GMW 14892

Adhesion Requirements for Bonded Interior Parts

Automotive Interior Spec Testing

Technical Bulletin **April 2020**

3M tested the following adhesives to the Automotive OEM Spec: GMW 14892 Adhesion Requirements for Bonded Interior Parts. The results of the testing are provided in the following information. Adhesives not listed on this document have not been tested to this spec.

Automotive specification testing was performed on lab substrates and not on actual automotive production parts. Additional testing by the converter, tier or supplier is needed to show that parts and adhesives meet such specification. Please carefully read the automotive specification for further information.

Revision	Date	Comments
Original release	October 2016	Testing and bulletin complete
Add lab substrate language and revision table	April 2020	

3M™ Adhesive Transfer Tape 468MP
3M™ Adhesive Transfer Tape 9472LE
3M™ Double Coated Tape 99786
3M™ Adhesive Transfer Tape 6035PC
3M™ Scrim Reinforced Adhesive Transfer Tape 97053
3M™ Low VOC Scrim Reinforced Adhesive Transfer Tape 98010LVC
3M™ Double Coated Tape 9832HL
3M™ Low VOC Double Coated Tissue Tape 99015LVC
3M™ Fastbond™ Contact Adhesive 30NF

Test	Test Condition / Environment	
180° Peel Adhesion 300mm / 12 inch per min	As Received 3.1.5.1	24 hour @ Room Temp
	Humidity 3.1.5.1.1	144 hours GMW14729 Option A: Water Fog
	Heat Age 3.1.5.1.2	24 hours @ 105°C / 221°F
	Environmental Cycle 3.1.5.1.3	GMW14124 Cycle M (2 cycles)
	Dead Load 3.1.5.1.4	200 g - 105 C / 221°F for 24 hours

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Adhesive	Test	SS	PP	ABS
468MP	As received	P	F	P
	Humidity	P	F	F
	Heat	P	F	P
	Cycle	P	F	P
	Dead load	P	F	P
9472LE	As received	P	P	P
	Humidity	P	P	P
	Heat	P	P	P
	Cycle	P	P	P
	Dead load	P	F	F
6035PC	As received	P	P	P
	Humidity	P	F	P
	Heat	P	P	P
	Cycle	P	P	P
	Dead load	P	P	F
98010 LVC	As received	P	P	P
	Humidity	P	P	P
	Heat	P	P	P
	Cycle	P	P	P
	Dead load	P	F	F
Fastbond 30NF	As received	P	P	P
	Humidity	F	F	F
	Heat	P	F	P
	Cycle	P	F	F
	Dead Load	P	P	P

Adhesive	Test	SS	PP	ABS
97053	As received	P	P	P
	Humidity	P	P	P
	Heat	P	P	P
	Cycle	P	P	P
	Dead load	F	F	F
9832HL	As received	P	P	P
	Humidity	P	F	P
	Heat	P	F	P
	Cycle	P	F	P
	Dead load	P	P	P
99786	As received	P	P	P
	Humidity	P	F	P
	Heat	P	F	P
	Cycle	P	F	P
	Dead load	P	F	F
99015 LVC	As received	P	P	P
	Humidity	P	P	P
	Heat	P	P	P
	Cycle	P	P	P
	Dead load	P	F	P

P = Pass, F = Fail

Note: Data reported in this technical bulletin, for all test methods, is the average of three replicates using one typical lot of adhesive.

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468MP Adhesive

3.1.5.1 As received – 24 hour dwell @ Room Temp						
468MP	Substrate	Backing	AVG Peel N/m	AVG Peel oz/in	Observation	Requirement 525 N/m / 47.93 oz/in or substrate failure
	SS	PET	961	87.74	Clean Peel	Pass
	PP		295	26.93	Clean Peel	Fail
	ABS		645	58.89	Clean Peel	Pass

3.1.5.1.1 Humidity – GMW14729 Option A: Water Fog 144 hours						
468MP	Substrate	Backing	AVG Peel N/m	AVG Peel oz/in	Observation	Requirement 525 N/m / 47.93 oz/in or substrate failure
	SS	PET	514	46.93	PET broke	Pass
	PP		257	23.46	Clean Peel	Fail
	ABS		485	44.28	Clean Peel	Fail

