

PRODUCT DESCRIPTION

MXBON® 31324 is a transparent, light amber, urethane methacrylate ester acrylic structural adhesive liquid for bonding flat parts together. It is specially suitable for joining dissimilar materials, e.g. ferrite to plated materials in electric motors, loudspeakers, etc. It is specifically formulated for toughness and impact strength and cures with the aid of an activator.

Technology	Acrylic
Chemical Type	Urethane methacrylate ester
Appearance (uncured)	Transparent light amber liquid
Components	One component – requires no mixing
Viscosity	Medium
Cure	Anaerobic
Secondary Cure	Activator
Application	Bonding

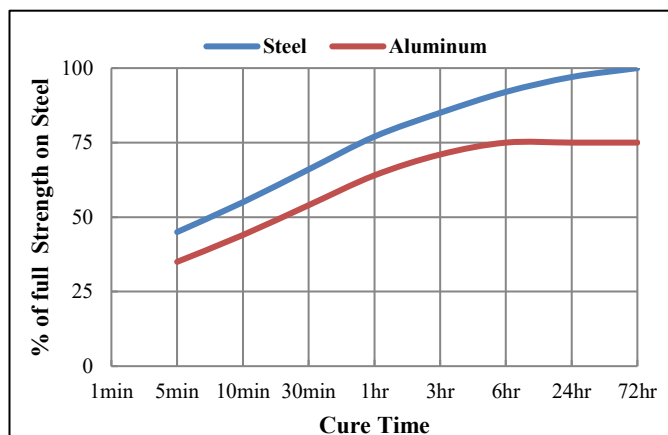
TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 25 °C	1.1
Flash Point -	See SDS
Viscosity, Brookfield - RVT, 25 °C, mPa·s (cP)	
Spindle 6, 20 rpm	10,000 to 24,000
Shelf life	24 months unopened when stored at 8 to 21 °C

TYPICAL CURING PERFORMANCE

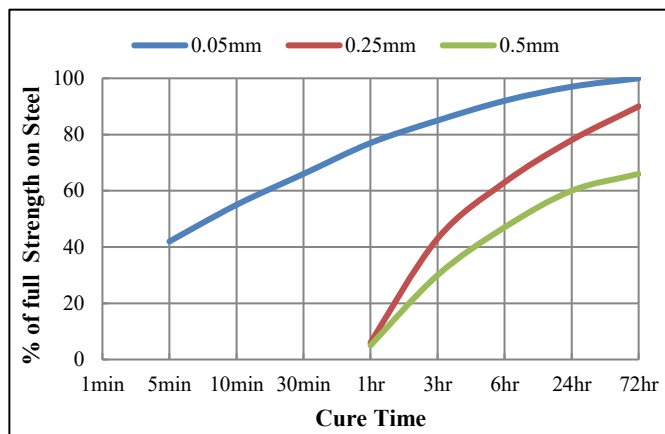
Cure Speed vs. Substrate

The rate of cure will depend on the substrate used. The graph below shows the breakaway strength developed with time on grit blasted steel lap shears compared to different materials and tested according to ISO 4587. (Activator 037387 applied to one surface).



Cure Speed vs. Bond Gap

The rate of cure will depend on the bondline gap. The graph below shows the breakaway strength developed with time on grit blasted steel lap shears compared to different materials and tested according to ISO 4587. (Activator 037387 applied to one surface).



TYPICAL PERFORMANCE OF CURED MATERIAL

Physical Properties

Elongation, at break, ISO 527-3, %	165
Tensile Strength, ISO 527-2, N/mm ²	35
Tensile Modulus, ISO 527-2, N/mm ²	600
Coefficient of Thermal Expansion, ISO 11359-2, mm/mm/K	7.5×10^{-5}
Coefficient of Thermal Conductivity, ISO 8302, W/mK	0.1
Specific Heat, kJ/(kg·K)	0.3

Electrical Properties

Dielectric Constant / Dissipation Factor, IEC 60250, @ 100 Hz	5.5/0.03
Dielectric Constant / Dissipation Factor, IEC 60250, @ 1 kHz	5.4/0.03
Dielectric Constant / Dissipation Factor, IEC 60250, @ 1 MHz	4.5/0.04
Dielectric Breakdown Strength, IEC 60243-1, kV/mm	70
Volume Resistivity, IEC 60093, $\Omega \cdot \text{cm}$	8×10^{13}
Surface Resistivity, IEC 60093, Ω	2×10^{17}

Adhesive Properties

Cured for 24 hrs @ 25 °C, Activator 037387 on 1 side
Lap Shear Strength, ISO 4587/ASTM D1002/JIS K6850
GBMS (Grit Blasted Mild Steel)

