



TECHNICAL

UC20840

PRODUCT DESCRIPTION

Chemence UC-20840 is a single component medium viscosity UV-curing adhesive with a secondary anaerobic curing mechanism. Cures when exposed to a UV light source (365 nm or above).

TYPICAL APPLICATIONS

Chemence UC-20840 is suited to applications requiring a tough cured polymer and rapid cure speed. UC-20840 cures rapidly when exposed to UV light to provide a fixture strength bond. Further curing takes place anaerobically in "shadowed" areas in contact with metal ions. UC-20840 can be used as an anaerobic adhesive in an application, then any uncured fillets of adhesive outside the bond line can be cured using UV-light. UC-20840 can bond glass, metals and ceramics

PROPERTIES OF MATERIAL

	Unit	Value
Chemical type		Methacrylate ester
Appearance		Amber/green
Specific Gravity		1.08
Viscosity ¹ , range @2.5rpm	cPs	600 - 1000
Viscosity ¹ , range @20rpm	cPs	200 - 400
Fixture Time (secs) ²		5
Depth of cure ³		2
Breakloose torque ⁴	N.m	25 - 35
Prevail torque ⁴	N.m	25 - 35
Refractive index		1.479
Flash Point	°C	> 100
Shelf Life @ 20°C	Months	12
Temp Range	Continuous °C	-50 to +120
	Intermittent	-50 to +150

- ¹ Brookfield RVT, Spindle 2
- ² Glass slide fixture 10mW/cm² @365nm
- ³ Cured for 30secs @ 10mW/cm² @365nm
- ⁴ ISO 10964

CURING PERFORMANCE

Chemence UC-20840 is designed for bonding closely fitting glass and metal parts.

Glass Slide Fixture Time in seconds, using Hg vapour lamp:

10mW/cm2.....	5
30mW/cm2.....	<3

Surface cure time (UC-20840 does not cure dry to touch):

10mW/cm2.....	<120
30mW/cm2.....	<90

The rate of cure, depth of cure and surface tack of the cured adhesive will depend on the intensity of the UV light, exposure time, spectral output of the UV light source and light transmittance of the substrates to be bonded.

To achieve a fast, controlled, reproducible cure performance, the use of high quality UV lamps @ 365nm or above is recommended.

TYPICAL ENVIRONMENTAL RESISTANCE

Hot strength

Chemence UC-20840 is not suitable for use at very high temperatures. At 120°C the bond strength will be ~25% of the strength at 21°C.

Heat ageing

Chemence UC-20840 exhibits excellent resistance to heat ageing. Typically, exposure to heat for a prolonged period, results in fully curing any uncured resin that may remain. This has the effect of increasing the bond strength when subsequently tested at 21°C.

Chemical / Solvent Resistance

Chemence UV-curing adhesives exhibit excellent chemical resistance to most oils and solvents including alcohols, methylated spirit water. Chemence UV-curing adhesives are not recommended for use in pure oxygen or chlorine lines.

DIRECTIONS FOR USE

Chemence UV-curing adhesives are very sensitive to UV-light. As such, measures must be taken to protect the adhesive from UV light from the lamp, sunlight and artificial lighting until the operator wishes the product to cure.

Chemence UV's should be applied to clean, dry parts. Once the adhesive is applied, the parts can be positioned correctly and then exposed to UV-light to initiate curing. LA-64 activator should be pre-applied to increase cure speed on inactive surfaces such as glass or stainless steel.

Excess adhesive outside the bond joint may be wiped away with Chemence LA-70 Safety Clean

Product is normally hand applied from the bottle. Dispensing systems with black, UV-opaque feed lines are available for high volume assembly applications. Please contact your Chemence representative for further advice on dispensing solutions.

CURING MECHANISM

Chemence UC-20840 is formulated to cure when exposed to UV radiation of 365nm and above. UC-20840 also cures anaerobically in the presence of metal ions. The anaerobic cure can be accelerated using LA-64 activator.

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GENERAL INFORMATION

For safe handling of this product consult the Material Safety Data Sheet.

UV-curing adhesives only cure when exposed to UV-light of the correct wavelength and sufficient intensity. Cure speed may vary as the UV-lamp bulb ages.

Chemence UC-5267 is not recommended for use on some plastics as stress cracking can sometimes result. Some anti-corrosion or cleaning chemicals inhibit the cure or bonding system in this type of adhesive. Trials are recommended to establish whether cleaning of the parts is necessary.

STORAGE

Store in a cool area out of direct sunlight. Store below 25°C in the original containers. Do not mix contaminated or partially exposed product with unused product.

PRESENTATION

Bottles (black):50g and 250g.
Available in bulk for use with dispensing systems.

DATA RANGES

The data contained in this data sheet may be reported as typical value and/or range. Values are based on actual test data and are verified on a regular basis

NOTES

The information contained herein is produced in good faith and is believed to be reliable but is for guidance only. Chemence Ltd. and its agents cannot assume liability or responsibility for results obtained in the use of its product by persons whose methods are outside or beyond our control. It is the user's responsibility to determine the suitability of any of the products and methods of use or preparation prior to use mentioned in our literature and furthermore the user's responsibility to observe and adapt such precautions as may be advisable for the protection of personnel and property in the handling and use of any of our products.