3.1.5.1.2 Heat Aging – 24 hours @ 105°C / 221°F						
468MP	Substrate	Backing	AVG Peel N/m	AVG Peel oz/in	Observation	Requirement 525 N/m / 47.93 oz/in or substrate failure
	SS	PET	-	-	PET broke	Pass
	PP		281	26.65	Clean Peel	Fail
	ABS		572	52.22	Clean Peel	Pass

3.1.5.1.3 Environmental Cycle – GMW14124 Cycle M (2 cycles)						
468MP	Substrate	Backing	AVG Peel N/m	AVG Peel oz/in	Observation	Requirement 525 N/m / 47.93 oz/in or substrate failure
	SS	PET	-	-	PET broke	Pass
	PP		293	26.75	Clean Peel	Fail
	ABS		672	61.35	Clean Peel	Pass

3.1.5.1.4 Dead Load – 200 grams				
468MP	Substrate	Size		Requirement
	SS	1" x 1"		Pass
	PP			Fail
	ABS			Pass

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9472LE Adhesive

3.1.5.1 As received – 24 hour dwell @ Room Temp						
9472LE	Substrate	Backing	AVG Peel N/m	AVG Peel oz/in	Observation	Requirement 525 N/m / 47.93 oz/in or substrate failure
	SS	PET	897	81.90	Clean Peel	Pass
	PP		1070	97.69	Clean Peel	Pass
	ABS		820	74.87	Clean Peel	Pass

3.1.5.1.1 Humidity – GMW14729 Option A: Water Fog 144 hours						
9472LE	Substrate	Backing	AVG Peel N/m	AVG Peel oz/in	Observation	Requirement 525 N/m / 47.93 oz/in or substrate failure
	SS	PET	946	86.37	Clean Peel	Pass
	PP		931	85.00	Clean Peel	Pass
	ABS		848	77.42	Clean Peel	Pass

3.1.5.1.2 Heat Aging – 24 hours @ 105°C / 221°F						
9472LE	Substrate	Backing	AVG Peel N/m	AVG Peel oz/in	Observation	Requirement 525 N/m / 47.93 oz/in or substrate failure
	SS	PET	987	90.11	Cohesive	Pass
	PP		925	84.45	Clean Peel	Pass
	ABS		802	73.22	Clean Peel	Pass

3.1.5.1.3 Environmental - GMW14124 Cycle M (2 cycles)						
9472LE	Substrate	Backing	AVG Peel N/m	AVG Peel oz/in	Observation	Requirement 525 N/m / 47.93 oz/in or substrate failure
	SS	PET	851	77.70	Cohesive	Pass
	PP		877	80.07	Clean Peel	Pass
	ABS		749	68.38	Clean Peel	Pass

3.1.5.1.4 Dead Load – 200 grams				
9472LE	Substrate	Size		Requirement
	SS	1" x 1"		Pass
	PP			Fail
	ABS			Fail

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6035PC Adhesive

3.1.5.1 As Received - 24 hour dwell @ Room Temp						
6035PC	Substrate	Backing	AVG Peel N/m	AVG Peel oz/in	Observation	Requirement 525 N/m / 47.93 oz/in or substrate failure
	SS	PET	1100	100.43	Cohesive	Pass
	PP		641	58.52	Clean Peel	Pass
	ABS		1080	98.60	Clean Peel	Pass

3.1.5.1.1 Humidity – GMW14729 Option A: Water Fog 144 hours						
6035PC	Substrate	Backing	AVG Peel N/m	AVG Peel oz/in	Observation	Requirement 525 N/m / 47.93 oz/in or substrate failure
	SS	PET	1250	114.12	Cohesive	Pass
	PP		323	29.49	Clean Peel	Fail
	ABS		1220	111.39	Cohesive	Pass

