Technical Data Sheet
MXBON® 12638

Revision: EN005.1
Revision Date: Nov. 2022

PRODUCT DESCRIPTION

MXBON® 12638 is designed for the bonding of cylindrical fitting parts. The product is a green color, high viscous single component acrylic based material. The product could replace traditional bolts or fittings because of its easy assembling process, high efficiency and the quality. It not only uses on active metals but also passive metals surface such as stainless steel. The product cures in the absence of air, the product can be further accelerated by the use of Activator 017649.

Technology	Acrylic
Chemical Type	Dimethacrylate ester
Appearance (uncured)	Green liquid
Fluorescence	Positive under UV light
Components	One component – requires no mixing
Viscosity	High
Cure	Anaerobic
Secondary Cure	Activator
Application	Retaining
Strength	High

NSF International

Registered to NSF Category S5 for use as a retaining compounds where there is no possibility of food contact in and around food processing areas. Note: This is a regional approval. Please contact your local Technical Service Center for more information and clarification.

DVGW

Registered to DVGW greasing and sealing materials for metallic threaded joints in gas appliances, gas equipment and water heating equipments, not allowed in the gas installation according to DVGW-TRGI 2008. Note: This is a regional approval. Please contact your local Technical Service Center for more information and clarification.

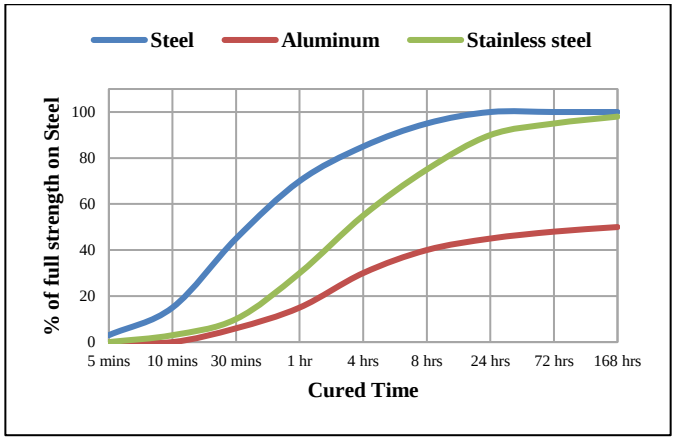
TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 25 °C	1.1
Flash Point -	See SDS
Viscosity, Brookfield - RVT, 25 °C, mPa·s (cP)	
Spindle 3, 20 rpm	2,000 to 3,000
Shelf life	24 months unopened when stored at 8 to 24℃

TYPICAL CURING PERFORMANCE

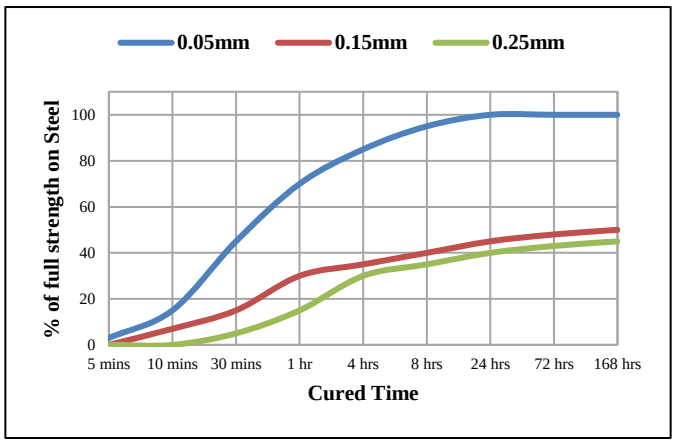
Cure Speed vs. Substrate

The rate of cure will depend on the substrate used. The graph below shows the shear strength developed with time on steel pins and collars compared to different materials and tested according to ISO 10123.



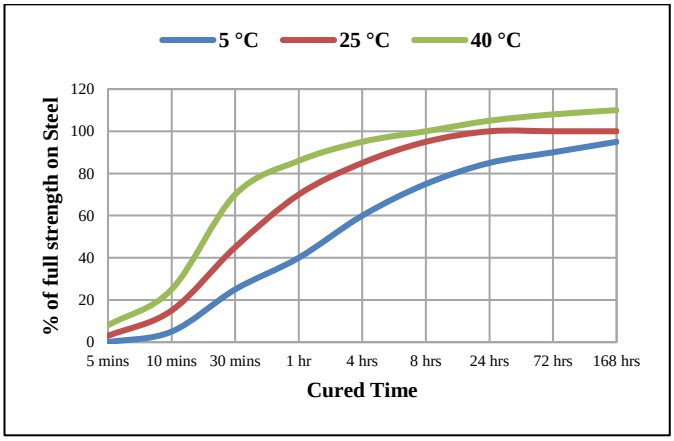
Cure Speed vs. Bond Gap

The rate of cure will depend on the bondline gap. The following graph shows shear strength developed with time on steel pins and collars at different controlled gaps and tested according to ISO 10123.



