluminum	7 lb Clean
		6 Hour Windex Immersion (Test wet)	Glass	> 9 lb Foam split
			Aluminum	6 lb Clean
			PVDF Coated Aluminum	7 lb Clean
		6 Hour Windex Immersion Test after 4 hours	Glass	> 14 lb Foam split
			Aluminum	6 lb Clean
			PVDF Coated Aluminum	6 lb Clean
Tensile Adhesion	AAMA 800-08	1Hr 32° F	Aluminum T Blocks	83 lb FF T-block
		1Hr 77° F		71 lb FF T-block
		1Hrs 120° F		46 lb FF T-block
7.5 Degree Constant Load Peel Test	Adchem 4.10WI86E Available on Request	Room Temp	Tape on Glass	No creep
			Tape on Aluminum	No creep
Vertical Constant Load Shear Test	Adchem 4.10WI85E Available on Request	130°F	PVDF Coated Aluminum	No creep
Creep after Accelerated Weathering	Adchem 4.10WI87E Available on Request	ASTM G154 Cycle 1 (42 Cycles)	PVDF Coated Aluminum to Glass	No creep
			PVDF coated Aluminum to Aluminum	No creep

Adchem LSEFT G40 Meets and Exceeds all requirements of AAMA 813-11 Voluntary Test Methods For Adhesives Used In Simulated Divided Lites “ Section 4.2 Cellular Tapes Voluntary Specification for Muntin Bar Tapes

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PRODUCT FEATURES:	<p>Excellent weathering</p> <p>Excellent water and detergent resistance.</p> <p>No Silane / isopropyl pre-wash required.</p> <p>High Mass Acrylic adhesive system developed for LSE surfaces</p> <p>Designed for extreme environmental applications.</p> <p>Excellent UV resistance.</p> <p>Excellent quick stick.</p> <p>High shear and cleavage strength.</p> <p>Bonds well to irregular surfaces.</p>
SERVICE TEMPERATURE:	<p>-30° F. to 220° F.</p> <p>NOTE: This information is provided as a means to help characterize the adhesive's temperature resistance. Note that this data is based on limited testing and under no load. The practical service temperature of this or any adhesive system is dependent on many variables including the substrates being bonded, environmental conditions, and the loading and method of application. The purchaser is responsible for determining the suitability of this or any product for their particular purpose and process. The recommended application temperature is 68°F to 100°F.</p>
NOTES:	<p>Surfaces to be bonded should be dry, clean and free from grease and oil. Products should not be laminated to any material that contains migrating plasticizer.</p>
SHELF LIFE:	<p>One year from date of shipment when stored under cool, dry conditions.</p>

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