



# WSS-M99P48-B3 Specification Revision February 2023

## Pressure Sensitive Adhesive Tape

### (Interior, Exterior and Underhood Applications)

#### Automotive Interior Spec Testing

Technical Bulletin rev 3

March 2025

3M™ tested the following adhesive tapes to the Automotive OEM Spec: WSS-M99P48-B3. The results of the testing are provided in the following information. Adhesives and foams 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 latest revision of the automotive specification for further information.*

Revision	Date	Comments
Revision 3	March 2025	Add 59812LVC & 9490LE+
Revision 2	March 2024	Removed 59812LVC & 56815LVC
Revision 1	January 2024	Testing to 300MP+ adhesives
Original release	April 2021	Initial testing and bulletin completed

3M™ Adhesive Transfer Tape 9472LE

3M™ Double Coated Tape 93015LE

\*3M™ Adhesive Transfer Tape 6035PC+/PL+

\*3M™ Adhesive Transfer Tape 9775WL+

\*3M™ Double Coated Tape 9832+/9832HL+

3M™ Adhesive Transfer Tape 950/9472

3M™ Adhesive Transfer Tape 9627

\*3M™ Double Coated Tape 9490LE+

\*3M™ Low VOC Adhesive Transfer Tape 59812LVC

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

Note: \*Initial dwell is 72 hours at 72°F for products with an \*

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## Pressure Sensitive Adhesive Tape

Test	Test Condition / Environment	
180° Peel Adhesion 300mm / 12 inch per min	Initial	72 hours @ room temp 23°C / 73°F
	Heat Aged	168 hours @ 100°C / 212°F
	Environmental Cycle	10 cycles 4 hours @ 100°C / 212°F 4 hours @ 38°C / 100°F 16 hours @ -30°C

### 3M Low VOC Adhesive Transfer Tape 59812LVC

	*Initial – 72 Hours @ 23°C / 73°F				
	Foam	Substrate	AVG Peel N/mm	AVG Peel oz/in	Observation
59812LVC	Requirement 0.48 N/mm; 43.85 oz/in				
	Crushed EPDM	Rigid PP Panel			Foam Broke
	Polyether				Foam Broke
	Microcellular				Foam Broke
	Crushed EPDM	Rigid ABS Panel			Foam Broke
	Polyether				Foam Broke
	Microcellular				Foam Broke

	Heat Aged – 168 hours @ 100°C / 212°F				
	Foam	Substrate	AVG Peel N/mm	AVG Peel oz/in	Observation
59812LVC	Requirement Max 25% loss from initial				
	Crushed EPDM	Rigid PP Panel	.20	18.58	Clean peel from PP
	Polyether		.29	26.45	Clean peel from PP
	Microcellular		.69	64.45	Clean peel from PP
	Crushed EPDM	Rigid ABS Panel			Foam Broke
	Polyether				Foam Broke
	Microcellular				Foam Broke

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## Pressure Sensitive Adhesive Tape

	Environmental Cycle – 10 cycles				
	Foam	Substrate	AVG Peel N/mm	AVG Peel oz/in	Observation
59812LVC	Requirement Max 25% loss from initial				
	Crushed EPDM	Rigid PP Panel	.30	28.00	Clean peel from PP
	Polyether		.24	22.09	Clean peel from PP
	Microcellular				Foam Broke
	Crushed EPDM	Rigid ABS Panel			Foam Broke
	Polyether				Foam Broke
	Microcellular				Foam Broke

### 3M Double Coated Tape 9490LE+

	*Initial – 72 Hours @ 23°C / 73°F				
	Foam	Substrate	AVG Peel N/mm	AVG Peel oz/in	Observation
9490LE+	Requirement 0.48 N/mm; 43.85 oz/in				
	Crushed EPDM	Rigid PP Panel			Foam Broke
	Polyether				Foam Broke
	Microcellular		.41	38.04	Clean peel from foam
	Crushed EPDM	Rigid ABS Panel			Foam Broke
	Polyether				Foam Broke
	Microcellular				Foam Broke

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## Pressure Sensitive Adhesive Tape

