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Technical Data | September 2026

3M™ Thermally Conductive Adhesive Transfer Tape 88xx Series

Product Description

3M™ Thermally Conductive Adhesive Transfer Tapes (TCATT) 88xx Series are pressure-sensitive adhesives (PSAs) loaded with thermally conductive fillers that require no heat-cure cycle to form a bond to many substrates. These tapes are designed to provide a preferential heat-transfer path between heat-generating components and heat sinks or other cooling devices (e.g., fans, heat spreaders, or heat pipes).

Key Features

- Excellent dielectric performance
- Excellent shock performance
- Improved wet-out for rough surfaces and low surface energy (LSE) substrates
- Ideal for thin bonding applications
- Good thermal transfer
- Halogen free*

*Halogen free is defined as having maximum 900 ppm bromine, maximum 900 ppm chlorine, and maximum 1500 ppm total bromine and chlorine, per IEC 61249-2-21

Product Construction

	Clear PET Liner (Easy Release)
	Thermally Conductive Acrylate Adhesive
	Blue PET Liner (Tight Release)

Material Description

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

3M™ Thermally Conductive Adhesive Transfer Tape 88xx Series				
Product Number	**8805**	**8810**	**8815**	**8820**
Color	White			
Adhesive Type	Filled Acrylic Polymer			
Tape Thickness	0.125 mm (5 mils)	0.25 mm (10 mils)	0.375 mm (15 mils)	0.50 mm (20 mils)
Primary Filler	Ceramic			
Product Liner	Dual liner using silicone-treated polyester. Easy release PET liner is clear in color, and tight side PET liner is blue in color.			
Liner Thickness	37.5 – 50 µm (1.5 – 2 mils) thickness for inside or outside wound liner.			

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Typical Applications

- General heat sinks bonding
- Integrated chip (IC) packaging heat conduction
- Printed circuit board
- LED module/board bonding and display assembly (e.g. LCD and LED devices)
- COF chip heat conduction

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. Final product specifications and testing methods will be outlined in the product's Certificate of Analysis (COA) that is shipped with the commercialized product.

3M™ Thermally Conductive Adhesive Transfer Tape 88xx Series					
Property	**Method***	**8805**	**8810**	**8815**	**8820**
90° Peel Adhesion g/25.4mm (oz/in) 15 min. dwell at RT Untreated aluminum	D3330	990 (35)	1300 (46)	1500 (53)	1700 (60)
90° Peel Adhesion g/25.4mm (oz/in) 72 hr. dwell at RT Untreated aluminum	D3330	1500 (53)	2130 (75)	2520 (89)	3060 (108)
90° Peel Adhesion g/25.4mm (oz/in) 15 min. dwell at 65°C Untreated aluminum	D3330	1450 (51)	2040 (72)	2440 (86)	2780 (98)
90° Peel Adhesion g/25.4mm (oz/in) 72 hr. dwell at 65°C Untreated aluminum	D3330	1590 (56)	2500 (88)	4000 (141)	4130 (181)
Static Shear – SS and PET 1000g at RT using 1 in^2	3M Test Method	> 1000 hours			
Static Shear – SS and PET 500g at 70°C using 1 in^2	3M Test Method	> 1000 hours			
Dielectric Strength (kV/mm)	D149	26			**
Dielectric Frequency	D150	3 MHz	100 MHz	1 GHz	**
Dielectric Constant	D150	3.5	3.2	3.0	**
Specific Gravity (g/cm^3)	D6111	1.07			
Surface Resistivity (Ω-cm)	D257	1.6×10^{11}	1.6×10^{11}	1.5×10^{11}	$**1.5 \times 10^{11}$
Volume Resistivity (Ω-cm)	D257	5.2×10^{11}	3.9×10^{11}	3.8×10^{11}	$**3.8 \times 10^{11}$
Thermal Impedance (°C-cm^2/W)	3M Test Method	3.2	5.8	7.7	9.7
Thermal Conductivity (W/mK)	C177	0.6			
Operating Temperature (°C)	3M Test Method	125-150 (hours/days) 90-100 (weeks/months)			
Heat Aging and Environmental Cycling Performance* **	UL-746C	PASS. Contact your 3M technical services representative for more details.			TBD

