

3M™ Structural Adhesive Tape SAT1100S

Technical Data Sheet

General Description:

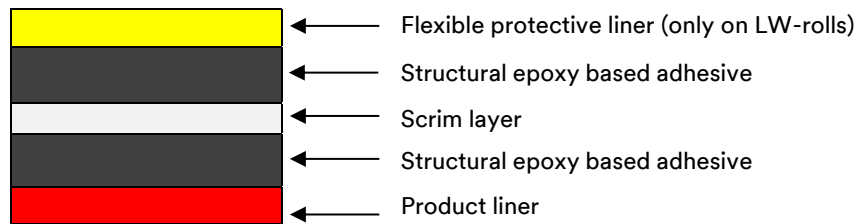
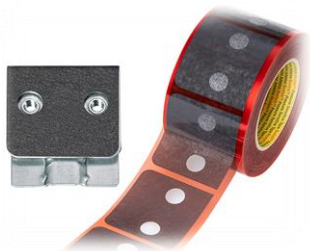
3M™ Structural Adhesive Tape SAT1100S is a single layer-epoxy based adhesive tape for the automotive industry, formulated for metal bonding applications in the Body-In-White (BIW) area. This tape offers structural bonding strength and isolation properties to prevent galvanic corrosion between dissimilar materials in the primary structure and vehicle closure applications.

In addition to excellent bonding performance, 3M Structural Adhesive Tape SAT1100S offers sealing and gap filling properties. The structural tape is applied during body-in-white processing and can even be pre-applied to the part from the Tier supplier. After the body-in-white assembly and pretreatment processes, the tape cures in the e-coat oven – under the conditions described below – to achieve its structural strength. In E-coat oven tape cures under the conditions described below. 3M SAT can be provided in either die-cuts or as a levelwound roll.

The SAT tape demonstrates good compatibility to stamping oils, dry-lubes and features broad adhesive and bake tolerances (see below tables for product performance). Furthermore, 3M SAT shows good initial tack and does not require a pre-cure process (i.e., induction or a body-in-white oven).

Please consult with your 3M application engineer representative for your specific application and tape solution.

Product Appearance and Construction



Storage and Handling

Storage and Shelf Life: The product should be used within six (6) months, when stored at 23 °C (73 °F). It is recommended that parts with an expired shelf life be discarded. Please refer to the expiry date on the packaging label.

Dwell Time: The maximum time between tape application and final curing is under investigation.

Handling: Please consult with your 3M application engineering representative for hem-bonding tape applications.

Physical Properties

	SAT 1100S-100	SAT 1100S-200	SAT 1100S-400
Material thickness (mm)	0.1 mm	0.2 mm	0.4 mm
Tolerance (+/- mm)	0.02 mm	0.04 mm	0.08 mm
Output format	Die-cuts		
	Level-wound rolls Maximum Length 500m Width: ≥ 10 mm and ≤ 40 mm		
Shelf Life	6 months at 23 °C		
Storage and handling at converter	Room temperature, 23 °C		
Liner	Transparent red polyester liner		
Color	Dark gray		

Performance Properties

The following performance values are the results of illustrative lab tests and shall not be considered as a commitment from 3M. The values presented are typical and are not to be used for specification purposes. These products have been tested using a standard curing temperature of 180 °C (363.2 °F) for 30 minutes and standard paint curing conditions. Comparable results can be achieved for typical minimum curing conditions 15 minutes at 165 °C and maximum curing conditions are 40 minutes at 195 °C.

Test	Substrate and surface	Result	
Lap shear strength (EN 1465)	Steel – HD-Elo 0.8 mm Oily: 3g/m ² Fuchs PL3802-39-S	Room temperature:	17.8 MPa *
		80 °C:	14.4 MPa *
		-30 °C:	22.1 MPa *
	Steel – DC04 2 mm Solvent cleaned	Room temperature:	25.1 MPa *
		80 °C:	20.4 MPa *
		110 °C:	15.3 MPa *
Aluminum (6000 series) 1.2 mm with E1 Drylube	150 °C:	8.3 MPa **	
	Room temperature:	17.3 MPa *	
T-Peel-resistance (EN ISO 11339)	Steel – HD-Elo 0.8 mm Oily: 3g/m ² Fuchs PL3802-39-S	Room temperature:	7.0 N/mm *
		80 °C:	7.0 N/mm *
		-30 °C:	7.5 N/mm *
E-Modulus (EN ISO 527)		Room temperature:	3600 MPa
Elongation (EN ISO 527)		Room temperature:	2.5 %
Ageing	Good performance in different ageing tests like PV1210, PV1200, VDA233-102 or cataplasm tests.		

Bond thicknesses: 300um on HD steel and aluminum. 100 um on Steel CD04.

* CF cohesive failure pattern according EN ISO 10365

** SCF special cohesive pattern according EN ISO 10365

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