S1300 – Technical Data Sheet

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Description

S1300 is a two part A&B component structural methacrylate adhesive system which is moderately fast setting when mixed via a static mix nozzle at room temperatures.

S1300 is designed for the high strength bonding of metal and composite applications. The unique adhesion system enables this methacrylate to achieve the ultimate balance of mechanical strength and high impact resistance whilst remaining simple and quick to use.

S1300 Methacrylate is very versatile, and can bond a wide variety of substrates exhibiting excellent structural strength even without priming the surfaces. Compatible substrates include; Aluminium, stainless steel, mild steel, UPVC, polyesters, ABS, acrylic, FRP, GRP, wood, granite, marble, urethanes, vinyl esters, Galv/zinc coated, thermoset plastics, gelcoats and epoxy laminate.

S1300 is available in two colours, white and black.

Typical Applications

Typical applications for **S1300** include the structural joining of metals, plastics, composite bonding. It is also used on ceramics where high impact strengths are needed.

Applications include:

- 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.
- Repairing waterproof materials and membranes.

Typical Performance of Uncured Adhesive

Chemical Type	Methyl Methacrylate
Colour	Yellow/white
Specific Gravity Part A	0.96
Specific Gravity Part B	0.91
Viscosity @ 20°C MPas (cps) Brookfield Helipath	400,000 to 600,000
Cure system	Exothermic
Open Time	5-7 minutes @20°C 10g Mass
Handling strength	7-10 minutes @20°C 10g Mass

Curing Cycle

Once mixed at the 1:1 ratio the working time of the **S1300** 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 **S1300** 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.

Typical Performance of Cured Adhesive

ASTM D1002 Lapshear	Average over 16 tests
Aluminium	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
Aluminium lapshear following moist cataplasm	26.7MPA
Peel Strength Aluminium	6KN/m
Shore Hardness	75 Shore D

Instructions for use

1. Always consult MSDS before using S1300 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.

Please consult the S1300 Health & Safety Data Sheet for statutory regulation information.

Information relating to the products of Bondrite Adhesive Limited is based on tests carried out under laboratory conditions. If any of our products are not used in accordance with our instructions or are used under conditions which vary from our laboratory, they may not perform in accordance with any information provided and Bondrite shall not have any liability in this case. Bondrite will accordingly provide samples of our products, on request and free of charge, for Customers to carry out their own tests as to suitability of our product for their purposes and as used in their intended environment.