Technical Data Sheet
MXBON® 41011

Revision: EN002
Revision Date: Jun.2024

PRODUCT DESCRIPTION

MXBON® 41011 is a medium-viscosity、fast-curing、single component UV curing acrylic based product. The adhesive suitable applies to large gap filling and flexibility and impact resistance of the adhesive layer. Moreover, this product shows excellent adhesion to wide variety of substrates.

MXBON® 41011 can be bonding of plastic to plastic. after curing, it Has fluorescent recognition, low air permeability, and can be used to isolate moisture in the contacts of electronic part.

Chemical Type	Acrylated urethane
Appearance (uncured)	Light yellow
Components	One component – requires no mixing
Viscosity	Medium, thixotropic
Cure	Ultraviolet (UV) light and/or Visible light
Application	Bonding
Specific Gravity @25 °C	1.08
Viscosity, mPa·s (cP) Brookfield (@25 °C)	
Spindle 5, 2.5 rpm	14,000 to 24,000
Shelf life	Storage in 8 ℃ to 21 ℃ , 12 months (Unopened condition)

TYPICAL CURING PERFORMANCE

MXBON® 41011 can be cured by UV light and/or visible light of 365nm、395nm and 460nm. To obtain full cure on surfaces exposed to air, radiation 220 to 260 nm is also required. Fixture time and cure speed achieved depend on substrate used, bonding gap, UV intensity, exposure time and spectrum distribution of light source.

Fixture time

Fixture time is defined as the time to develop the shear strength of 0.1 N/mm^2.

UV Fixture Time, ISO 4587, Glass microscope slides, seconds:

6 mW/cm^2 @365nm, ≤ 15s

UV Fixture Time, ISO 4587, Polycarbonate, seconds:

30 mW/cm^2 @365nm, ≤ 5s

100 mW/cm^2 @365nm, ≤ 5s

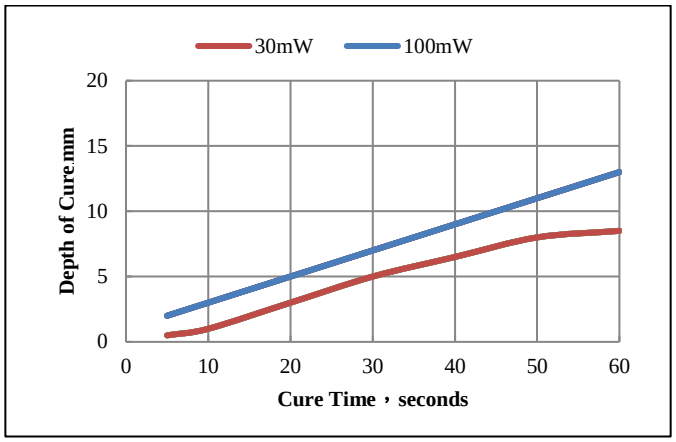
Tack free time :100 mW/cm^2 @365nm, ≤ 20s

Deep (1-3 mm) Fixture time : 100 mW/cm^2, ≤ 60s

Depth of Cure vs. Irradiance (365 nm)

The graph below shows the increase in depth of cure with time at 30mW/cm² - 100mW/cm² as measured from the thickness of the cured pellet formed in a 15mm diameter PTFE die.

Curing System: Metal Halide (Doped)



TYPICAL PROPERTIES OF CURED MATERIAL

Cured @ 30 mW/cm², measured @ 365 nm, for 80 seconds using a glass filtered metal halide light source

Physical properties

Durometer (Shore B)	45
Max. Operating Temperature (°C)	-54 to 149
Refractive index (%)	1.48

TYPICAL PERFORMANCE OF CURE MATERIAL

Adhesive properties

Cured @ 30 mW/cm², measured @ 365 nm, for 80 seconds using a glass filtered metal halide light source.

Lap shear strength , ISO 4587

Substrate	N/mm^2	psi
PC / PC	11*	1,595
PC / PVC	8.5	1,232

* substrate failure

TYPICAL ENVIRONMENTAL RESISTANCE

Cured @ 30 mW/cm², measured @ 365 nm, for 80 seconds using a metal halide light source, (samples with 0.5 mm gap).

Lap Shear Strength, ISO 4587:

Polycarbonate

Chemical/Solvent Resistance

Aged under conditions indicated and tested @ 22 °C.

		% of initial strength		
Environment	℃	2H	24H	170H
Boiling water	100	*100	------	------
Water immersion	49	*100	------	------

Water immersion	87	*100	------	
Isopropanol immersion	22	------	95	------
Heat/humidity	38	------	------	*100

* substrate failure

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. 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 ℃ to 21 ℃. For details, consult the Safety Data Sheet, (SDS). Shelf life is one 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.