3.1.5.1.2 Heat Aging – 24 hours @ 105°C / 221°F						
6035PC	Substrate	Backing	AVG Peel N/m	AVG Peel oz/in	Observation	Requirement 525 N/m / 47.93 oz/in or substrate failure
	SS	PET	1060	96.78	Cohesive	Pass
	PP		781	71.30	Clean Peel	Pass
	ABS		1160	105.91	Cohesive	Pass

3.1.5.1.3 Environmental - GMW14124 Cycle M (2 cycles)						
6035PC	Substrate	Backing	AVG Peel N/m	AVG Peel oz/in	Observation	Requirement 525 N/m / 47.93 oz/in or substrate failure
	SS	PET	1130	103.17	Cohesive	Pass
	PP		722	65.92	Clean Peel	Pass
	ABS		1120	102.26	Cohesive	Pass

3.1.5.1.4 Dead Load – 200 grams				
6035PC	Substrate	Size		Requirement
	SS	1″ x 1″		Pass
	PP			Pass
	ABS			Fail

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97053 Adhesive

3.1.5.1 As Received - 24 hour dwell @ Room Temp						
	Substrate	Backing	AVG Peel N/m	AVG Peel oz/in	Observation	Requirement 525 N/m / 47.93 oz/in or substrate failure
97053	SS	PET	678	61.90	Cohesive	Pass
	PP		728	66.47	Cohesive	Pass
	ABS		717	65.46	Cohesive	Pass

3.1.5.1.1 Humidity – GMW14729 Option A: Water Fog 144 hours						
	Substrate	Backing	AVG Peel N/m	AVG Peel oz/in	Observation	Requirement 525 N/m / 47.93 oz/in or substrate failure
97053	SS	PET	592	54.05	Cohesive	Pass
	PP		631	57.61	Cohesive	Pass
	ABS		609	55.60	Cohesive	Pass

3.1.5.1.2 Heat Aging – 24 hours @ 105°C / 221°F						
	Substrate	Backing	AVG Peel N/m	AVG Peel oz/in	Observation	Requirement 525 N/m / 47.93 oz/in or substrate failure
97053	SS	PET	879	80.25	Cohesive	Pass
	PP		773	70.57	Cohesive	Pass
	ABS		843	76.97	Cohesive	Pass

3.1.5.1.3 Environmental - GMW14124 Cycle M (2 cycles)						
	Substrate	Backing	AVG Peel N/m	AVG Peel oz/in	Observation	Requirement 525 N/m / 47.93 oz/in or substrate failure
97053	SS	PET	995	90.84	Cohesive	Pass
	PP		946	86.37	Cohesive	Pass
	ABS		872	79.61	Cohesive	Pass

3.1.5.1.4 Dead Load – 200 grams				
	Substrate	Size		Requirement
97053	SS	1" x 1"		Fail
	PP			Fail
	ABS			Fail

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98010LVC Adhesive

3.1.5.1 As Received - 24 hour dwell @ Room Temp						
98010LVC	Substrate	Backing	AVG Peel N/m	AVG Peel oz/in	Observation	Requirement 525 N/m / 47.93 oz/in or substrate failure
	SS	PET	1050	95.86	Cohesive	Pass
	PP		971	88.65	Cohesive	Pass
	ABS		959	87.56	Cohesive	Pass

3.1.5.1.1 Humidity – GMW14729 Option A: Water Fog 144 hours						
98010LVC	Substrate	Backing	AVG Peel N/m	AVG Peel oz/in	Observation	Requirement 525 N/m / 47.93 oz/in or substrate failure
	SS	PET	1010	92.21	Cohesive	Pass
	PP		1040	94.95	Cohesive	Pass
	ABS		1030	94.04	Cohesive	Pass

3.1.5.1.2 Heat Aging – 24 hours @ 105°C / 221°F						
98010LVC	Substrate	Backing	AVG Peel N/m	AVG Peel oz/in	Observation	Requirement 525 N/m / 47.93 oz/in or substrate failure
	SS	PET	1180	107.73	Cohesive	Pass
	PP		590	53.87	Clean Peel	Pass
	ABS		1080	98.60	Cohesive	Pass

