

## Technical Datasheet M400-05

### Product Description

The **Bondchem M400-05** is based upon a new generation two component structural methacrylate adhesive with increased adhesion and a toughened flexibility. Once mixed, this system cures rapidly to form a tough and flexible bond, with high peel, fatigue and impact strength, even at low temperatures.

Sub Product Reference	Open Time @20°C	Handling Strength @20°C
M400-05	4-6 Minutes	<10 Minutes

### Typical Applications

**Bondchem M400-05** is very versatile, and can bond a wide variety of substrates without the need for surface primers or conditioners. Should the surface require additional adhesion and temperature resistance the **P100 primer** offers a further advancement to the level of adhesion. Typical examples shown below:

- Bonding butt straps to steel and aluminium cladding
- Bonding GRP and FRP strengtheners
- Bonding stringers to GRP in marine industry
- Bonding metal fasteners to Polyester
- Bonding two part GRP sections
- Bonding surface fasteners to composite sections

### Instructions For Use

1. Always consult MSDS before using the M400-05 for the first time.
2. Carry out surface preparation where required.
3. Remove nut, attach mixer nozzle.
4. Dispense sufficient adhesive to ensure equal mix and uniformed color.
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.

### Properties of Uncured Material

Resin	Methyl Methacrylate
Colour	Amber & White
Appearance	Thixotropic Gel
Viscosity Brookfield T Bar	450,000 to 550,000cps
Cure System	Exothermic
SG Part A	0.98
SG Part B	0.92

### Performance of Cured Material

ASTM D1002 Lapshear	
Aluminum	22.45 Nmm <sup>2</sup>
Stainless Steel	23.71 Nmm <sup>2</sup>
Mild Steel	28.92 Nmm <sup>2</sup>
GRP	Substrate Failure
ABS	Substrate Failure
Acrylic	Substrate Failure
Polycarbonate	Substrate Failure
Gap Fill	0.8 to 5mm
Temperature Range	-55°C to 130°C
Shore Hardness	80 Shore D

### Compatible Substrates

Aluminum	Wood
Stainless Steel	Granite
Mild Steel	Marble
UPVC	Urethanes
Polyesters	Vinyl Esters
ABS	Glav/Zinc Coated (With Primer)
Acrylic	Thermoset Plastics
FRP	Gelcoats
GRP	Epoxy laminate

### Curing Cycle

Once mixed at the 1:1 ratio the working time of the **M400-05** 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 **Bondchem M400-05** 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.

### Packaging

**Bondchem M400-05** is available in 25ml, 50ml and 400ml PBT cartridges. We can also supply this material in 20kg and 200kg drums for use with bulk

### Storage & Shelf life

**Bondchem M400-05** should be stored unopened in a cool dry location, out of direct sunlight. Stored correctly, this grade can offer a **9 month shelf life** from manufacture. The optimum storage condition to attain a minimum of 9 months shelf life is between 6 and 12 Deg C. Storage outside this range will result in an overall reduced shelflife.

### Health and Safety in Use

**Bondchem M400-05 is formulated using 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.**