

Technical Datasheet EC1000 Acrylic Adhesive

Product Description

EC1000 is a two component structural methacrylate adhesive, designed for the high strength bonding of metal and composite applications. EC1000 has been formulated from innovative technology, including our revolutionary adhesion system. This unique system enables the EC1000 to achieve the ultimate balance of mechanical strength and high impact resistance whilst still remaining both simple and quick to use.

Typical Applications

EC1000 is very versatile, and can bond a wide variety of substrates without the need for surface primers or conditioners.

Typical examples are shown below:

- Bonding metal fasteners to moulded composite parts.
- Bonding aluminium and stainless steel lettering in the sign manufacturing industry.
- Bonding automotive carbon fibre body panels.
- Bonding GRP and stainless steel in the marine industry.
- Bonding dissimilar metals for trailer fabrication.

Properties of Uncured Material

| | |
|----------------------------|---------------------------|
| Resin | Methyl Methacrylate |
| Colour | Yellow/White |
| Appearance | Thixotropic Gel |
| Viscosity Brookfield T Bar | 400,000 to 600,000cps |
| Cure System | Exothermic |
| Open Time | 7 Minutes @20°C 10g Mass |
| Handling Strength | 12 Minutes@ 20°C 10g Mass |
| SG Part A | 0.96 |
| SG Part B | 0.91 |

Performance of Cured Material

| | |
|--|---------------------------|
| ASTM D1002 Lapshear | (Average over 16 tests) |
| Aluminum | 20.4 Nmm ² |
| Stainless Steel | 38.4 Nmm ² |
| Mild Steel | 32.8 Nmm ² |
| GRP | Substrate Failure |
| ABS | Substrate Failure |
| Acrylic | Substrate Failure |
| ASTM D638 Tensile Strength | Up to 30 Nmm ² |
| Gap Fill | 4mm |
| Standard Temperature Range | -55°C to 120°C |
| Paint Bake Cycle Approval** | 20 Minutes @ 220°C |
| Aluminum lapshear following moist catapasm 7 days @ 70°C | 26.7 MPA |
| Peel Strength Aluminium | 6 KN/m |
| Shore Hardness | 75 Shore D |

Compatible Substrates*

| | |
|-----------------|--------------------|
| Aluminum | Wood |
| Stainless Steel | Granite |
| Mild Steel | Marble |
| UPVC | Urethanes |
| Polyesters | Vinyl Esters |
| ABS | Galv/Zinc Coated |
| Acrylic | Thermoset Plastics |
| FRP | Gelcoats |
| GRP | Epoxy laminate |

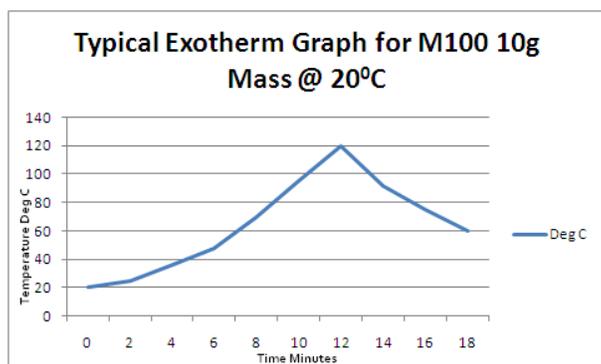
The data, information and values contained in this Technical Data Sheet has been obtained by conducting various tests in a controlled laboratory environment, and should be used for guidance purposes only. Although we believe them to be reliable and accurate, users should always conduct their own tests in their specific working conditions to ensure that the product is suitable and effective for use. It is the users sole responsibility to determine the suitability of the product for the application. East Coast Fibreglass Supplies Ltd cannot be held responsible for the results of procedures undertaken elsewhere, nor for the safeguarding of personnel or property, all of which is the duty of the user.

Instructions For Use

1. Always consult MSDS before using EC1000 for the first time.
2. Carry out surface preparation where required. *
3. Remove cap, and attach mixer nozzle.
4. Dispense sufficient adhesive to ensure equal mix.
5. Apply adhesive to one surface and assemble components carefully, clamping if required.
6. It is always easier to remove any excess adhesive prior to cure using a suitable cleaner *
7. Allow the adhesive sufficient time to achieve handling strength before moving or unclamping components.

Curing Cycle

Once mixed at the 1:1 ratio the working time of the EC1000 is the period whereby the adhesive remains fluid and is easily transferrable between two or more mating surfaces. Temperature, volume and substrate have a direct effect on the length of this period as the EC1000 cures by an exothermic reaction. Higher temperatures and larger volumes speed the reaction causing a reduction in open and cure time. Lower temperatures and smaller volumes slow the reaction time extending both the open time and ultimate full cure time.



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Clean Up

Following dispense any excess adhesive should be removed prior to cure with the appropriate Bondchem cleaner.

Packaging

EC1000 is available in 25ml syringes and 50ml, 250ml Universal and 400ml Nylon cartridges for use with a dispensing gun.

Storage & Shelflife

EC1000 should be stored unopened in suitable hazardous storage conditions for flammable adhesives that are in a cool, dry location and out of direct sunlight. Stored correctly, this grade can offer a 12 month shelf life from its manufacture in the UK.

Health and Safety in Use

EC1000 is a methyl methacrylate and should not be used without consulting the MSDS, which contains full information regarding the use of this product, including Transport, Disposal, Toxicological, Exposure Controls, Accidental Release and First Aid measures essential to the safe use of this product.

** Temperature resistance relates directly to bond size, thickness of adhesive and subjected load.