

# Macroplexx®

structural adhesives

## TDS 5005

### General Description

**MACROPLEXX® 5005** is a high strength, fast curing two-part structural adhesive system. On application, the grade's high viscosity is ideal for both gap filling and vertical surface applications. This unique Methacrylate chemistry can offer excellent tensile and impact strength, even without priming the surfaces. In addition, the advanced macro structure provides the bonded assembly with excellent environmental and chemical resistance in the most demanding applications.

### Typical Applications

Sign Fabrication and Installation    Automotive Assembly    GRP Fastening Systems    Turbine Manufacture  
 Industrial Battery Manufacture    Marine Stringer Assembly

### Chemical Resistance

Excellent Resistant to:

- Hydrocarbons
- Acids and Bases (3-10 ph)
- Salt Solutions

### Physical Appearance

#### Adhesive Part A

Chemical Type                      Methyl Methacrylate  
 Appearance                        Off White Gel  
 Specific Gravity                    0.96 (approx)  
 Viscosity @20°C mPa·s  
 Brookfield Helipath              100,000 cps approx  
 Flash Point                         11°C

#### Activator Part B

Chemical Type                      Methyl Methacrylate  
 Appearance                        Amber/Yellowish Gel  
 Specific Gravity                    0.97 (approx)  
 Viscosity @20°C mPa·s  
 Brookfield Helipath              100,000 to 180,000  
 Flash Point                         11°C

#### Mixture A&B

Appearance                        Opaque Gel  
 Specific Gravity                    0.97 (approx)  
 Viscosity @20°C mPa·s  
 Brookfield Helipath < 4Min    100,000 to 150,000  
 Mix Ratio By Weight            1:1  
 Mix Ratio By Volume            1:1  
 Working Time 10g Mass         3 Minutes  
 Working Time in Nozzle        3-4 Minutes  
 Fixture time Steel @ 20°C     6-8 Minutes

**Note:** Plastics may be faster

### Typical Properties Cured Material

Hardness ASTM Shore D        75  
 Shrinkage (7 days)              5%  
 Tensile Strength at break \*    20 N/mm<sup>2</sup>  
 Elongation at break              2.4%  
 Typical Handling Strength      1-2 Hours (Heavy Duty)

### ASTM D1002 Lap Shears

On steel/steel                      Up to 30 N/mm<sup>2</sup>  
 On aluminium/aluminium      Up to 27 N/mm<sup>2</sup>  
 On polycarbonates \*\*         Up to 8 N/mm<sup>2</sup>  
 On ABS/ABS \*\*                 Up to 10 N/mm<sup>2</sup>  
 \* Average Result  
 \*\* Substrate failure

### Suitable Substrates

ABS	Styrenes	Steel	Gelcoats
Acrylics	Urethanes	Aluminium	Polyesters
GRP	Vinyl	St. Steel	PVC
FRP	Carbon Fibre		

### Terminology

(1) Working/Open Time: The time interval between application of adhesive to substrate, and the possible assembly/repositioning of the two mating parts @ 20°C

(2) Fixture Time: The length of time after the substrate assembly that will allow a joint to support a 1kg dead weight. (Tested on a 12mm x 25mm overlapped joint @ 20°C)



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