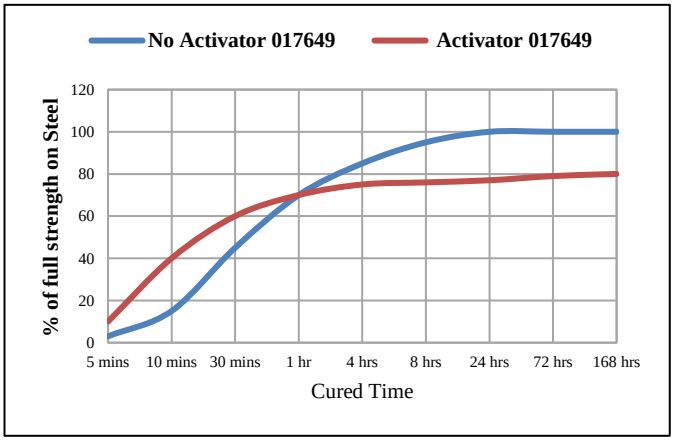
Cure Speed vs. Temperature

The rate of cure will depend on the temperature. The graph below shows the shear strength developed with time at different temperatures on steel pins and collars and tested according to ISO 10123.



Cure Speed vs. Activator

Where cure speed is unacceptably long, or large gaps are present, applying activator to the surface will improve cure speed. The graph below shows the shear strength developed with time on steel pins and collars using Activator 017649 and tested according to ISO 10123.



TYPICAL PERFORMANCE OF CURED MATERIAL

Adhesive Properties - Torque

Cured for 24 hrs @ 25 ℃

Breakaway Torque, ISO 10964:

Bonding Identical Substrate	N.m	lb.in.
M10 steel nuts and bolts	37	326

Prevail Torque, ISO 10964:

Bonding Identical Substrate	N.m	lb.in.
M10 steel nuts and bolts	34	299

Adhesive Properties - Shear Strength

After 15 minutes @ 25 ℃

Compressive Shear Strength, ISO 10123:

	N/mm^2	psi
Steel pins and collars	≧ 13.5	1,958

After 24 hours @ 25 ℃

Compressive Shear Strength, ISO 10123:

	N/mm^2	psi
Steel pins and collars	≧ 25	3,625

TYPICAL ENVIRONMENTAL RESISTANCE

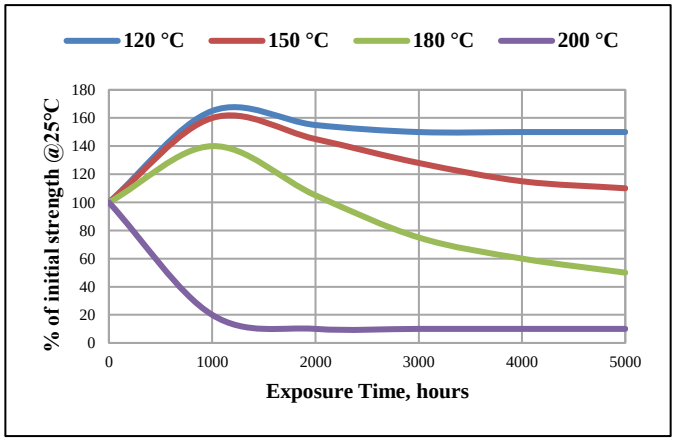
Cured for 1 week @ 25 ℃

Compressive Shear Strength, ISO 10123

Steel pins and collars

Heat Aging

Aged at temperature indicated and tested @25 ℃



Chemical/Solvent Resistance

Aged under conditions indicated and tested @25 ℃

	% of initial strength				
Environment	**℃**	**500 h**	**1000h**	**3000h**	**5000h**
Unleaded Petrol	25	100	95	95	90
Water/ethylene glycol 50/50	87	105	105	100	95
IPA	25	100	95	95	90
Acetone	25	100	100	95	95

Stainless steel pins and collars

	% of initial strength				
Environment	**℃**	**500 h**	**1000h**	**3000h**	**5000h**
Sodium Hydroxide, 20%	25	95	75	60	50
Phosphoric Acid, 10%	25	95	65	40	35

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 24 °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.

Directions for use

For assembly

1. The substrate surfaces must be clean and free of grease.
2. Shake the product thoroughly before use.
3. If the cure speed is too slow, consider using activator.
4. Apply several drops to the nut & bolt.
5. Assemble and tighten as required.
6. To prevent the clogging of the bottle nozzle, do not let the tip touch the metal surfaces during application.

For disassembly & cleanup

1. Use localized heat (250 °C) to nut and bolt, disassemble while hot.
2. Use a wire brush to clean the charred product.

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.