



AI TECHNOLOGY INC
 70 Washington Road
 Princeton Jct., NJ 08550
 (609) 799-9388 fax (609) 799-9308
 E-Mail: ait@aitechnology.com
 Internet: <http://www.aitechnology.com>

Stress Free, Ultra High

Thermal Conductivity

Reworkable

Diamond Filled

Epoxy Film Adhesive

IDEAL FOR:

Substrate and Component

Reworkability

Mismatched CTE's

DESCRIPTION:

TK7759 is a reworkable, diamond-filled, tacky epoxy film adhesive. It is designed for bonding die, component and substrate to a large and mismatched substrate or carrier. Bonding may be reworked at >80°C.

TK7759 has excellent thermal conductivity. Its low Tg adhesive imposes minimum thermal stress on bonded parts during thermal cycling or shock testing.

AVAILABILITY:

TK7759 is available in sheet sizes or as custom preforms. Standard thicknesses are 0.003" and 0.006". Special thicknesses are available.

APPLICATION PROCEDURES:

(1) Let adhesive thaw in bag or plastic box, as received, at ambient for 15 minutes.

(2) Cut to desired size.

(3) Clean contact surfaces if needed. After step 4, cure using one of the recommended schedules

(4) Remove one side of the release paper by peeling up a corner of the release paper. Fold the release paper over, approaching a 180° angle. Pull the release paper quickly removing it with one stroke. Apply to substrate, then remove other side of release paper and attach die or component.

CAUTION: This product may cause skin irritation. Avoid skin contact. If contact does occur, wash immediately with soap and water. Please refer SDS for more details.

The information contained herein is believed to be reliable. All recommendations or suggestions are made without guarantee inasmuch as conditions and methods of commercial use are beyond our control. Properties given are typical values and not intended for use in preparing specifications. The user is advised to evaluate the product in the manner the product is to be used in manufacturing and in the final product. Under no circumstance shall AI Technology be liable for accidental, consequential or other damages arising from the use or handling of this product.

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PRODUCT DATA SHEET

TACK FILM

TK7759

TYPICAL PROPERTIES*

Electrical Resistivity (150 °C/ 60 minutes)	>1x10 ¹⁴ ohm-cm
Dielectric Strength (Volts/mil)	>750 ±10%
Glass Transition Temp.(°C)	-25 ±10%
Lap-Shear Strength	1000 psi ±10% 6.9 N/mm ² ±10%
Device Push-off Strength	2400 psi ±10% 16.6 N/mm ² ±10%
Hardness (Type)	85 (A) ±10%
Cured Density (gm/cc)	2.3 ±10%
Thermal Conductivity	80 Btu-in/hr-ft ² -°F ±10% 11.4 W/m-°C ±10%
Linear Thermal Expansion Coeff. (ppm/°C)	110 ±15%
Maximum Continuous Operation Temp. (°C)	<150

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CURE SCHEDULES:

<u>Temperature</u>	<u>Time</u>	<u>Pressure</u>
80°C	8 hr	3-5 psi
100°C	4 hr	3-5 psi
125°C	2 hr	3-5 psi
150°C	1 hr	3-5 psi

Post-curing at 150°C for 16 hours is required for MIL-STD 883E, Method 5011.4 applications. The die or component can also be tacked on the substrate at 80°C or higher with 5 psi. When a fillet around the edge of the die or component is observed, the pressure can be released for the rest of the bonding cycle.

SHELF LIFE:

<u>Storage temperature</u>	<u>Shelf Life</u>
-40°C	1 yr

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