

LOCTITE®

LOCTITE UK

A division of Loctite Holdings Ltd.,
Watchmead, Welwyn Garden City,
Hertfordshire AL7 1JB.
Telephone: 0707 331277.
Telex: 261277.

January 1990

勝特力材料 886-3-5753170
勝特力电子(上海) 86-21-34970699
勝特力电子(深圳) 86-755-83298787
Http://www.100y.com.tw

Technical Data Sheet Product 358

PRODUCT DESCRIPTION

LOCTITE 358 is a one component adhesive which cures rapidly when exposed to ultra violet radiation.

TYPICAL APPLICATIONS

Bonds glass to glass and glass to metal, as in decorative glassware, jewellery, etc.

PROPERTIES OF UNCURED LIQUID MATERIAL

Chemical type:	Urethane methacrylate ester
Colour:	Clear, amber
Specific gravity, 25°C:	1.09
Viscosity @ 25°C, mPa.s:	
Brookfield RVT—	
Spindle 4 @ 20 rev/min:	2,000 to 3,000
DIN 54353, mPa.s:	
D = 36 1/S:	
After t = 180 (thixotropic):	1,750 to 3,500
Flash point (COC), °C:	>100
Vapour pressure, mbar:	<3
Shelf life @ 5 to 28°C, months:	12
Secondary cure system:	None

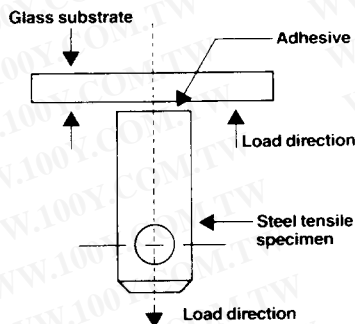
CURING PERFORMANCE

LOCTITE 358 cures when exposed to UV radiation of 365nm wavelength. To obtain a full cure on surfaces exposed to air, radiation at 250nm is also required. Both of these wavelengths are emitted by medium pressure mercury vapour lamps as incorporated, for example, in the LOCTITE UVALOC 1000.

The following information refers to the bonding of a steel pin to 6 mm thick float glass as illustrated in figure 1.

Figure 1—Tensile Strength Evaluation

The diagram opposite describes the test method ASTM D 2095-69 (MOD) which was used to measure the tensile strength. A grit blasted mild steel rod (ø 12.7 mm x 38 mm) was bonded to a 6 mm Pilkington glass (50 mm x 50 mm).



UV intensity

365nm	250nm	Dry surface time	
100mW/cm ²	100mW/cm ²	(number of seconds to achieve 'dry to touch' surface), seconds:	17
		Depth of cure at same time, mm:	1.7
		Depth of cure at 4 times this exposure, mm:	2.8
		Fixture time, seconds:	5
10mW/cm ²	—	Dry surface time:	Not Recommended
		Fixture time, seconds:	8

PROPERTIES OF CURED MATERIAL

Physical properties

Full strength achieved after 24 hours @ 22°C.	
Coefficient of thermal expansion, ASTM D696, 1/°K:	100 × 10 ⁻⁶
Coefficient of thermal conductivity, ASTM C177, $\frac{W}{m \cdot K}$:	0.1
Recommended gap, mm:	0.05
Maximum gap, mm:	0.5
Hardness (Shore D):	

Electrical properties

Volume resistivity (ASTM D257, DIN 53482) Ω.cm:	2 × 10 ¹⁵
Dielectric strength (ASTM D149, DIN 53481) kV/mm:	50
Dielectric constant	100 Hz: 3.4
(ASTM D150, DIN 53483, IEC 250, BC 4542)	1,000 Hz: 3.4
	10,000 Hz: 3.4
Dielectric loss	100 Hz: 0.03
(ASTM D150, DIN 53483, IEC 250, BC 4542)	1,000 Hz: 0.03
	10,000 Hz: 0.03

PERFORMANCE OF CURED MATERIAL

Tensile strength, steel to glass, N/mm², (modified ASTM D2095/modified DIN 53288)

UV 365nm/100mW/cm²

100 seconds:

6 to 15

N.B. Ranges are based on mean ± 2σ values.