3.1.5.1.3 Environmental - GMW14124 Cycle M (2 cycles)						
98010LVC	Substrate	Backing	AVG Peel N/m	AVG Peel oz/in	Observation	Requirement 525 N/m / 47.93 oz/in or substrate failure
	SS	PET	1090	99.52	Cohesive	Pass
	PP		1050	95.86	Clean Peel	Pass
	ABS		1100	100.43	Cohesive	Pass

3.1.5.1.4 Dead Load – 200 grams				
98010LVC	Substrate	Size		Requirement
	SS	1" x 1"		Pass
	PP			Fail
	ABS			Fail

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99786 Adhesive

3.1.5.1 As Received - 24 hour dwell @ Room Temp						
	Substrate	Backing	AVG Peel N/m	AVG Peel oz/in	Observation	Requirement 525 N/m / 47.93 oz/in or substrate failure
99786	SS	PET	1070	97.69	Cohesive	Pass
	PP		630	57.52	Clean Peel	Pass
	ABS		729	66.56	Clean Peel	Pass

3.1.5.1.1 Humidity – GMW14729 Option A: Water Fog 144 hours						
	Substrate	Backing	AVG Peel N/m	AVG Peel oz/in	Observation	Requirement 525 N/m / 47.93 oz/in or substrate failure
99786	SS	PET	1270	115.95	Cohesive	Pass
	PP		520	47.48	Clean Peel	Fail
	ABS		765	69.84	Clean Peel	Pass

3.1.5.1.2 Heat Aging – 24 hours @ 105°C / 221°F						
	Substrate	Backing	AVG Peel N/m	AVG Peel oz/in	Observation	Requirement 525 N/m / 47.93 oz/in or substrate failure
99786	SS	PET	1110	101.34	Cohesive	Pass
	PP		504	46.01	Clean Peel	Fail
	ABS		718	65.55	Clean Peel	Pass

3.1.5.1.3 Environmental - GMW14124 Cycle M (2 cycles)						
	Substrate	Backing	AVG Peel N/m	AVG Peel oz/in	Observation	Requirement 525 N/m / 47.93 oz/in or substrate failure
99786	SS	PET	1070	97.69	Cohesive	Pass
	PP		494	45.10	Clean Peel	Fail
	ABS		720	65.74	Cohesive	Pass

3.1.5.1.4 Dead Load – 200 grams				
	Substrate	Size		Requirement
99786	SS	1" x 1"		Pass
	PP			Fail
	ABS			Fail

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9832HL Adhesive

3.1.5.1 As Received - 24 hour dwell @ Room Temp						
	Substrate	Backing	AVG Peel N/m	AVG Peel oz/in	Observation	Requirement 525 N/m / 47.93 oz/in or substrate failure
9832HL	SS	PET	611	55.78	Cohesive	Pass
	PP		685	62.54	Cohesive	Pass
	ABS		622	56.79	Cohesive	Pass

3.1.5.1.1 Humidity – GMW14729 Option A: Water Fog 144 hours						
	Substrate	Backing	AVG Peel N/m	AVG Peel oz/in	Observation	Requirement 525 N/m / 47.93 oz/in or substrate failure
9832HL	SS	PET	655	59.80	Cohesive	Pass
	PP		520	47.48	Clean peel	Fail
	ABS		610	55.69	Cohesive	Pass

3.1.5.1.2 Heat Aging – 24 hours @ 105°C / 221°F						
	Substrate	Backing	AVG Peel N/m	AVG Peel oz/in	Observation	Requirement 525 N/m / 47.93 oz/in or substrate failure
9832HL	SS	PET	689	62.90	Cohesive	Pass
	PP		497	45.38	Clean Peel	Fail
	ABS		665	60.71	Cohesive	Pass

3.1.5.1.3 Environmental - GMW14124 Cycle M (2 cycles)						
	Substrate	Backing	AVG Peel N/m	AVG Peel oz/in	Observation	Requirement 525 N/m / 47.93 oz/in or substrate failure
9832HL	SS	PET	745	68.02	Cohesive	Pass
	PP		455	41.54	Clean Peel	Fail
	ABS		710	64.82	Cohesive	Pass