	Heat Aged – 168 hours @ 100°C / 212°F				
	Foam	Substrate	AVG Peel N/mm	AVG Peel oz/in	Observation
<b>9490LE+</b>	Requirement Max 25% loss from initial				
	Crushed EPDM	Rigid PP Panel			Foam Broke
	Polyether				Foam Broke
	Microcellular		.37	34.01	Clean peel from PP
	Crushed EPDM	Rigid ABS Panel			Foam Broke
	Polyether				Foam Broke
	Microcellular				Foam Broke

	Environmental Cycle – 10 cycles				
	Foam	Substrate	AVG Peel N/mm	AVG Peel oz/in	Observation
<b>9490LE+</b>	Requirement Max 25% loss from initial				
	Crushed EPDM	Rigid PP Panel	.50	46.73	Clean peel from PP
	Polyether				Foam Broke
	Microcellular				Foam Broke
	Crushed EPDM	Rigid ABS Panel			Foam Broke
	Polyether				Foam Broke
	Microcellular				Foam Broke

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## Pressure Sensitive Adhesive Tape

### 3M Adhesive Transfer Tape 9472LE

Initial – 20 minutes @ 23°C / 73°F					
9472LE	Foam	Substrate	AVG Peel N/mm	AVG Peel oz/in	Observation
	Requirement 0.48 N/mm; 43.85 oz/in				
	Crushed EPDM	Rigid PP Panel			Foam Broke
	Polyether				Foam Broke
	Microcellular				Foam Broke
	Crushed EPDM	Rigid ABS Panel			Foam Broke
	Polyether				Foam Specs
	Microcellular				Foam Broke

Heat Aged – 168 hours @ 100°C / 212°F					
9472LE	Foam	Substrate	AVG Peel N/mm	AVG Peel oz/in	Observation
	Requirement Max 25% loss from initial				
	Crushed EPDM	Rigid PP Panel			Foam broke
	Polyether				Foam broke
	Microcellular				Foam broke
	Crushed EPDM	Rigid ABS Panel			Foam broke
	Polyether				Foam broke
	Microcellular				Foam broke

Environmental Cycle – 10 cycles					
9472LE	Foam	Substrate	AVG Peel N/mm	AVG Peel oz/in	Observation
	Requirement Max 25% loss from initial				
	Crushed EPDM	Rigid PP Panel			Foam broke
	Polyether				Foam broke
	Microcellular				Foam broke
	Crushed EPDM	Rigid ABS Panel			Foam broke
	Polyether				Foam broke
	Microcellular				Foam broke

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## Pressure Sensitive Adhesive Tape

### 3M Double Coated Tape 93015LE

	Initial – 20 minutes @ 23°C / 73°F				
	Foam	Substrate	AVG Peel N/mm	AVG Peel oz/in	Observation
93015LE	Requirement 0.48 N/mm; 43.85 oz/in				
	Crushed EPDM	Rigid PP Panel	0.33	30.41	Slight foam tear
	Polyether		0.45	41.46	Clean peel from foam
	Microcellular				Foam broke
	Crushed EPDM	Rigid ABS Panel			Foam broke
	Polyether		0.45	39.04	Foam broke
	Microcellular				Foam broke

	Heat Aged – 168 hours @ 100°C / 212°F				
	Foam	Substrate	AVG Peel N/mm	AVG Peel oz/in	Observation
93015LE	Requirement -25% max loss from initial				
	Crushed EPDM	Rigid PP Panel			Foam broke
	Polyether		0.50	46.40	Slight foam tear
	Microcellular				Foam broke
	Crushed EPDM	Rigid ABS Panel			Foam broke
	Polyether		0.50	46.42	Clean peel from foam
	Microcellular				Foam broke

	Environmental Cycle – 10 cycles				
	Foam	Substrate	AVG Peel N/mm	AVG Peel oz/in	Observation
93015LE	Requirement -25% max loss from initial				
	Crushed EPDM	Rigid PP Panel			Foam broke
	Polyether		0.39	36.07	Clean peel from foam
	Microcellular				Foam broke
	Crushed EPDM	Rigid ABS Panel			Foam broke
	Polyether		0.39	36.01	Clean peel from foam
	Microcellular				Foam broke

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## Pressure Sensitive Adhesive Tape

