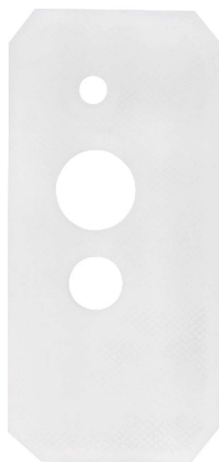


3M™ Structural Adhesive Tape SAT1010M

Technical Data Sheet



3M™ Structural Adhesive Tape SAT1010M is a single layer-epoxy based adhesive tape for the Automotive industry (BIW) formulated for metal bonding applications. This tape is designed to provide structural bonding strength for various applications on metal components and for the bonding and isolation of dissimilar materials. In addition to bonding performance, the tape features gap filling properties due to expansion function.

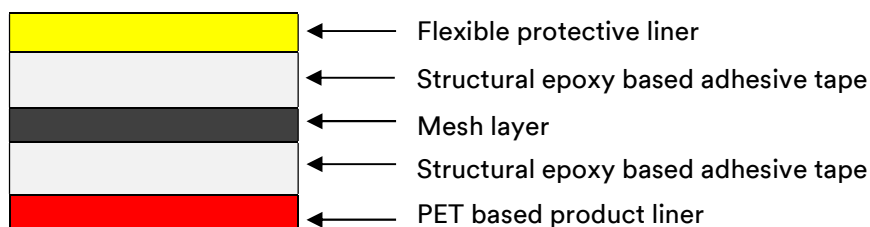
The tape is applied during body-in-white process, run through the automotive paint pre-treatment process, and then the E-coat process. In the E-coat oven, the tape expands and cures under the conditions described below. During the paint process, SAT1010M provides an isolation barrier between two dissimilar materials, helping to guard against galvanic corrosion.

SAT1010M is available in levelwound rolls or as die-cuts. The tape demonstrates good compatibility with stamp oils and features broad adhesive gap and bake tolerances.

Note: Body-in-white ovens may lead to performance defects of SAT1010M.

Please consult with your 3M technical service representative for specific applications.

Product Construction



Physical Properties

	SAT1010M-200	SAT1010M-400
Thickness	0.2 mm	0.4 mm
Width	10 – 30 mm	≤ 490 mm
Length	Levelwound rolls ≤ 500 M Application specific die-cuts	
Color	White	
Liner Color / Material	Transparent Red / Polyester (36 micron thick) Transparent Polyethylene (20 micron thick)	Transparent Red / Polyester (36 micron thick)
Curing Conditions	Minimum temperature of 165°C (330°F) for a minimum of 15 minutes. Maximum temperature of 195°C (385°F) for a maximum of 40 minutes.	

Features, Advantages, and Benefits

Feature	Advantages	Benefits
Wide range of cure or processing profiles	Bonds to metal with stamping lubes	Reduces manufacturing costs associated with material prep and cleaning
	Cure can be consolidated with other process steps	Simplifies manufacturing process
		Fits into existing processes
Stable at a controlled room temperature 21°C/70°F (+/-2) up to 6 months after production	Does not require low temperature storage -- compared to structural adhesive films	Increased user flexibility
Tape can be dispensed via automation	Controlled application	Worry-free assembly
		Improves quality by reducing variability of application
		Repeatable process
Adheres to multiple materials	Bonds different materials in car	Helps enable lightweighting
Expands during cure	Seals and bonds metals	May help reduce corrosion warranty claims in some applications
	Helps prevent water ingress that could lead to corrosion	
	Provides gap filling	
Easy to use tape format	Supplied as a ready to apply product with the ability to be applied in defined locations	Improves quality by reducing variability of application
		Cleaner application than liquid adhesives
	Consistent thickness	Reduction in rework
		Improves quality by reducing variability of application

Performance Properties

The following performance values are the results of illustrative lab test measures 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 min and standard paint curing conditions:

Test	Substrate and Conditions	Results
OLS (DIN EN 1465)	Steel 50G/50G HD 0.8 mm Oil 3g/m ² Fuchs™ Anticorit 4107	Room Temperature: 14 MPa
		80°C (176°F): 9 MPa
		-30°C (-22°F): 13 MPa
T-Peel (DIN EN 1464)	Steel 50G/50G HD 0.8 mm Oil 3g/m ² Fuchs™ Anticorit 4107	Room Temperature: 5 N/mm
E-Module to ASTM 638		2460 MPa
Elongation to ASTM 638		5%
Volume-Expansion FLTM BV108		ca 10%*

* Depending on process parameter

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Storage and Handling

Storage and Shelf Life: Product should be used within six (6) months from date of shipment, when stored at 21°C (70°F). It is recommended that parts with an expired shelf life be discarded. A “USE BEFORE” label should be applied to parts shipped to the OEM plant. Levelwound rolls should be stored at 6°C (43°F).

Handling: Observe proper handling precautions as outlined in the SDS, which is available on request or at www.3M.com/msds. Please consult with your 3M technical service representative for application methods.

Curing Conditions: Minimum curing conditions are 15 minutes at 165°C (330°F) and maximum curing conditions are 40 minutes at 195°C (385°F).

Regulatory Information

Please refer to the product label and Safety Data Sheet (SDS) for health and safety information before using. Observe proper handling precautions as outlined in the SDS, which is available on request or at www.3M.com/msds.

The product is published in IMDS and is available for access on www.mdssystem.com. For product IMDS I.D. number, email requests to 3M-IMDSrequest@mmm.com.

Contact Information

The information provided in this technical document is intended as a guide for this product. For more information or help in selecting a 3M product for an application, please contact your 3M technical service representative or call 1-800-328-1684.

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