*Methods listed as ASTM are tested in accordance with the ASTM method noted

**Estimated value based on 3M Tape 8815 test data

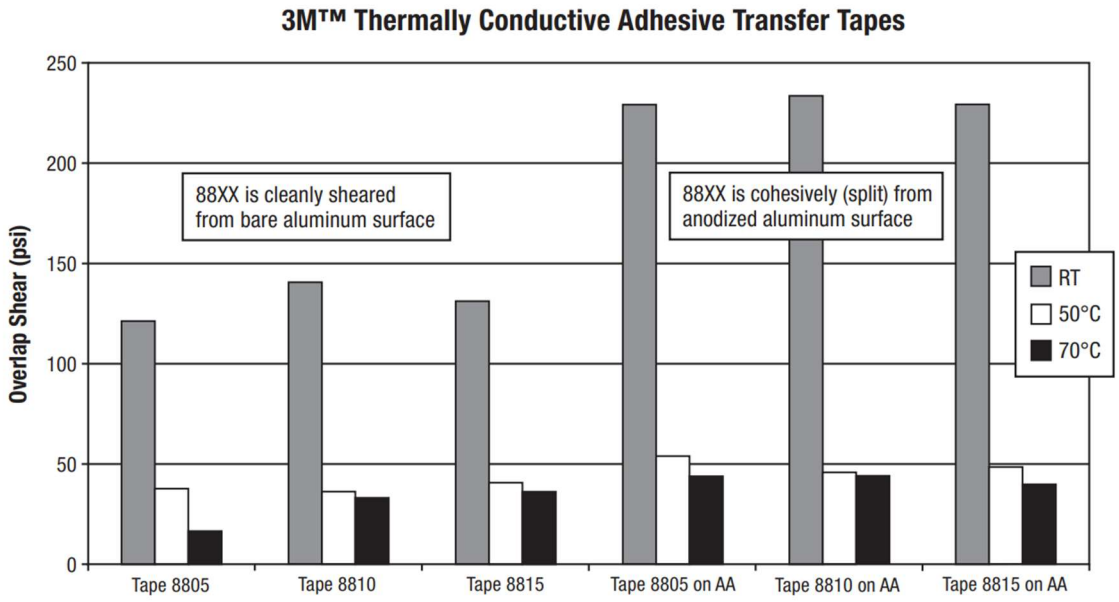
***UL-746A file number E213134

Note: The end-use customer application, design and verification testing will determine the final in-use effective temperature range based on each application's environmental conditions.