Bond Gap	N/mm ²	psi
0 mm gap	15.0 to 21.0	2175.6 to 3045.8
0.5 mm gap	≥ 11.0	≥ 1595.4

Cured for 24 hrs @ 25 °C, Activator 037387 on 2 side
Lap Shear Strength, ISO 4587/ASTM D1002/JIS K6850
GBMS (Grit Blasted Mild Steel)

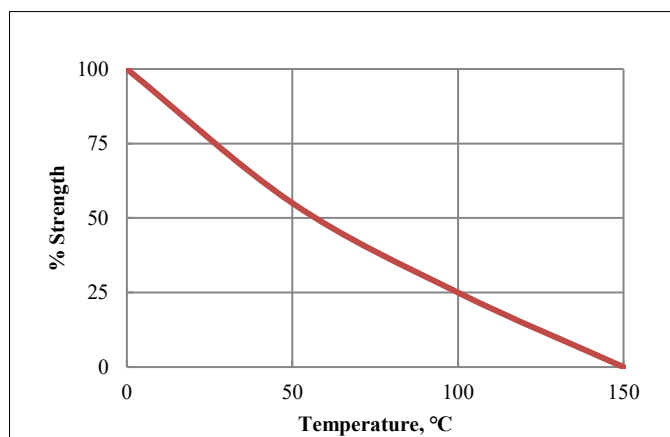
Bond Gap	N/mm ²	psi
0.5 mm gap	≥ 14.0	≥ 2030.5

TYPICAL ENVIRONMENTAL RESISTANCE

Cured for 72 hrs @ 25 °C, Activator 037387 on 1 side
Lap Shear Strength, ISO 4587/ASTM D1002/JIS K6850
GBMS (Grit Blasted Mild Steel)

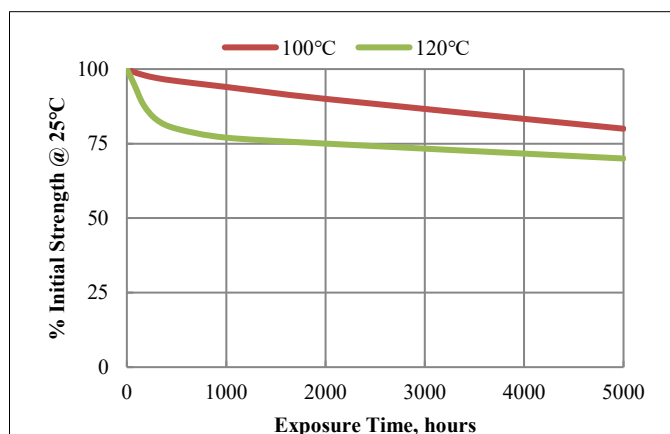
Heat Strength

Tested at temperature



Heat Aging

Aged at temperature indicated and tested @ 25 °C



Chemical/Solvent Resistance

Aged under conditions indicated and tested @ 25 °C

Environment	% of initial strength	
	°C	720h
Motor oil	87	100
Water/glycol 50/50	150	20
Humidity, 98% RH	50	50
Acetone	25	90

GENERAL INFORMATION

This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be use with chlorine or other strong oxidizing materials. Where washing systems are used to clean the surfaces before bonding, it is important to check the compatibility of the washing solution with the adhesive. In some cases, these solutions can affect the cure and performance of the adhesive. This product is not recommended for use on certain plastics. Users are recommended to confirm compatibility of the product with such substrates.

Storage & Handling precaution

Keep adhesive in a cool and dry place. The storage temperature is recommended at 8 °C to 21 °C. For details, consult the Safety Data Sheet, (SDS). Shelf life is two years from the date of manufacture in the original container under the optimal conditions.

1. Avoid contact with skin and eyes.
2. If contact with skin, rinse with water.
3. If adhesive gets into eye, keep eye open and rinse with water thoroughly. Seek medical attention immediately.
4. Keep the material out of children's reach.

Note

The data contained herein are furnished for informational purposes only and are believed to be reliable. However, Cartell Chemical Co., Ltd does not assume responsibility for any results obtained by persons over whose methods Cartell Chemical Co., Ltd has no control. It is the user's responsibility to determine the suitability of Cartell Chemical Co., Ltd's products or any production methods mentioned herein for a particular purpose, and to adopt such precautions as may be advisable for the protection of property and persons against any hazards that may be involved in the handling and use of any Cartell Chemical Co., Ltd's products. Cartell Chemical Co., Ltd specifically disclaims all warranties express or implied, including warranties of merchantability or suitability for a particular purpose arising from sale or use of Cartell Chemical Co., Ltd's products. Cartell Chemical Co., Ltd further disclaims any liability for consequential or incremental damages of any kind including lost profits.