Technical Data Sheet

BondaPro™ 1010

Thermally Conductive Adhesive

29.07.2019 / ver. 1.0

Description

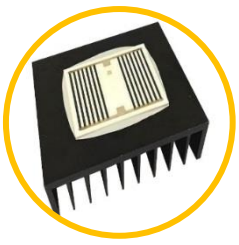
Two-component gray, heat-curing, thermally conductive adhesive with low viscosity silicone, flame resistance, self-leveling and flowable. produce no by-products in the cure process allowing their use in deep section and complete confinement. These adhesives will develop good, primerless adhesion to a variety of common substrates including metals, ceramics, epoxy laminate boards, reactive materials and filled plastics. Product developed for heat sink applications. **BondaPro™ 1010** comes packaged in a 10 ml, 25 mL manual dual syringe or a 50 mL industrial, dual-cartridge for use with a dispensing gun. The set also includes static mixing tips.

Benefits and features

- 1:1 Mix Ratio by Volume
- Highly flowable, self-leveling
- Versatile Heat Cure
- Thermally Conductivity: 1 W/m-K
- Operating temperature range from -45 to 200 ℃
- UL 94 V-0 Flammability Rating

Applications and usages

BondaPro™ 1010 provide efficient thermal transfer for the cooling of components in power supply, consumer electronics and automotive applications. Product is employed for bonding heat sinks to electronics components and circuit boards to dissipate heat.



Examples of use

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Typical Properties

Property	Unit	Result
Heat Cure Time at 100 °C	min	50
Heat Cure Time at 125 °C	min	40
Heat Cure Time at 150 °C	min	10
Rheometer T90 Cure Time at 125 °C	min	3.3
Color (A/B/mixed)	-	White/Gray/Gray
Dielectric Strength	kV/mm	18
Thermal Conductivity	W/m-K	1
Viscosity (A)	cP	11.800
Viscosity (B)	cP	7.700
Viscosity (mixed)	cP	9.300
Specific Gravity (Cured)	-	2.32
Tensile Strength	MPa	2.8
Elongation	%	36
Unprimed Adhesion - Lap Shear (Al)	MPa	3.5
Dielectric Constant (100 Hz)	-	4.71
Dissipation Factor (100 Hz)	-	0.0045
Volume resistivity	Ω-cm	7.2e+13
Linear CTE	ppm/°C	179
UL Flammability Classification	-	94 V-0
Shelf life at 25 °C	-	24 months

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Processing

PRETREATMENT

The strength and durability of a bonded joint are dependant on proper treatment of the surfaces to be bonded. At the very least, joint surfaces should be cleaned with a good degreasing agent such as acetone, alcohol or other proprietary degreasing agents in order to remove all traces of oil, grease and dirt. The strongest and most durable joints are obtained by either mechanically abrading or chemically etching the degreased surfaces. Abrading should be followed by a second degreasing treatment.

MIXING AND APPLICATION

Mix thoroughly the components A and B in a 1:1 ratio by weight or volume with a mixer or spatula (BondaPro™ 1010-14ML and BondaPro™ 1010-25ML) or dispensing gun (BondaPro™ 1010-50ML) until a homogeneous color is obtained. The presence of light-colored streaks or marbling indicates inadequate mixing. The resin / hardener mix may be applied to the pretreated and dry joint surfaces. The joint components should be assembled and secured in a fixed position as soon as the adhesive has been applied.

You may preheat part A and part B to increase the flow and improve air release, but this will decrease pot life.

Note that the viscosities of the parts also decreases with mixing, so they will be most liquid-like and easily dispensed with constant mixing.

CURING

Addition-cure silicones should be cured at 100 °C (212 °F) or above. The cure rate is rapidly accelerated with heat:

- 100 °C / 50 minutes
- 125 °C / 40 minutes
- 150 °C / 10 minutes

In general, increasing the cure temperature and/or cure time will improve the ultimate adhesion.

For thicker sections, a pre-cure at 70 °C may be necessary to reduce voids. It is recommended that 30 minutes at 70 °C be used as a starting point for determining necessary pre-cure time. Length of pre-cure will depend on section thickness of adhesive.

Addition-curing materials contain all the ingredients needed for cure with no by-products from the cure mechanism. Deep-section or confined cures are possible. Cure progresses evenly throughout the material. These products generally have long working times.

POT LIFE

Pot life is defined as the time required for viscosity to double after Parts A and B are mixed.

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Storage

The product should be stored in original packaging in a **horizontal** position. After opening, keep in a cool and dry place and remember to recap the syringe or container promptly after use. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Avoid contact with water, alcohols, acidic, basic, or oxidizing materials. The expiry date is indicated on the label.

Handling precautions

HEALTH AND SAFETY: **Not a hazardous substance or mixture**. Contains epoxy constituents. May produce an allergic reaction. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. May generate flammable hydrogen gas. Avoid contact with water, alcohols, acidic, basic or oxidizing materials. This product contains SiH.

Please see the **BondaPro™ 1010 Safety Data Sheet** (SDS) parts A and B for more details on transportation, storage, handling and other security guidelines.

Supporting Products

Ref. No.	Packaging	Volume	Accessories
BondaPro™ 1010-10ML	Dual Syringe	10 ml	Mixer 12E – 1 piece
BondaPro™ 1010-25ML	Dual Syringe	25 ml	Mixer 16E – 2 pieces
BondaPro™ 1010-50ML	Dual Catridge	50 ml	Mixer 16E – 2 pieces

Mixer 12E has 12 mixing elements and 0,23 ml waste volume. Mixer 16E has 16 mixing elements and 1,88 ml waste volume.

Distributed by

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Contact us regarding any questions, improvement suggestions, or problems with this product.
Technical Data Sheet (TDS) and Safety Data Sheet (SDS) are located at *www.telpod.pl*