Technical Data Sheet
MXBON® 21441M

Revision: EN001
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PRODUCT DESCRIPTION

MXBON® 21441M is a low viscosity light-curing cyanoacrylate adhesive. It is designed for bonding applications that require very rapid fixture, fillet cure or surface cure. The UV and visible light cure properties facilitated rapid curing of exposed surface area and makes it a unique product in the world of light-curing adhesive.

MXBON® 21441M offers the following characteristics:

Technology	Cyanoacrylate / UV / Visible
Chemistry	Ethyl Cyanoacrylate with photoinitiator
Appearance (uncured)	Transparent, yellow liquid
Components	One part – requires no mixing
Viscosity	Low
Cure	Ultraviolet (UV) light
Secondary cure	Humidity

ISO-10993

MXBON® 21441M has been tested to test protocols based on ISO 10993 biocompatibility standards, as a means to assist in the selection of products for use in the medical device industry.

TYPICAL PROPERTIES OF UNCURED MATERIAL

	Typical Value
Specific Gravity @ 25 °C, g/cm³	1.13
Viscosity @ 25 °C, mPa·s	8 - 20

TYPICAL CURING PERFORMANCE

TACK FREE TIME

Tack Free Time is the time in seconds required to achieve a tack free surface.

UV/Visible Light Sources:

Electrodeless, V bulb:
70 mW/cm², measured @ 365 nm: < 10 s.
Electrodeless, H bulb:
30 mW/cm², measured @ 365 nm: < 10 s.
100 mW/cm², measured @ 365 nm: < 10 s.

Visible Light Sources:

Blue light laser:
70 mW/cm², measured @ 445 nm: < 10 s.

CURE SPEED vs. SUBSTRATE (non-UV/Vis cure)

The rate of cure will depend on the substrate used. The table below shows the fixture time achieved on different materials at room temperature. This is defined as the time at which an adhesive bond (250 mm²) is capable of supporting a 3 kg load for 10 seconds. Fixture time measurements relate to non-UV/Visible cure.

	Fixture Time (seconds)
ABS	15
Acrylic	30
PC	15
PVC	150

TYPICAL PERFORMANCE OF CURED MATERIAL

TENSILE SHEAR STRENGTH

The shear strength will depend on the substrate. The Table below shows the shear strength for different substrates using lap shears according to ISO 4587.
Data for 24-h curing in dark room and 10-second curing with UV/Vis light source.

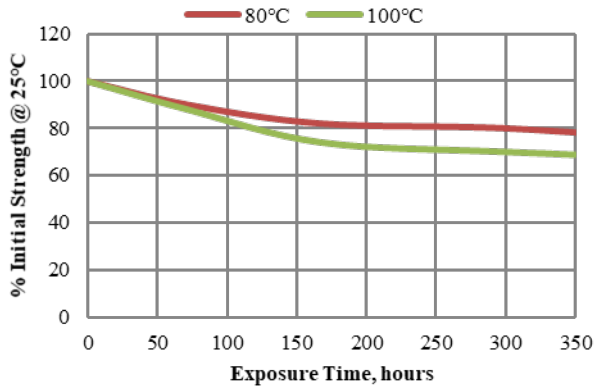
	Strength (N/mm²) After 24 h RT Non-UV/Vis cure	**Strength (N/mm²)** After 10 s curing with UV/Vis light
ABS	12.8*	8.5*
Acrylic	6.7*	7.1*
PC	11.8*	6.2*
PVC	6.3*	4.4*

* Substrate failure

TYPICAL ENVIRONMENTAL RESISTANCE

HEAT AGING

Cured @ 30 mW/cm2, measured @365 nm, for 10 seconds plus 24 hours post cure @ 22°C. Aged at temperature indicated and tested @22°C



GENERAL INFORMATION

This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected as a sealant for chlorine or other strong oxidizing materials.
For safe handling information on this product, consult the Safety Data Sheet (SDS):

Directions for use:

1) This product is light sensitive; exposure to daylight, UV light and artificial light should be kept to a minimum during storage and handling.
2) For best performance bond surfaces should be clean and free from grease.
3) This product performs best in thin bond gaps (0.05 mm)
4) Excess adhesive can be dissolved with nitromethane or acetone.

Storage:

Store product in the unopened container in a dry location.
Storage information may be indicated on the product container labeling.
Optimal storage: 2 ºC to 8 ºC. Storage below 2 ºC or greater than 8 ºC can adversely affect product properties. Material removed from containers may be contaminated during use. Do not return product to the original container. Cartell Chemical Co., Ltd. cannot assume responsibility for a product which has been contaminated or stored

under conditions other than those previously indicated.

Conversions:

(ºC x 1.8) + 32 = ºF
kV/mm x 25.4 = V/mil
mm / 25.4 = in
µm / 25.4 = mil
N x 0.225 = lb
N/mm x 5.71 = lb/in
N/mm2 x 145 = psi
MPa x 145 = psi
N·m x 8.851 = lb·in
N·mm x 0.142 = oz·in
mPa·s = cP

Storage & Handling precaution

Keep adhesive in a cool and dry place. The storage temperature is recommended at 2 ℃ - 8 ℃. For details, consult the Material Safety Data Sheet, (MSDS). Shelf life is twelve months 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:

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