PRODUCT SPECIFICATION

MXBON® 412M

Cyanoacrylate Adhesive (Gap Filling)
A-A-3097 Type II Class 3 (Supersedes MIL-A-46050C)

Description:

MXBON® 412M is a general industrial grade cyanoacrylate adhesive. It has been specially formulated to achieve the strongest possible bond between well mated, non-porous surfaces such as metals, plastics and rubbers. **MXBON® 412M** is a one component, solvent free system and does not require the use of a catalyst, heat or clamps. When a thin layer of **MXBON® 412M** applied between two surfaces comes into contact with atmospheric moisture, a rapid polymerisation occurs producing the ultimate bond. **MXBON® 412M** is manufactured to A-A-3097 Type II Class 3.

Typical Properties of Cured/Uncured Material:

Liquid State		Cured State	
Base	Ethyl Cyanoacrylate	**Colour**	Clear
Colour	Clear	**Specific Gravity (20°C)**	1.1~1.3
Specific Gravity (20°C)	1.053~1.060	**Working Temp (°C)**	-55°C - 80°C
Refraction Index (nD^{20})	1.439	**Refractive Index (nD^{20})**	1.49
Flash Point (°C)	>80°C	**Dielectric Constant (at 10MHz)**	3.5
Shelf Life	12 Months	**Dielectric Loss (at 10MHz)**	0.067
Boiling Point (°C)	>214°C	Soluble in Acetone, Dimethyl formamide, Nitromethane, Dimethyl sulfoxide	
Viscosity (cP) at 25 °C (Brookfield LV-52Z at 3rpm)	1200-1700		

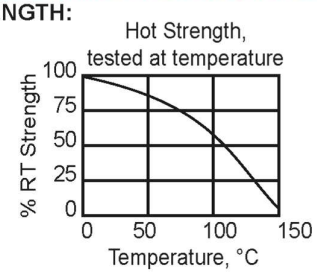
Typical Bond Strength:

(Tensile strength, cured for 24 hours at 20-25°C)

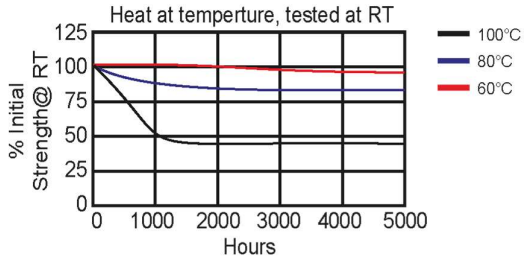
Substrate	kg/cm²
Steel to Steel	190-210
Stainless Steel to Stainless Steel	250-450
Aluminium to Aluminium	170-190
Copper to Copper	150-170
PVC to PVC	40-60
ABS to ABS	50-70
Polycarbonate to Polycarbonate	80-120
Polystyrene	30-45
NBR to NBR	5-9
SBR to SBR	5-10

TYPICAL ENVIRONMENTAL RESISTANCE

HEAT STRENGTH:



HOT AGING



A-A-3097 (6 May 1997), Commercial Item Description:
Minimum 14 N/mm² (~142 kg/cm²), tested to ASTM D 1002, Minimum 20 N/mm² (~203 kg/cm²), tested to ASTM D 2095

Revision date: 10/2026 - Revision: 01

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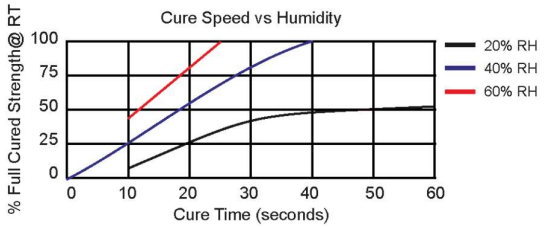
Curing Performance:

There are many factors that can influence the rate of cure. These include: the types of substrates used, the condition of the surface to be bonded, the smoothness of the surface, the closeness of the surfaces and the atmospheric conditions.

Substrate	Seconds
Steel to Steel	10-30
Stainless Steel to Stainless Steel	20-70
Aluminium to Aluminium	10-20
Zinc Plated to Zinc Plated	20-70
ABS to ABS	10-30
ABS to NBR	5-10
ABS to Wood	5-10
NBR to NBR	3-10
Polycarbonate	10-40

Cure Speed / Humidity

The following graph shows the tensile strength developed at different levels of humidity.



Directions For Use:

1. Make sure the surfaces to be bonded are clean and dry. (Solvent wipe plastics, glass, rubber and acid treat metals)
2. Dispense a drop or drops to one surface only. Apply only enough to leave a thin film after compression.
3. Press parts together and hold firmly for a few seconds. Good contact is essential. An adequate bond develops in less than one minute. (Maximum strength is achieved in 24 to 48 hours).
4. Wipe off excess adhesive from the top of the container and recap **MXBON® 412M** if left uncapped, may deteriorate by contamination from moisture in the air.
5. Because **MXBON® 412M** polymerises on contact with moisture surfaces, sometimes whitening will occur on the surface of the container or the bonded materials. Should this happen, wipe surfaces well with debonder.

Handling & Storage:

Storage: Keep products in the unopened container in a cool dry location. The product is best when stored at 2 to 8°C. Temperatures less than 2°C can adversely affect product properties. Do not freeze. Keep the container tightly closed until ready for use.
Handling: Material removed from containers may be contaminated during use. Do not pour back any product to the original container. Misuse of product will void all warranties.

Precaution:

1. Use with proper ventilation. Avoid contact with skin and eyes.
2. If contact with skin occurs, rinse with warm water or dissolve with appropriate debonder. Do not try to remove it forcibly.
3. If the adhesive gets into your eye, keep eye open and rinse thoroughly. Seek medical attention immediately.
4. Keep well out of reach of children.
5. Keep adhesive in a cool dry place 20-25°C. For long-term storage, refrigeration (5°C) is recommended.

Disclaimer:

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Revision date: 10/2026 - Revision: 01

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