3.1.5.1.4 Dead Load – 200 grams				
	Substrate	Size		Requirement
9832HL	SS	1" x 1"		Pass
	PP			Pass
	ABS			Pass

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99015LVC Adhesive

3.1.5.1 As Received - 24 hour dwell @ Room Temp						
99015LVC	Substrate	Backing	AVG Peel N/m	AVG Peel oz/in	Observation	Requirement 525 N/m / 47.93 oz/in or substrate failure
	SS	PET	1020	93.13	Cohesive	Pass
	PP		1140	104.08	Cohesive	Pass
	ABS		990	90.39	Cohesive	Pass

3.1.5.1.1 Humidity – GMW14729 Option A: Water Fog 144 hours						
99015LVC	Substrate	Backing	AVG Peel N/m	AVG Peel oz/in	Observation	Requirement 525 N/m / 47.93 oz/in or substrate failure
	SS	PET	998	91.12	Cohesive	Pass
	PP		1110	101.34	Cohesive	Pass
	ABS		1030	94.04	Cohesive	Pass

3.1.5.1.2 Heat Aging – 24 hours @ 105°C / 221°F						
99015LVC	Substrate	Backing	AVG Peel N/m	AVG Peel oz/in	Observation	Requirement 525 N/m / 47.93 oz/in or substrate failure
	SS	PET	1160	105.91	Cohesive	Pass
	PP		594	54.23	Clean Peel	Pass
	ABS		1170	106.82	Cohesive	Pass

3.1.5.1.3 Environmental - GMW14124 Cycle M (2 cycles)						
99015LVC	Substrate	Backing	AVG Peel N/m	AVG Peel oz/in	Observation	Requirement 525 N/m / 47.93 oz/in or substrate failure
	SS	PET	1150	104.99	Cohesive	Pass
	PP		607	55.42	Clean Peel	Pass
	ABS		1090	99.52	Cohesive	Pass

3.1.5.1.4 Dead Load				
99015LVC	Substrate	Size		Requirement
	SS	1" x 1"		Pass
	PP			Fail
	ABS			Pass

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Fastbond 30NF Adhesive

3.1.5.1 As Received - 24 hour dwell @ Room Temp						
	Substrate	Backing	AVG Peel N/m	AVG Peel oz/in	Observation	Requirement 525 N/m / 47.93 oz/in or substrate failure
Fastbond 30NF	SS	PET	619	56.51	Clean Peel	Pass
	PP		528	48.21	Clean Peel	Pass
	ABS		691	63.09	Clean Peel	Pass

3.1.5.1.1 Humidity – GMW14729 Option A: Water Fog 144 hours						
	Substrate	Backing	AVG Peel N/m	AVG Peel oz/in	Observation	Requirement 525 N/m / 47.93 oz/in or substrate failure
Fastbond 30NF	SS	PET	57.0	5.20	Clean Peel	Fail
	PP		73.0	6.66	Clean Peel	Fail
	ABS		49.5	4.52	Clean Peel	Fail

3.1.5.1.2 Heat Aging – 24 hours @ 105°C / 221°F						
	Substrate	Backing	AVG Peel N/m	AVG Peel oz/in	Observation	Requirement 525 N/m / 47.93 oz/in or substrate failure
Fastbond 30NF	SS	PET	768	70.12	Clean Peel	Pass
	PP		519	47.38	Clean Peel	Fail
	ABS		607	55.42	PET broke	Pass

3.1.5.1.3 Environmental - GMW14124 Cycle M (2 cycles)						
	Substrate	Backing	AVG Peel N/m	AVG Peel oz/in	Observation	Requirement 525 N/m / 47.93 oz/in or substrate failure
Fastbond 30NF	SS	PET	843	76.96	Clean Peel	Pass
	PP		239	21.82	Clean Peel	Fail
	ABS		155	14.15	Clean Peel	Fail

3.1.5.1.4 Dead Load – 200 grams				
	Substrate	Size		Requirement
Fastbond 30NF	SS	1" x 1"		Pass
	PP			Pass
	ABS			Pass

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Technical Information

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