

Product Specification

Photo-curing Adhesive for Plastics Bonding

➤ Product Description

9023 is photo-curing adhesive designed for the bonding of ABS, HIPS, PS, PC, PVC and Acrylate, etc. The thin file of 9023 is transparent and clear. 9023 can fast-cure under the visible light. Showing perfect adhesion strength, 9023 is an excellent Photo-curing adhesive especially for UV-cut acrylate and PC. The adhesion strength of 9023 is stronger than the original materials.

➤ Characteristics

9023 has toughness, shock resistance and thermal shock resistance. 9023 shows excellent surface dryness and transparency after curing. 9023 exhibits high adhesion strength. 9023 can solve the problem of bonding to plastics and is suited for bonding to many plastics.

➤ Physical Properties

| Item | Specification | Test Method |
|------------------------|---------------------------------|---------------------------------|
| Composition | Acrylic resin | Be judged by the composition |
| Chemical Class | Liquid @ 25°C | Eye inspection |
| Appearance | Yellowish Liquid | Eye inspection |
| Viscosity, cps | 3600~5000 25°C (S14, 50 rpm) | Brookfield RVDV-I+ |
| Refractive Index n_D | 1.4834 @25°C RH 60% | ATAGO Abbe Refractometer NAR-1T |
| Color Gardner Scale | 2 | Gardner Color Comparator |
| Solvent Content, % | 0 | Be judged by the composition |
| Heavy Metal Content | 0 | SGS Certificate |

➤ Cure Schedule

Light hardness condition
 With the ultraviolet ray light source of the PHILIPS HPA400 S wave-length 365 nm
 Projecting light upon the energy accumulates to go to 1000~2000 mj/cm² of hardening under condition.
 UV accumulates energy form: Virtuous make Baier-UV/UV-RADCOL advanced.

| | |
|-----------------------------|--------|
| Temporary curing time sec | 5 ~ 10 |
| Recommended curing time sec | 10~ 15 |

➤ Mechanical Properties

| Item | Specification | Test Method |
|----------------------------|--------------------|---|
| Durometer Hardness Shore D | D69 25°C, RH60% | Durometer D type Refer to ASTM D2240-03 |
| Elongation (25°C), % | 93 | GOTECH GT-TS-2000-M GOTECH U55 Computer System |
| Glass Transition Temp. °C | -12 | TA instrument MDSCQ100 |
| Temperature Range | -40~100°C | |

➤ Mechanical Test



Specimen Material: PMMA/PMMA
 Size: Length 76.2mm X Width 25.4mm X Thickness 2mm; Test area is ~1 cm²

| Item | Specimen cm ² | Maximum Strength kgf | Bonding Strength kgf/cm ² | Description of Material Failure |
|---------------|--------------------------|----------------------|--------------------------------------|---------------------------------|
| 9023 | 0.71 | 60.37 | 85.56 | PMMA Substrate Failure |
| 9023 | 0.88 | 102.28 | 115.97 | PMMA Substrate Failure |
| 9023 | 0.71 | 82.15 | 115.96 | PMMA Substrate Failure |
| 9023 | 0.76 | 107.98 | 142.83 | PMMA Substrate Failure |
| Average Value | 0.76 | 88.19 | 115.08 | |

➤ Storage and Shelf Life

9023 should be kept without any possibility of light exposure. Replace lid immediately after use. 9023 has an eight month minimum shelf life when stored in dark place below 25°C in original, unopened containers.