### 3M Adhesive Transfer Tape 6035PC+/PL+

	*Initial – 72 hours @ 23°C / 73°F				
	Foam	Substrate	AVG Peel N/mm	AVG Peel oz/in	Observation
6035PC+ 6035PL+	Requirement 0.48 N/mm; 43.85 oz/in				
	Crushed EPDM	Rigid PP panel			Foam tear
	Polyether				Foam broke
	Microcellular		0.32	29.55	Clean peel from PP
	Crushed EPDM	Rigid ABS panel			Foam broke
	Polyether				Foam broke
	Microcellular				Foam tear

	Heat Aged – 168 hours @ 100°C / 212°F				
	Foam	Substrate	AVG Peel N/mm	AVG Peel oz/in	Observation
6035PC+ 6035PL+	Requirement -25% max loss from initial				
	Crushed EPDM	Rigid PP panel			Foam tear
	Polyether				Foam broke
	Microcellular		0.70	64.60	Clean peel from PP
	Crushed EPDM	Rigid ABS panel			Foam broke
	Polyether				Foam broke
	Microcellular				Foam broke

	Environmental Cycle – 10 cycles				
	Foam	Substrate	AVG Peel N/mm	AVG Peel oz/in	Observation
6035PC+ 6035PL+	Requirement -25% max loss from initial				
	Crushed EPDM	Rigid PP Plaque	.30	28.23	Clean peel from PP
	Polyether				Foam broke
	Microcellular		0.43	39.46	Clean peel from PP
	Crushed EPDM	Rigid ABS Plaque			Foam tear
	Polyether				Foam broke
	Microcellular				Foam broke

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## Pressure Sensitive Adhesive Tape

### 3M Adhesive Transfer Tape 9775WL+

	*Initial – 72 hours @ 23°C / 73°F				
	Foam	Substrate	AVG Peel N/mm	AVG Peel oz/in	Observation
9775WL+	Requirement 0.48 N/mm; 43.85 oz/in				
	Crushed EPDM	Rigid PP Plaque			Foam tear
	Polyether				Foam broke
	Microcellular		0.23	21.59	Clean peel from PP
	Crushed EPDM	Rigid ABS Plaque			Foam tear
	Polyether				Foam broke
	Microcellular				Foam broke

	Heat Aged – 168 hours @ 100°C / 212°F				
	Foam	Substrate	AVG Peel N/mm	AVG Peel oz/in	Observation
9775WL+	Requirement -25% max from initial				
	Crushed	Rigid PP Plaque			Foam broke
	Polyether				Foam broke
	Microcellular		0.50	46.81	Clean peel from PP
	Crushed	Rigid ABS Plaque			Foam tear
	Polyether				Foam broke
	Microcellular				Foam broke

	Environmental Cycle – 10 cycles				
	Foam	Substrate	AVG Peel N/mm	AVG Peel oz/in	Observation
9775WL+	Requirement -25% max from initial				
	Crushed EPDM	Rigid PP Plaque	0.27	24.82	Clean peel from PP
	Polyether		0.35	32.54	Clean peel from PP
	Microcellular		0.67	61.74	Clean peel from PP
	Crushed EPDM	Rigid ABS Plaque			Foam tear
	Polyether				Foam broke
	Microcellular				Foam broke



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## Pressure Sensitive Adhesive Tape

### 3M Double Coated Tape 9832+ / 9832HL+

	*Initial – 72 hours @ 23°C / 73°F				
	Foam	Substrate	AVG Peel N/mm	AVG Peel oz/in	Observation
9832+ 9832HL+	Requirement 0.48 N/mm; 43.85 oz/in				
	Crushed EPDM	Rigid PP Plaque			Foam Tear
	Polyether				Foam broke
	Microcellular		0.21	19.54	Clean peel from PP
	Crushed EPDM	Rigid ABS Plaque			Foam tear
	Polyether				Foam broke
	Microcellular		0.57	53.07	Clean peel from ABS