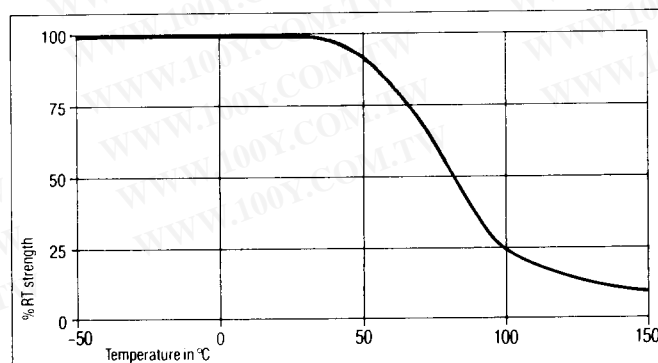
ENVIRONMENTAL RESISTANCE

Hot Strength

Strength test procedure: ASTM D2095 (modified), DIN 53288 (modified).

Substrate: Grit blasted mild steel pin to glass.

Cure procedure: 1 week at 22°C after exposure for 10 seconds at 100mW/cm²—365nm UV

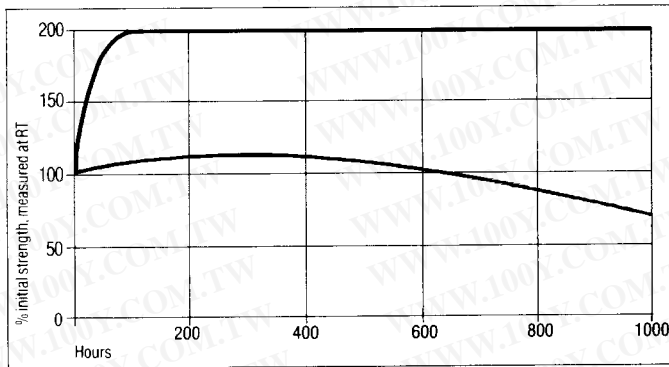


Heat Aging

Strength test procedure: ASTM D2095 (modified), DIN 53288 (modified).

Substrate: Grit blasted mild steel pin to glass.

Cure procedure: 1 week 22°C after exposure for 10 seconds at 100mW/cm²—365nm UV



CHEMICAL/SOLVENT RESISTANCE

Strength test procedure: ASTM D2095 (modified), DIN 53288 (modified).

Substrate: Grit blasted mild steel pin to glass.

Cure procedure: 1 week 22°C after exposure for 10 seconds at 100mW/cm².

Solvent	Temperature	% Initial strength retained at:		
		100hrs	500hrs	1000hrs
90% R.H.:	40	50	35	25
Petrol:	22	100	100	85
1.1.1. trichloroethane:	22	100	100	100
Freon TA:	22	100	100	100
Industrial methylated spirit:	22	100	100	100

勝特力材料 886-3-5753170
勝特力电子(上海) 86-21-34970699
勝特力电子(深圳) 86-755-83298787
[Http://www.100y.com.tw](http://www.100y.com.tw)

GENERAL

Safe handling

Remove adhesive from the skin with soap and water. In case of eye contact flush with water and seek medical attention. To avoid contact use the applicator nozzle provided.

Materials of this type are not common allergenic (sensitising) agents. However, when used under conditions in which skin is continuously bruised or microlacerated, sensitisation has been known to occur. Contact with skin in such condition should be avoided.

Storage

Material should be stored in original sealed containers, in a cool, dry place. Protect from all sources of UV radiation, including normal daylight. When stored, unopened, under these conditions, the material will retain its performance and properties for at least 12 months (containers of less than 1 litre).

Specifications

The technical data contained herein are intended for reference and should not be used for preparing specifications. Please contact the Loctite Technical Service Department or local representative for assistance and recommendations on specification limits for these materials.

Note

The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Loctite Corporation patents which may cover such processes or compositions. We recommend that each prospective user test his proposed applications before repetitive use, using this data as a guide. This product may be covered by one or more patents or patent applications.

Some corrosion protection chemicals, e.g. Sodium Nitrite, contained in aqueous cleaning systems for metal components can inhibit the cure of this anaerobic product.

This product is not normally recommended for use on plastics (particularly thermo plastic materials where stress cracking of the plastic could result). Users are recommended to confirm compatibility of the product with such substrates.