MMAXXUS MXM15

Technical Data Sheet

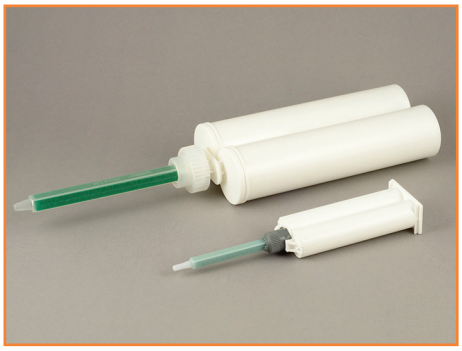
MMAXXUS MXM15 is a 2-part structural bonding adhesive based on Methyl methacrylate. MXM15 is designed for high strength structural bonding of a wide variety of materials but is especially suited to the enhanced bonding of aluminium and plated metals. MXM15 is available in natural, white, black and grey. Other products in the MXM range provide faster and slower working times.

It offers excellent chemical resistance including hydrocarbon solvents and acids and bases from 3-10 pH.

Suitable Substrates

It can be used with a very wide range of substrate materials including [1]:

- *Aluminium*
- *Galvinised Steel (HDG, HRG)*
- *PVC*
- *Polycarbonates*
- *Vinyl*
- *Carbon fibre*
- *Stainless steel*
- *ABS*
- *Acrylics*
- *Styrenics*
- *Gelcoats*
- *FRP (fibre reinforced plastics)*
- *Polyesters*
- *Urethanes*



Availability

MXP15 can be supplied in the following formats:

- *50 ml cartridges*
- *400 ml cartridges*
- *19 lt plastic containers*
- *190 lt steel drums*

Physical Properties (@25°C)

	Part A	Part B
Viscosity (cP) [2]	120,000 - 160,000	150,000 - 200,000
Density (g/cm²)	0.97	0.97
Mix Ratio	1	1

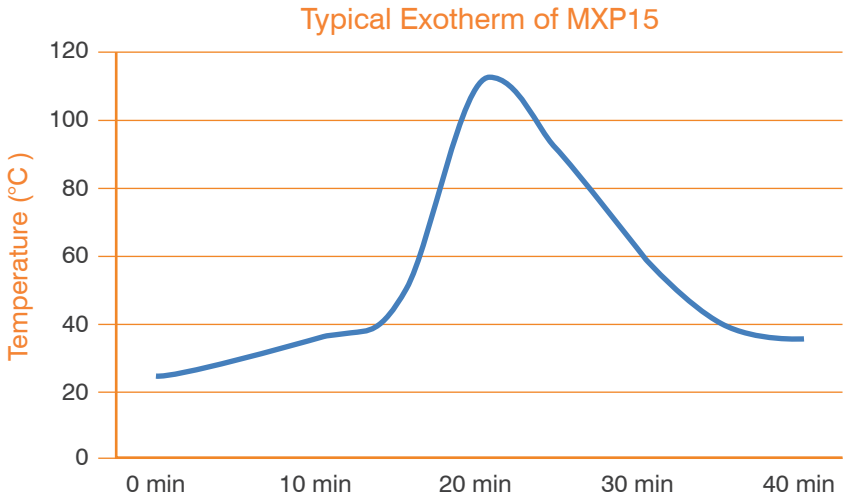
Characteristics

Working Time [3]	15 - 18 minutes
Fixture Time [4]	30 - 35 minutes
Operating Temperature	–50°C - +120 °C
Gap Filling Capability [5]	1 mm - 4 mm
Flash Point	11°C
Mixed Density (g/cm²)	0.97

Bonding Performance (@25°C)

Tensile Strength, HDG Steel (MPa)	17 - 25
Tensile Modulus (MPa)	1200 - 1400
Tensile Elongation (%)	4 - 7
Lap Shear Strength, HDG Steel (MPa)	17 - 22

Typical Cure Profile



Handling and Application

MMAXXUS MX series products are flammable. Keep containers closed after use. Gloves and safety glasses should be in use when applying the products in order to avoid skin and eye contact. In the case of skin contact, wash with soap and water. In the case of eye contact, flush with water for 15 minutes and seek medical attention. Harmful if swallowed. Keep out of reach of children. Avoid heat, sparks and open flames. See MMAXXUS MSDS for detailed safety information.

N.B. Large amounts of heat can be generated when large masses of this product are combined at one time; the resultant heat generation can result in the release of trapped air, steam and volatile gasses. To avoid this, use only enough material as is required for the application and confirm gap thickness to no more than 4mm. Further application advice is available upon request.

Dispensing Adhesive

MMAXXUS MX series may be applied manually or with automated equipment. Static mixer selection is critical to the correct functioning of this adhesive. To assure maximum bond strength, surfaces must be mated within the specified working time. Use sufficient adhesive to ensure that the jointed area is filled when the parts are pressed together. All adhesive application, part positioning and fixturing should be completed within the working time of the adhesive. All automated equipment should be constructed of stainless steel or aluminium,. Avoid contact with copper in all fittings and pumps etc. Seals and gaskets should be PTFE, ethylene/propylene or polyethelene. Avoid Viton, neoprene or nitrile/BUNA-N elastomers for gaskets and seals. To clean up solidified adhesive, carefully scrape away excess and clean with solvent.

Effect of Temperature

Ideal conditions for adhesive use are between 18°C and 25°C. Temperatures below 18°C will slow cure speed; above 26°C will increase cure speed. The viscosities of the adhesive are also affected by temperature therefore any automated filling or dispensing systems should maintain constant temperatures throughout the year.

Storage and Shelf Life

Shelf life of MMAXXUS MX series adhesive (Part A) is 9 months, shelf life of Part B is 9 months. These storage times are based on continuous storage between 12°C and 23°C. Long term storage above 23°C will reduce the shelf life. Avoid temperatures above 35°C at all times. These products should never be frozen. Air conditioned or refrigerated storage between 10°C and 15°C will prolong shelf life. When repackaging from bulk containers to cartridges we recommend that the material is filled in to packaging constructed of Polybutylene terephthalate (PBT; please contact us for further information and advice.

Notes

(1) Xtraloc recommend that all substrates be tested with the selected adhesive in the anticipated service conditions in order to determine the adhesives suitability for use.

(2) Tested on Brookfield RV at 25°C, Spindle TC93 at 2.5RPM.

(3) Working time is defined as the time between the correct and thorough combination of both adhesive parts and the point at which the adhesives are no longer useable i.e. it has started to gel. The times presented were tested at 24°C.

(4) Fixture time is defined as the time in which the bonded static joint will support a 1kg dead weight on a 12.7mm x 25.4mm lap joint at 23°C.

(5) Figures quoted are for gap-filling capability. It should be noted that optimum bond thickness is 0.6 to 0.80mm in order to achieve maximum strength development.

(6) All data presented in this sheet are correct at the time of issue and have been determined by Xtraloc in its own laboratories. The data presented are typical properties obtained by Xtraloc over multiple test phases. The data are presented as a guide and a selection tool, these data should not be used in place of thorough evaluation and application testing under anticipated conditions. Specific use, materials and product handling are beyond the control of Xtraloc, therefore our warranty is limited to the replacement of defective Xtraloc product.

Xtraloc Limited • Tel: +44 [0]1928 750270 • E-mail: info@xtraloc.com • Web: www.xtraloc.com