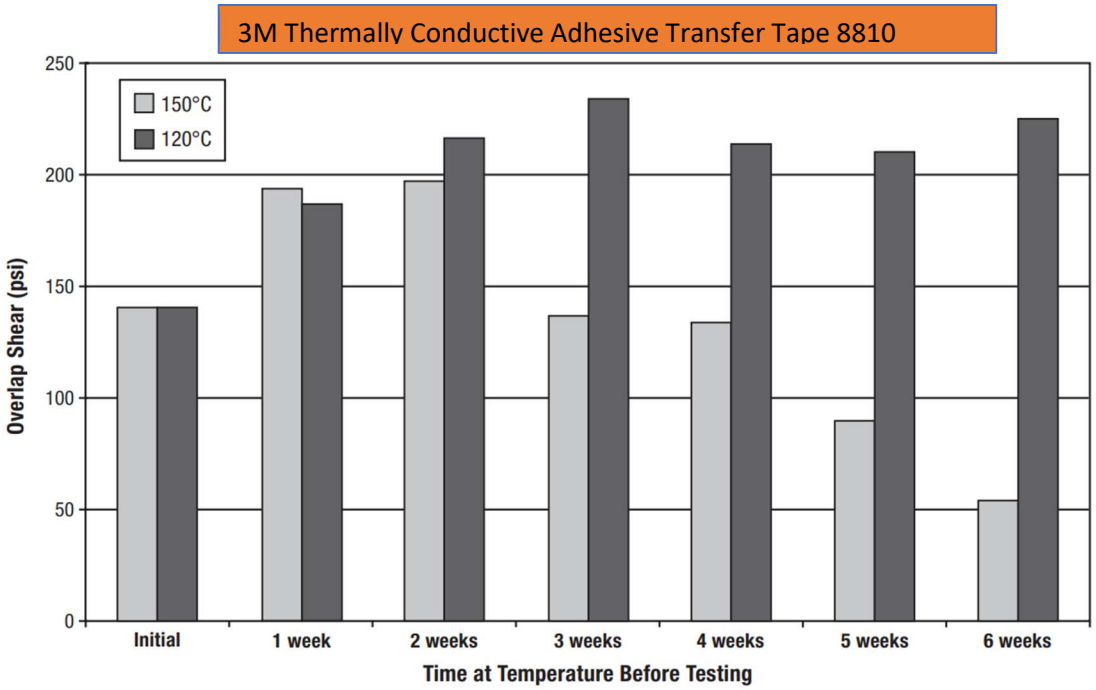
3M™ Thermally Conductive Adhesive Transfer Tape 88xx Series
Typical Physical Properties and Performance Characteristics (continued)

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

Overlap Shear at Specific Temperatures Properties: (Test conditions: Test substrates are bare untreated aluminum or anodized aluminum, 1 in. 2 test sample size, shear speed = 0.5 inch/minute. Samples heated to temperature noted below in 5 minutes and then OLS tested. Before testing, samples dwell for 3 days at RT to build adhesive bond to substrate).



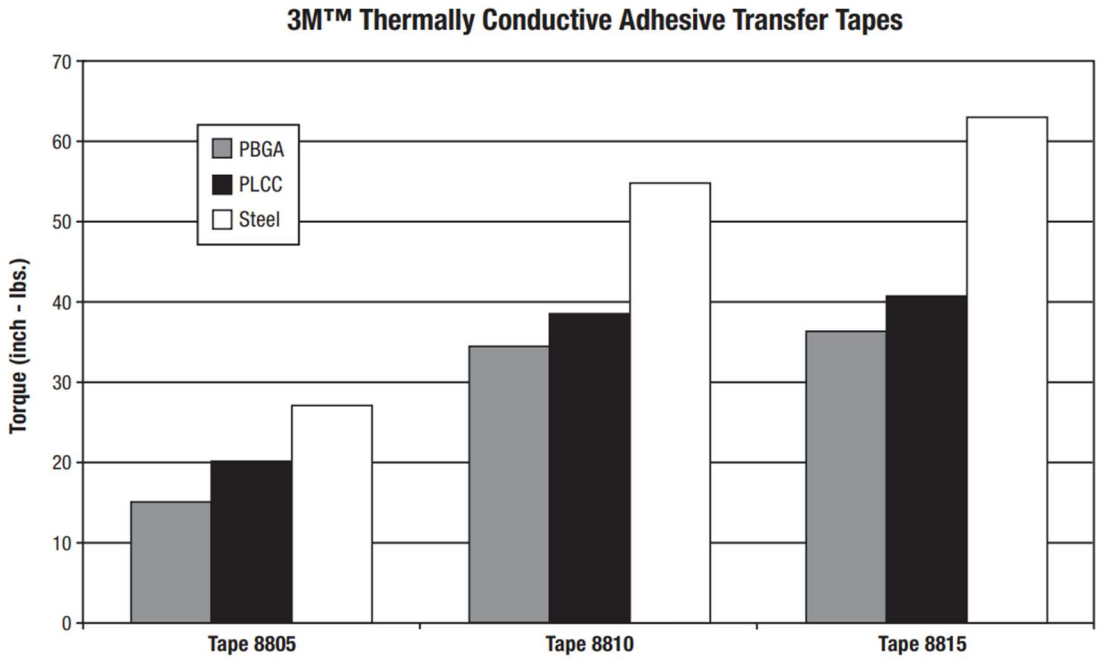
Overlap Shear Heat Aged Properties: (Test conditions: Test substrates are bare untreated aluminum, OLS speed is 0.5 in./min., adhesive cleanly removes from substrate surface during OLS test, 1 in. 2 test sample size, test at RT conditions after aging cycle complete, 3M Tape 8810).