	Heat Aged – 168 hours @ 100°C / 212°F				
	Foam	Substrate	AVG Peel N/mm	AVG Peel oz/in	Observation
9832+ 9832HL+	Requirement -25% max from initial				
	Crushed EPDM	Rigid PP Plaque	0.50	46.29	Clean Peel from PP
	Polyether				Foam broke
	Microcellular		0.21	19.44	Clean peel from PP
	Crushed EPDM	Rigid ABS Plaque			Foam tear
	Polyether				Foam broke
	Microcellular				Foam broke

	Environmental Cycle – 10 cycles				
	Foam	Substrate	AVG Peel N/mm	AVG Peel oz/in	Observation
9832+ 9832HL+	Requirement -25% max from initial				
	Crushed EPDM	Rigid PP Plaque	0.44	40.62	Clean Peel from PP
	Polyether				Foam Broke
	Microcellular		0.24	22.49	Clean Peel from PP
	Crushed EPDM	Rigid ABS Plaque			Foam Tear
	Polyether				Foam Broke
	Microcellular				Foam Broke

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## Pressure Sensitive Adhesive Tape

### 3M Adhesive Transfer Tape 950/9472

	Initial – 20 minutes @ 23°C / 73°F				
	Foam	Substrate	AVG Peel N/mm	AVG Peel oz/in	Observation
950/9472	Requirement 0.48 N/mm; 43.85 oz/in				
	Crushed EPDM	Rigid PP Plaque			Slight foam tear
	Polyether		0.32	29.29	Clean peel from foam
	Microcellular				Foam broke
	Crushed EPDM	Rigid ABS Plaque	0.26	23.77	Slight foam tear
	Polyether		0.41	37.84	Clean peel from foam
	Microcellular				Foam broke

	Heat Aged – 168 hours @ 100°C / 212°F				
	Foam	Substrate	AVG Peel N/mm	AVG Peel oz/in	Observation
950/9472	Requirement -25% max from initial				
	Crushed EPDM	Rigid PP Plaque			Foam broke
	Polyether				Foam broke
	Microcellular				Foam broke
	Crushed EPDM	Rigid ABS Plaque			Foam broke
	Polyether				Foam tear
	Microcellular				Foam broke

	Environmental Cycle – 10 cycles				
	Foam	Substrate	AVG Peel N/mm	AVG Peel oz/in	Observation
950/9472	Requirement -25% max from initial				
	Crushed EPDM	Rigid PP Plaque			Foam broke
	Polyether		0.42	38.97	Clean peel from PP
	Microcellular				Foam broke
	Crushed EPDM	Rigid ABS Plaque			Foam broke
	Polyether				Foam broke
	Microcellular				Foam broke

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## Foam Performance, Pressure Sensitive Adhesive Tape

### 3M Adhesive Transfer Tape 9627

	Initial – 20 minutes @ 23°C / 73°F				
	Foam	Substrate	AVG Peel N/mm	AVG Peel oz/in	Observation
9627	Requirement 0.48 N/mm; 43.85 oz/in				
	Crushed EPDM	Rigid PP Plaque			Foam broke
	Polyether				Foam specs
	Microcellular				Foam broke
	Crushed EPDM	Rigid ABS Plaque			Foam broke
	Polyether				Foam tear
	Microcellular				Foam broke

	Heat Aged – 168 hours @ 100°C / 212°F				
	Foam	Substrate	AVG Peel N/mm	AVG Peel oz/in	Observation
9627	Requirement -25% max from initial				
	Crushed EPDM	Rigid PP Plaque			Foam broke
	Polyether				Foam broke
	Microcellular				Foam broke
	Crushed EPDM	Rigid ABS Plaque			Foam broke
	Polyether				Foam broke
	Microcellular				Foam broke

	Environmental Cycle – 10 cycles				
	Foam	Substrate	AVG Peel N/mm	AVG Peel oz/in	Observation
9627	Requirement -25% max from initial				
	Crushed EPDM	Rigid PP Plaque			Foam broke
	Polyether				Foam broke
	Microcellular				Foam broke
	Crushed EPDM	Rigid ABS Plaque			Foam broke
	Polyether				Foam broke
	Microcellular				Foam broke

# WSS-M99P48-B3:

## Foam Performance, Pressure Sensitive Adhesive Tape

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## Foam Performance, Pressure Sensitive Adhesive Tape

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