CHEMENCE

TECHNICAL DATA

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UC75

PRODUCT DESCRIPTION

Chemence UC-75 is a single component, high viscosity adhesive that cures to give a clear, flexible bond when exposed to UV-light (365nm or above).

TYPICAL APPLICATIONS

Chemence UC-75 is specially formulated to rapidly produce clear, flexible, smooth, tack-free coatings. UC-75 gives high strength bonds to plastics and composites. It is ideally suited to coating badges and emblems, but can also be used for various coating and potting applications.

PROPERTIES OF MATERIAL

		Value
Chemical type		Urethane acrylate ester
Appearance		Clear
Specific Gravity		1.08
Viscosity [1], cPs		1700-2100
Typical Value		1900
Fixture Time (secs) [2]		3
Depth of cure [3]		5
Tensile Strength [4],	Range	1-3
N/mm^2	Typical	2
Refractive index		1.4970
Water absorption [5]		1.18%
Hardness, Shore D		78
Flash Point	(°C)	> 100
Shelf Life @ 20°C	(Months)	12
Temp Range °C		
	Continuous	-50 to +120
	Intermittent	-50 to +135

1 Brookfield LVF, Spindle 3, 30rpm
2 Glass slide fixture 10mW/cm^2 @365nm
3 Cured for 30secs @ 10mW/cm^2 @365nm
4 ASTM 2095(modified), glass to steel, 180 secs cure @ 20mW/cm^2
5 % weight increase after 3h in boiling water
(N/D = not determined)

CURING PERFORMANCE

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

10mW/cm2……<3
30mW/cm2……No data

Surface cure time (to achieve dry to touch):

10mW/cm2……<40
30mW/cm2…… No data

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.

Depths of cure up to 6mm can be achieved with high intensity lamps and long cure times

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-75 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-75 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 exposure to UV-light from the lamp, sunlight and artificial lighting to prevent unwanted curing.

The adhesives 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.

Ensure parts are clean, dry and free from oil and grease. Apply adhesive to one surface, bring parts together and expose to UV-light

Excess adhesive can be wiped away with Chemence LA-70 Safety Clean or alcohol.

Product can be hand applied from the bottle. Dispensing systems are also available for high volume assembly applications. Feed lines for the dispensing system must have black, UV-opaque tubing to avoid adhesive curing in the lines. Please contact your Chemence representative for further advice on dispensing solutions.

CURING MECHANISM

Chemence UC-16 is formulated to cure when exposed to UV radiation of 365nm and above

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.

STORAGE

Store in a cool area out of direct sunlight. Refrigeration to 5°C gives optimum storage stability.

PRESENTATION

Bottles (black): … . . . .50g, 250g and 1kg.
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.