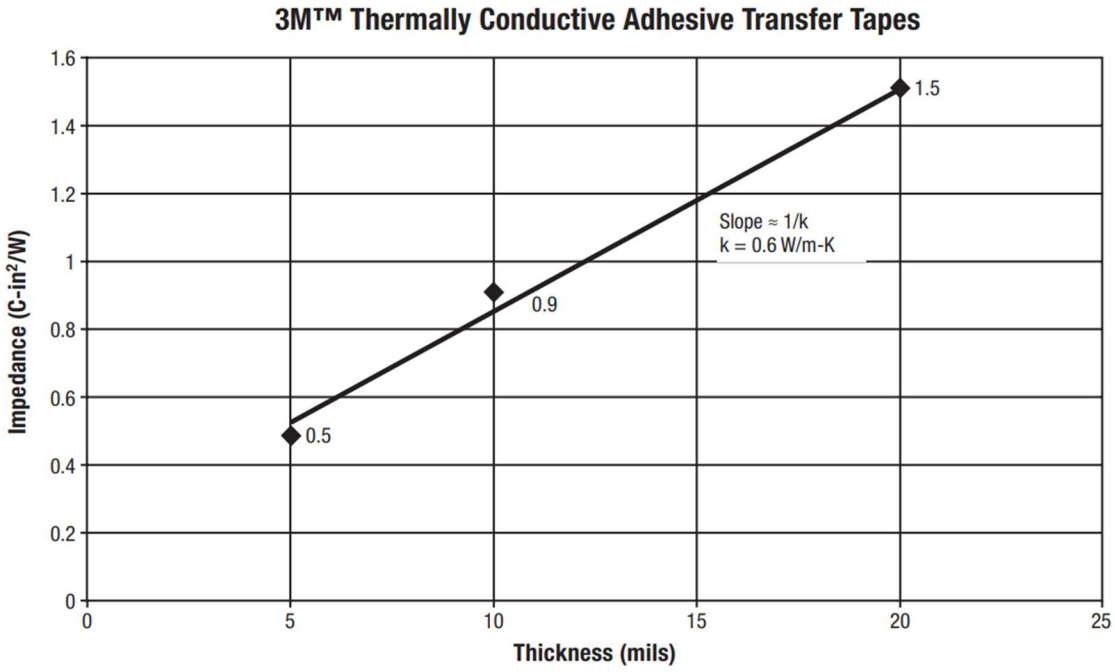
3M™ Thermally Conductive Adhesive Transfer Tape 88xx Series
Typical Physical Properties and Performance Characteristics (continued)

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

Torque Resistance: (Test conditions: This test indicates the resistance to twisting shear forces, heat sink attachment to different chip package material types, 1.0 hour room temperature dwell after attachment to the package surface before torque testing is completed).



Thermal Impedance (C-in2/W) vs. Thickness: (Test Conditions: 3M test method).



3M™ Thermally Conductive Adhesive Transfer Tape 88xx Series

Available Sizes

Width: Maximum width 22 inches.
Length: Multiples of 36 yds. Maximum 108 yds.
Custom Sizes: Contact your local 3M sales representative for information and availability of custom sizes (width and length) or die cut parts of 3M™ Thermally Conductive Adhesive Transfer Tapes 8805, 8810, 8815 and 8820.

