Technical Data Sheet

MXCUR ® 011

December 2008

Product Description

MXCUR 011 is a medium viscosity, fast curing, single component acrylate adhesive. **MXCUR 011** is specifically formulated for bonding and sealing clear plastic to metal substrates. The low viscosity makes it ideal for applications where wicking of the adhesive into pre-assembled parts is required. **MXCUR 011** cures rapidly when exposed to ultra violet radiation specifically in the UV-A region.

MXCUR ® 011 offers the following characteristics:

Technology	Acrylic
Appearance (uncured)	Transparent, pale straw coloured liquid
Chemical Form	Acrylate
Cure	Ultraviolet (UV)
Cure Benefit	Production - high speed curing
Components	Single – requires no mixing
Viscosity	Low
Application	Bonding

Properties of Uncured Material

	Typical Value
Specific Gravity @ 25°C	1.03
Viscosity @ 20°C	60 to 120mPas
Flash Point	See MSDS

UV Intensity

This product is cured when exposed to UV radiation of 365nm.To obtain full cure on surfaces exposed to air, radiation @ 250 nm is also required.

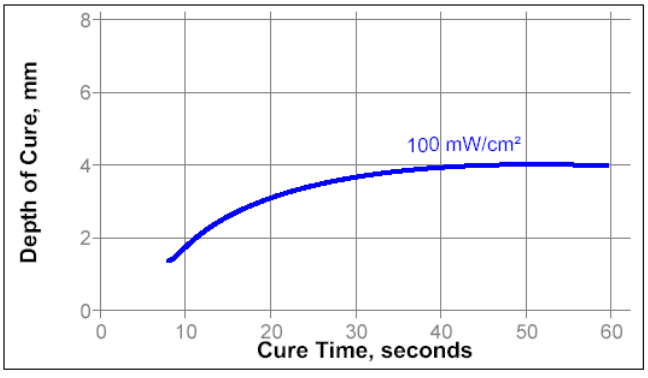
Fixture Time

Fixture time is defined as the time to develop shear strength of 0.1 N/mm². UV Fixture Time, ISO 4587, Glass microscope slides, seconds:

6 mW/cm² @ 365 nm	≤10
100 mW/cm² @ 365 nm	≤5

Depth of Cure vs. Intensity

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



Properties of Cured Material

Physical properties

Coefficient of Thermal Expansion, ASTM D 696, K^{-1}	100×10^{-6}
Coefficient of Thermal Conductivity, ASTM C 177,	0.1 W/(m·K)
Glass Transition Temperature, ASTM E 228, °C	45
Volumetric Shrinkage, %	8
Shore Hardness, ASTM D 2240, Durometer D	68
Elongation, at break, ASTM D 882, %	160
Tensile Strength, at break, ASTM D 882	N/mm² 9 (psi) (1,300)
Tensile Modulus, ASTM D 882	N/mm² 420 (psi) (61,000)
UV Depth of Cure, mm:	
100 mW/cm² @ 365 nm for 20 seconds	≤0.8

Adhesive Properties

Cured @ 100 mW/cm² @ 365 nm for 40 seconds

Lap Shear Strength, ISO 4587:	
PVC to Glass	N/mm² 1 to 5 (psi) (145 to 725)
ABS to Glass	N/mm² 1 to 5 (psi) (145 to 725)
Polycarbonate to Glass	N/mm² 1 to 5 (psi) (145 to 725)
Tensile Strength, ISO 6922:	
Steel pin (grit blasted) to Glass	N/mm² 5 to 15 (psi) (725 to 2,175)

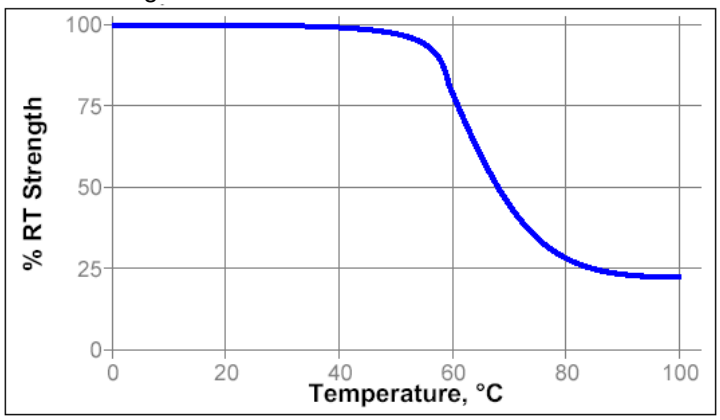
Environmental Resistance

Cured @ 100 mW/cm² @ 365 nm for 10 seconds plus 1 week @ 22°C

Tensile Strength, ISO 6922:

Steel pin (grit blasted) to Glass

Hot Strength



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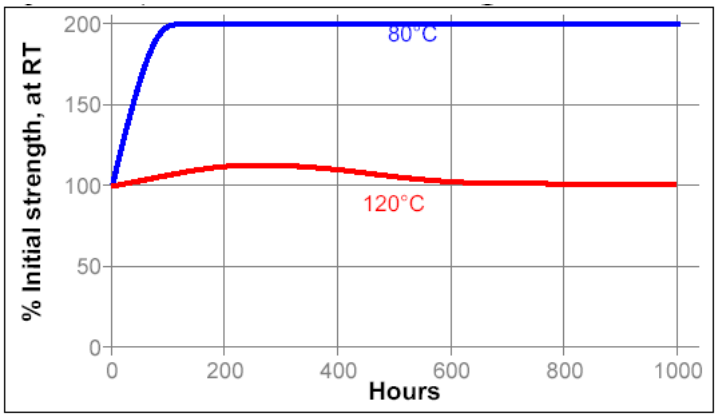
Heat Aging

Aged at temperature indicated and tested @ 22 °C



Chemical/Solvent Resistance

Aged under conditions indicated and tested @ 22 °C.

		% of initial strength		
Environment		100 **h**	**500 h**	**1000 h**
Petrol	22°C	85	85	85
Freon TA	22°C	85	75	0
Industrial methylated spirits	22°C	80	10	0
Heat/humidity 90% RH	40°C	65	40	30

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 oxidising materials.

For information on the safe handling of this product, consult the Material Safety Data Sheet, (MSDS).

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.

Precaution

1. Use with proper ventilation. Avoid contact with skin and eyes.
2. If contact with skin occurs, rinse with warm water and soap.
3. If adhesive gets into eye, keep eye open and rinse thoroughly. Seek medical attention immediately.
4. Keep well out of reach of children.

Storage

Keep adhesive in a cool, dry place optimal storage 8°C-28°C. is recommended unless otherwise labelled. To prevent contamination of unused material, do not return any product to its original container. For specific shelf life information, contact Cartell UK Ltd. Avoid direct sunlight.

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