

TCTxx



THERMAL CONDUCTIVE ADHESIVE FOIL

DESCRIPTION

TCTxx double-sided adhesive tapes provide an effective thermal interface between electronic component and heat sinks.

The tape has high thermal conductivity and exceptional bonding properties – eliminating the need for thermal grease and mechanical fasteners.

TCTxx consists of a thermal conductive acrylic sheet, loaded with oxide particles and coated on both sides with an adhesive film carrier. The foil feature conjunct excellent adhesive force and best thermal conductivity.

TCTxx conductive tapes are shielded on both sides with a protective layer who will remove easily before using.

Extensive testing has shown that **TCTxx** tapes provides thermal and mechanical results superior to those of flat thermal tapes.

TCTxx tapes offer excellent thermal, mechanical, environmental and chemical properties.

Vibration testing at 10G shows no adverse effects. Unlike traditional acrylic pressure-sensitive tapes, after extended temperature/humidity aging and harsh conditions, **TCTxx** tapes meet or exceed initial properties for shear strength and thermal conductivity.

APPLICATIONS

TCTxx thermal tapes bond heat sinks to hot components. They attach components to vertical heat sinks or metal chassis walls in place of clips, screws or other mechanical fasteners, and require no additional thermal compound.

TCTxx tapes have many advantages over traditional adhesives such as hot melts or thermal epoxies. They can be consistently applied to meet design-level thermal and adhesive requirements. The tapes can be removed after application, reducing repair and rework costs in both the manufacturing plant and the field.

Unlike rigid adhesives, **TCTxx** thermal tapes are pliable and conformable, reducing concerns over CTE mismatch and the cracking or splitting of components or epoxy bond lines.

TCTxx tapes offer advantages over mechanical fasteners or liquid adhesives which may require a large capital investment.

TCTxx thermal conductive adhesive tape is an ideal matter to fix heat sinks on hot component surfaces like CPU's, power amplifiers, motor driver, LED heat sinks and Peltier coolers.

TYPICAL PROPERTIES

Summaries of test procedures used for **TCT-xx** thermal tapes are described below. Thermal performance, die shear strength and visual inspection were used as pass/fail criteria.

For specific applications detailed tests should be made first.

Property		Test-Method
Carrier	Acryl	-
Color	white	
Thickness [mm]	0.25	-
Tensile Strength [N/10mm]	1	ASTMD-412
Peel Adhesion [KN/m]	0.56	ASTD-903
Shear Adhesion [N/cm ²]	40	
Elongation [%]	5	ASTMD-412
Therm. Conductivity W / m*K	1.0	MIL-I-49456A
Dielectric Breakdown [KV]	2.0	
Flammability Rating	V-O	UL 94
Operating Temperature [°C]	-60 ... 150	
Long-Term Storage @ 22°C [Years]	min. 3	
OQ	10/100 /1000	

ORDER INFORMATION

TCT25	Thermal Conductive Adhesive Foil 25x25mm	953500001
TCT35	Thermal Conductive Adhesive Foil 35x35mm (for HFB35..)	953500001
TCT42	Thermal Conductive Adhesive Foil 42x42mm (for HFB44..)	954400001
	Other dimension on request	

APPLICATION INSTRUCTIONS

Material needed:

- Clean cotton cloth or rag,
- Industrial solvent (Toluene, Acetone Isopropyl Alcohol)

Please follow safety instructions for solvent!
Use rubber gloves.

Ensure that bonding surfaces are absolutely free from oil, dust etc. Wipe surfaces with a cloth dampened with industrial solvent.

Remove yellow or brown liner or remove pre-cut tape from shield foil. Apply to centre of heat sink bonding area and smooth over entire surface using moderate pressure.

Remove white embossed liner from the tape. Centre heat sink component and apply using moderate pressure

Approximately 70% of the ultimate adhesive bond strength is achieved with initial application and 100% is reached within 24 hours, however, the next manufacturing step can occur immediately following the initial application.

IMPORTANT: Only hold an active cooler at the outer edge and do not touch the impeller!