

**UV CURABLE ADHESIVE**

TDS No. DB-1000  
Effective Date: 01/10/2007

**Description:**

**GENERAL**

DB-1000 is an ultraviolet curable adhesive mainly composed of urethane acrylate resin. This product is curable by irradiation of UV rays (300-400 nm).

**APPLICATION**

Bonding of plastics, metal, electronic parts and optical disc hubs

**CHARACTERISTICS**

- a) Rapid curing speed under irradiation of UV rays enables the automated assembly line to run at faster speeds
- b) A one-part liquid, no mixing necessary
- c) Forms strong and flexible membrane after the adhesive is cured
- d) Adhesive has strong adhesion to plastics/plastics (e.g., polycarbonate), metals/metals (e.g., stainless steel) and plastics/metals

**Details:**

**Typical Properties of Uncured Adhesive**

PROPERTY	TEST METHOD	RESULT
External Appearance	Visual	Transparent Liquid
Viscosity	JIS K 6833, BH Brookfield, 25°C	10,000 mPA
Specific Gravity	JIS K Cup's specific gravity, 25°C	1.01

**Properties of Cured Adhesive**

PROPERTY	TEST METHOD	RESULT
Hardness	JIS K 7215, Shore-D, 25°C	52
Tensile Strength	JIS K 6251, JIS Dumbell-2	12 MPa
Elongation	JIS K 6251, JIS Dumbell-2	400%
Young's Modulus	JIS K 6251, JIS Dumbell-2	70 MPa
Pull Bonding Strength	JIS K 6850, PC/SUS	6.9 MPa
Water Absorption	JIS K 7209, 2 hours boiling	3.8%
Shrinkage	JIS K 7112, Immersion method	7.3%
Tg	TMA Method, JIS K 719	10°C
Coefficient of linear thermal expansion	JIS K 7197, TMA Method	
	Below Tg	$1.2 \times 10^{-4} \text{ } ^\circ\text{C}$
	Above Tg	$2.0 \times 10^{-4} \text{ } ^\circ\text{C}$

**Curing Method - Standard Curing Methods\* (tack-free)**

Apply 1mm thickness of DB-1000 on the steel plate and irradiate with UV rays (high pressure mercury vapor lamp)

Intensity of UV rays: 50-200 mW/cm<sup>2</sup>

Quantity of UV ray irradiation: 3,500 mJ/cm<sup>2</sup>

\*Curing conditions may vary according to UV irradiation facility, material and thickness of adhesive.

**Safety Precautions**

Please follow the safety precautions below when handling DB-1000.

- a) The curing speed of the resin will be different depending on the type of the irradiation facility and the distance, angle and resin thickness.
- b) Direct contact of the resin with the skin may result in inflammation of the skin.
- c) If the resin splashes into the eyes, flush with water immediately and seek medical assistance.
- d) Avoid breathing the resin. Ventilate the workroom and install exhaust fan(s) on the curing devices.
- e) This product is for industrial use only, not for personal and household uses.
- f) Curing may occur if the product is exposed to sunlight or stored where the temperature is higher than 40°C. Heat and organic gasses generated by the curing may damage the container. Store the product in cool and dark place at a temperature between 10° and 25°C.
- g) When the product is transferred from the original container to a secondary container for use, never place unused portions back in the original container.
- h) For disposal, seal the container and treat it as industrial waste.

**Trademarks:**

**Note:** All values shown are averages and should not be used for specification purposes.

Test data and test results contained in this document are for general information only and shall not be relied upon by Brady customers for designs and specifications, or be relied on as meeting specified performance criteria. Customers desiring to develop specifications or performance criteria for specific product applications should contact Brady for further information.

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