

## 7000 Specialty Series

### DATASHEET 7100 - 7500 Thermal Conductive Range

## Olympic 7000 Specialty Series: 7100 - 7500 Thermal Conductive Range

7100-TC04 range: Adhesive with a thermal conductivity of **0.4** W/m K

7200-TC10 range: Adhesive with a thermal conductivity of **1.0** W/m K

7300-TC15 range: Adhesive with a thermal conductivity of **1.5** W/m K

7400-TC20-P range: Adhesive with a thermal conductivity of **2.0** W/m K

7500-TC30-P range: Adhesive with a thermal conductivity of **3.0** W/m K

## Product description

Our Olympic Thermal Conductive Range is available in standard sizes of 0.25 mm, 0.40 mm, 0.50 mm, 0.60 mm, 0.80 mm, 1.00 mm, 1.20 mm, 1.60 mm and 2.00 mm thick pressure sensitive adhesive tapes. These tapes are based on a conformable 100% acrylic adhesive that is filled with thermal conductive ceramic particles, and flame retardant fillers. Other thicknesses are available on request.

This product range is designed to have good converting ability, handing and re-workability. The tape is based on a soft acrylic adhesive which offers excellent adhesion and conformability to many substrates and is particularly designed for adhesion to high/medium- surface- energy materials such as (threatened and non-threatened) metallic, ceramics and glass surfaces.

The Olympic Thermal Conductive Range is also available in pads of various dimensions.

## Application techniques

To achieve a proper bond it is important to consider the following:

- ✓ Olympic Thermal Conductive Range is based on an acrylic pressure sensitive adhesive. Firm application pressure improves the bonding strength.
- ✓ Olympic Thermal Conductive Range adheres to surfaces immediately and the bond strength further improves over time. It reaches maximum bond strength after 72 hours (at room temperature).
- ✓ The time needed to reach maximum bond strength can be reduced significantly by increasing the overall temperature of the bonded surfaces.
- ✓ The bonding surfaces must be clean and dry to achieve full adhesion. Surfaces must be cleaned by using solvents such as isopropyl alcohol, rubbing alcohol, or heptane.
- ✓ The ideal tape application temperature range is 20 °C to 35 °C. Initial tape application to surfaces at temperatures below 10 °C is not recommended. However, once properly applied, low temperature holding is generally satisfactory.

## General physical characteristics

The table below lists the standard physical properties of a roll acrylic foam tape from the 7000 series as it is typically produced. Other adhesive colors (gray, blue), types of release liner (e.g. siliconized paper) and types of cores (e.g. paper core) are all possible on customer request.

Tape Thickness	Series				
	7100-TC04	7200-TC10	7300-TC15	7400-TC20-P	7500-TC30-P
0.25	7102-TC04	7202-TC10	7302-TC15	7402-TC20-P	7502-TC30-P
0.40	7104-TC04	7204-TC10	7304-TC15	7404-TC20-P	7504-TC30-P
0.50	7105-TC04	7205-TC10	7305-TC15	7405-TC20-P	7505-TC30-P
0.60	7106-TC04	7206-TC10	7306-TC15	7406-TC20-P	7506-TC30-P
0.80	7108-TC04	7208-TC10	7308-TC15	7408-TC20-P	7508-TC30-P
1.00	7110-TC04	7210-TC10	7310-TC15	7410-TC20-P	7510-TC30-P
1.20	7112-TC04	7212-TC10	7312-TC15	7412-TC20-P	7512-TC30-P
1.60	7116-TC04	7216-TC10	7316-TC15	7416-TC20-P	7516-TC30-P
2.00	7120-TC04	7220-TC10	7320-TC15	7420-TC20-P	7520-TC30-P

## Product uses and applications

This product can be used for heat management in electronic devices and for general heat dissipation in devices. This product may also be used for bonding/joining parts in electronic products. Examples of applications are:

- General Heat Sink Bonding
- IC Chip Packaging Heat Conduction
- Printed Circuit Board
- Flat Panel Display assembly
- COF Chip Heat Conduction
- LED module/board bonding

## Key features

- Wide range of thermal conductivities (0.4 – 3.0 W/m K)
- Good softness and conformability even to non-flat surfaces
- Excellent and reliable adhesion performance to metals, ceramics and glass.
- Good wettability for better thermal conductivity
- Thermal Conductive Range (7100-TC04, 7200-TC10, 7300-TC15, 7400-TC20-P and 7500-TC30-P series)
- Good electrical insulations

## Product design

Product	Olympic Thermal Conductive Range
Adhesive type	100% acrylic adhesive
Thickness	0.25, 0.40, 0.50, 0.60, 0.08, 1.00, 1.20, 1.60 and 2.00 mm
Color	<input type="checkbox"/>
Filler	Ceramic
Release liner	130 micron red PE liner or 50 micron siliconized transparent PET
Roll width	0.9 meter (other widths available on request)
Roll length	50 meter (other lengths available on request)

White

## Typical physical properties and performance characteristics

Product	Olympic Thermal Conductive Range				
	7100-TC04	7200-TC10	7300-TC15	7400-TC20-P	7500-T30-P
Peel adhesion [N/inch]  ASTM D3330 Aluminum backing	44	30	25	20	15
Thermal conductivity <sup>[1]</sup> [W/m K]	0.4	1.0	1.5	2.0	3.0
Flammability UL 94	-	V-0	V-0	V-0	V-0

[1] Thermal conductivity is determined by using modified transient plane source technique.



90° peel strength according to ASTM D3330. Stainless steel substrate, aluminum backing. 72-hour dwell time at room temperature. Listed value is average value force to remove tape at room temperature.



Static shear according to ASTM D3654. Stainless steel substrates, 0.5 sq.in. (3.23 sq.cm.), 24-hour dwell time at room temperature. The tape will hold its listed weight for 10,000 minutes (approximately seven days) at the listed temperature.

## Storage and shelf life

Shelf life is 24 months from the date of manufacture when stored in its original casing between 18 ° - and 22 °C at 50% relative humidity.

## Additional information

The technical information, recommendations, and other statements contained in this document are based on Olympic's tests or experience. Many factors beyond Olympic's control and uniquely within user's knowledge and control can affect the use and performance of an Olympic product in a particular application. Given the variety of factors that can affect the use and performance of an Olympic product, the user is solely responsible for evaluating the Olympic product and determining whether it is fit for a particular purpose and suitable for user's method of application.

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