Application Guidelines

1) Substrate surfaces should be clean and dry prior to tape application. Isopropyl alcohol (isopropanol) applied with a lint-free wipe or swab should be adequate for removing surface contamination such as dust or fingerprints. Do not use "denatured alcohol" or glass cleaners which often contain oily components. Allow the surface to dry for several minutes before applying the tape. More aggressive solvents (such as acetone, methyl ethyl ketone (MEK) or toluene) may be required to remove heavier contamination (grease, machine oils, solder flux, etc.) but should be followed by a final isopropanol wipe as described above.
   Note: Be sure to read and follow the manufacturers' precautions and directions when using primers and solvents.
2) Apply the tape to one substrate at a modest angle with the use of a squeegee, rubber roller, or finger pressure to help reduce the potential for air entrapment under the tape during its application. The liner can be removed after positioning the tape onto the first substrate.
3) Assemble the part by applying compression to the substrates to ensure a good wetting of the substrate surfaces with the tape. Proper application of pressure (amount of pressure, time applied, temperature applied) will depend upon design of the parts. Rigid substrates are more difficult to bond without air entrapment as most rigid parts are not flat. Use of a thicker tape may result in increased wetting of rigid substrates. Flexible substrates can be bonded to rigid or flexible parts with much less concern about air entrapment because one of the flexible substrates can conform to the other substrate.
4) Application pressure guideline table for 3M™ Thermally Conductive Adhesive Transfer Tapes 8805, 8810, 8815 and 8820 (more pressure equals better wetting).

Substrate	Application Conditions	Time
Rigid to rigid	Minimum: 15 psi at room temperature Preferred: 50 psi at room temperature	2 sec 5 sec
Flexible to rigid	Minimum: 5 psi at room temperature Preferred: 15 psi at room temperature	2 sec 5 sec
Flexible to flexible	Minimum: 5 psi at room temperature Preferred: 15 psi at room temperature	2 sec 5 sec

5) Application Tips:
   a. For rigid to rigid bonding, a twisting motion during assembly of the substrates will improve wetting. This should be a back and forth twisting motion during the application of compression.
   b. For flexible to rigid or flexible to flexible bonding, a roll lamination system may be employed to apply the flexible substrate down to the rigid (or other flexible) substrate. Rubber nip rollers, heated steel rollers, and other methods can be employed to bond in a continuous manner.
   c. Heat can be employed to increase wetting percentage and wetting rate of the substrates and to build room temperature bond strength.
   d. Primers may be employed to increase adhesion to low surface energy substrates (e.g. plastic packages). Contact your 3M Technical Service Representative for more information about primers.
   e. For best product performance, it is important to use pressure and time conditions to achieve as much wetting as possible.
6) Rework Tips:
   a. Rework requires separation of the two substrates. Separation can be accomplished by any practical means: prying, torquing or peeling. The tape will be destroyed upon separation and must be replaced. The surfaces should be re-cleaned according to the recommendations in this data page.
   b. Heating up the substrates can reduce the adhesion level and make removal easier.
   c. Part separation can be aided by immersion in warm water. This should eventually reduce the adhesion and make prying, torquing, or peeling apart the substrates easier.

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Storage and Shelf Life

The shelf life of 3M™ Thermally Conductive Adhesive Transfer Tape 88xx Series is 24 months from the date of manufacture when stored in original packaging material and stored at 22°C (72°F) and 50% relative humidity.

Certificate of Analysis (COA)

The 3M Certificate of Analysis (COA) for this product is established when the product is manufactured and is deemed commercially available from 3M. The COA contains the 3M specifications, test methods, and test results for the product's performance attributes that the product will be supplied against. Contact your local 3M representative for this product's COA.

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Regulatory: For regulatory information about this product, contact your 3M representative.

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3M

3M Display & Electronics
3M Center, Building 223-3S-32
St. Paul, MN 55144-1000 U.S.A.

Phone 1-800-3M HELPS
Web 3M.com/Electronics

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