

# 3M™ Thermally Conductive Adhesive Transfer Tape (TCATT) TM-670SA • TM-671SA • TM-672SA

## Product Description

3M™ Thermally Conductive Adhesive Transfer Tape (TCATT) TM-670SA, TM-671SA and TM-672SA are respectively 0.25, 0.375 and 0.5mm thickness pressure sensitive adhesive tapes filled with thermally conductive ceramic particles and flame retardant fillers. These products have different adhesion performance varied by each side as liner side (paper liner laminated side) and non-liner side (inside of tape). Compared to same thickness of 3M TCATT TM-67X series products, these products show much stronger adhesion performance on the liner side through a uniquely constructed PSA layer. Also, these products are specially designed to have certain level of flame retardant performance. Softness of these products is good enough to wet-out well on uneven surface with normal bonding pressure (~1kgf/cm<sup>2</sup>) and keeps the holding power at certain severe environmental conditions.

High dielectric property prevents electrical confusion for electric devices. This product does not contain any banned chemical, heavy metal, halogen compounds and other restricted material.

## Product Uses

This product can be used for heat management of electronic devices for general heat dissipation devices and other bonding/joining parts in electronic products.

## Key Features

- Good thermal conductivity (>0.5 W/m-K)
- Fine electrical insulation
- Low thermal impedance
- Flame retardant (UL94 V-2 grade)
- Good and reliable adhesion performance against Al and SUS
- Vibration damping

## Construction

Product Number	3M™ Thermally Conductive Adhesive Transfer Tape		
	TM-670SA	TM-671SA	TM-672SA
Adhesive Type	Soft Acrylic Adhesive		
Tape Thickness (mm)	0.25	0.375	0.50 (±0.5mm)
Tape Color	White (slightly grey dotted)		
Filler Type	Ceramic Particle		
Product Liner	130 μm Paper Liner with red 3M Logo		
Roll Length	Standard: 33MT Custom size can be supplied by request.		



# 3M™ Thermally Conductive Adhesive Transfer Tape (TCATT) TM-670SA • TM-671SA • TM-672SA

## Application Ideas

- General Heat Sink Bonding
- IC Chip Packaging Heat Conduction
- Printed Circuit Board
- LED module / board bonding
- Flat Panel Display TV as LCD and PDP
- COF Chip Heat Conduction

Mechanical fastening such as clamp, bracket, screw can be used in parallel with this 3M™ Thermally Conductive Adhesive Transfer Tape.

## Typical Physical Properties and Performance Characteristics

**Note:** The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

Product Number	3M™ Thermally Conductive Adhesive Transfer Tape			
	TM-670SA	TM-671SA	TM-672SA	
<b>Unit: grams/12.7mm width</b>				
<b>ASTM D-330</b> <b>90° Peel Adhesion</b> <b>Crosshead speed: 508mm/min.</b> <b>72 hr dwell at 70°C</b> <b>SUS 304 test substrate</b>	<b>Liner side</b> <b>Non-liner side</b>	>3500 >1000	>3800 >1200	>4000 >1500
<b>ASTM D-1002</b> <b>Dynamic Shear</b> <b>Crosshead speed: 305mm/min.</b>	<b>Initial Strength</b> <b>(SUS to SUS)</b>	>38	>35	>30
<b>Foam Density (grams/cm³)</b>	1.4 (±0.09)			
<b>Flammability (UL-94)</b>	V2 (QMFZ2.E239181)			
<b>Thermal Conductivity</b> <b>(W/m-K on plane direction)</b>	0.60			

## Application Ideas

- Bond strength is dependent upon the amount of adhesive to surface contact developed. Firm application pressure helps to develop better adhesive contact and improve bonding strength.
- To obtain optimum adhesion, the bonding surfaces must be clean, dry and well unified. Typical surface cleaning solvents are isopropyl alcohol and water (rubbing alcohol) or heptane. **Note:** Be sure to follow the manufacturer’s safety precautions and directions for use when using solvents.
- Ideal tape application temperature range is 21°C to 38°C (70°F to 100°F). Initial tape application to surfaces at temperatures below 10°C (50°F) is not recommended because the adhesive becomes too firm to adhere readily. However, once properly applied, low temperature holding is generally satisfactory.

# 3M™ Thermally Conductive Adhesive Transfer Tape (TCATT) TM-670SA • TM-671SA • TM-672SA

## Certification/Recognition

**MSDS:** 3M has not prepared a MSDS for this product which is not subject to the MSDS requirements of the Occupational Safety and Health Administration's Hazard Communication Standard, 29 C.F.R. 1910.1200(b)(6)(v). When used under reasonable conditions or in accordance with the 3M directions for use, the product should not present a health and safety hazard. However, use or processing of the product in a manner not in accordance with the directions for use may affect its performance and present potential health and safety hazards.

**TSCA:** This product is defined as an article under the Toxic Substances Control Act and therefore, it is exempt from inventory listing requirements.

**RoHS:** This product complies with the requirements of EU Directive 2002/95/EC and 2005/618/EC.

## For Additional Information

To request additional product information or to arrange for sales assistance, call toll free 1-800-251-8634. Address correspondence to: 3M, Electronics Markets Materials Division, 3M Center, Building 225-3S-06, St. Paul, MN 55144-1000. Our fax number is 651-778-4244 or 1-877-369-2923. In Canada, phone: 1-800-364-3577. In Puerto Rico, phone: 1-787-750-3000. In Mexico, phone: 52-70-04-00.

## Important Notice

All statements, technical information, and recommendations related to 3M's products are based on information believed to be reliable, but the accuracy or completeness is not guaranteed. Before using this product, you must evaluate it and determine if it is suitable for your intended application. You assume all risks and liability associated with such use. Any statements related to the product which are not contained in 3M's current publications, or any contrary statements contained on your purchase order shall have no force or effect unless expressly agreed upon, in writing, by an authorized officer of 3M.

## Warranty; Limited Remedy; Limited Liability.

This product will be free from defects in material and manufacture at the time of purchase. **3M MAKES NO OTHER WARRANTIES INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** If this product is defective within the warranty period stated above, your exclusive remedy shall be, at 3M's option, to replace or repair the 3M product or refund the purchase price of the 3M product. **Except where prohibited by law, 3M will not be liable for any indirect, special, incidental or consequential loss or damage arising from this 3M product, regardless of the legal theory asserted.**



### Electronics Markets Materials Division

3M Center, Building 225-3S-06  
St. Paul, MN 55144-1000  
1-800-251-8634 phone  
651-778-4244 fax  
[www.3M.com/electronics](http://www.3M.com/electronics)

3M is a trademark of 3M Company.  
Please recycle. Printed in U.S.A.  
© 3M 2009. All rights reserved.  
60-5002-0390-0

