



**TDS**

**MXCUR<sup>®</sup> 311**

## PRODUCT SPECIFICATION

# MXCUR<sup>®</sup>311

### Description:

**MXCUR<sup>®</sup> 311** is a medium viscosity, fast curing, single component acrylate adhesive. **MXCUR<sup>®</sup> 311** is specifically formulated for bonding rigid or flexible PVC to polycarbonate, while not inducing stress cracking. **MXCUR<sup>®</sup> 311** also provides excellent adhesion to a wide variety of other substrates including glass, many plastics and most metals. **MXCUR<sup>®</sup> 311** cures rapidly when exposed to ultra violet radiation specifically in the UVA/visible light region.

### Typical Properties of Cured/Uncured Material:

Uncured State Physical Properties		Properties of Cured Materials	
Base	Acrylic	Physical Properties	
Colour	Transparent liquid	Shore Hardness, ISO 868, Durometer D	58
Chemical Form	Acrylated Urethane	Refraction Index	1.5
Cure	Ultraviolet (UV)	Water absorption, ISO 62, %: 2 hours boiling in water	5.36
Cure Benefit	Production – High Speed Curing	Elongation, at break, ISO 527, %	265
Components	Single requires no mixing	Tensile Modulus, ISO 527	N/mm2 (psi) 669 (97,000)
Viscosity	Low	Tensile Strength, at break, ISO 527	N/mm2 (psi) 23 (3,300)
Application	Bonding	Electrical Properties	
Specific Gravity @ 25°C	1.1	Surface Resistivity, IEC 60093, Ω	1.0 x 10 <sup>15</sup>
Viscosity @ 25°C	200 – 400 mPas	Volume Resistivity, IEC 60093, Ω·cm	8.4 x 10 <sup>14</sup>
Flash Point	See MSDS	Dielectric Breakdown Strength, IEC 60250, KV/mm	31
		Dielectric Constant / Dissipation Factor, IEC 60250	
		100-Hz	4.56 / 0.05
		1-kHz	4.41 / 0.02
		1-MHz	4.02 / 0.03

### UV Intensity

**MXCUR<sup>®</sup> 311** Can be cured by exposure to visible light of sufficient intensity and/or UV. To obtain full cure on surfaces Exposed to air, radiation @ 220 to 260nm is also required.

### Fixture Time

Fixture Time is defined as the time to develop shear strength of 0.1 N/mm<sup>2</sup> UV fixture time, ISO 4587, Glass Microscope slides seconds:

- 6 mW/cm<sup>2</sup> @ 365nm ≤15  
UV fixture time ISO 4587, Polycarbonate seconds:
- 100 mW/cm<sup>2</sup> @ 365nm ≤5

### Stress Cracking

Liquid adhesive is applied to a medical grade polycarbonate bar 64mm x 13mm x 3mm which had been flexed to induce a known stress level. Stress Cracking, ASTM D 3929, Minutes:

- 7 N/mm<sup>2</sup> stress on bar >15
- 7 N/mm<sup>2</sup> stress on bar 3 to 4

**PRODUCT SPECIFICATION**

**MXCUR®311**

**Performance of Cured Material**

Cured @ 30 mW/cm<sup>2</sup> @ 365nm for 80 seconds using a metal halide light source Lap Shear Strength, ISO 4587  
Polycarbonate: 0.5mm gap – **N/mm<sup>2</sup> 5.2 (psi) (750)** \*substrate failure

**Heat Aging**

Aged at temperature indicated and tested @ 22°C Lap shear strength, ISO 4587, % of initial strength:  
**Polycarbonate:**

Environment	Typical Value
Aged @ 71°C for 170 hours	<b>*100</b>
Aged @ 71°C for 340 hours	<b>*100</b>
Aged @ 93°C for 170 hours	<b>*100</b>
Aged @ 93°C for 340 hours	<b>*100</b>
*Substrate Failure	

**Chemical/Solvent Resistance**

Aged under conditions indicated and tested @ 22°C

Environment	°C	% of initial strength		
		2 hrs	24 hrs	170 hrs
Boiling Water	100	100	-	-
Water immersion	49	-	-	100
IPA immersion	21	-	100	0
Heat/humidity	38	-	-	100

Revision date: 01/2025 - Revision: 04



# CartellUK

adhesive experts

## PRODUCT SPECIFICATION

### MXCUR<sup>®</sup>311

#### General Information:

This product is not recommended for use in pure oxygen and/or oxygen rich systems and not be used 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 solutions can affect the cure and performance of the adhesive.

#### Handling & Storage

**Storage:** Keep products in the unopened container in a cool dry location. The product is best when stored at 8 to 21°C. temperatures less than 2°C can adversely affect product properties. Do not freeze. Keep container tightly closed until ready for use. For long term storage keep in refrigeration at 5°C unless otherwise labelled.

**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 forcibly.
3. If 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 8°C to 21°C.

#### Disclaimer:

The data contained herein are furnished for informational purposes only and are believed to be reliable. However, Cartell UK Ltd does not assume responsibility for any results obtained by persons who methods Cartell UK Ltd has no control. It is the responsibility to determine the suitability of Cartell UK'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 UK Ltd's products. Cartell UK Ltd specifically disclaims all warranties express or implied, including warranties of salability and suitability for a particular purpose arising from sale or use of Cartell UK Ltd's products. Cartell UK Ltd further disclaims any liability for consequential or incremental damages of any kind including lost profits.

Revision date: 01/2025 - Revision: 04