LOCTITE®

Research, Development & Engineering
Tallaght Business Park,
Dublin, Ireland

Technical Data Sheet
Product 3295 A&B

Worldwide Version, May 2000.

PRODUCT DESCRIPTION

LOCTITE® Product 3295 is a two component toughened acrylic adhesive system for high strength structural bonding. The two components A & B are applied premixed from a static mixer which cures rapidly on assembly of the joint. Green is the colour of the correctly mixed product.

TYPICAL APPLICATIONS

Used for general purpose structural joining. Especially suitable for joining a wide range of substrates including plastics and metals.

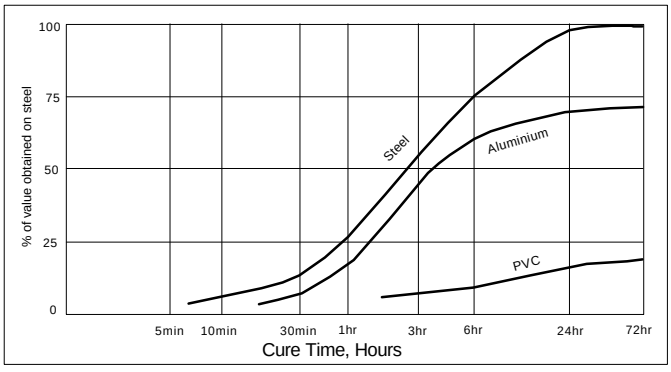
PROPERTIES OF UNCURED MATERIAL

	Typical Value	Range
Chemical Type	Methacrylate	
Appearance	A: Yellow Liquid B: Blue Liquid	
Specific Gravity @ 25°C	A: 1.02 B: 1.05	
Viscosity @ 25°C, mPa.s (cP)		
Brookfield RVT		
Spindle 6 @ 20 rpm	17,000	11,000 to 23,000
DIN 54453, MV		
D = 20 s^{-1} after t=180secs	16,000	10,000 to 22,000
Flash Point (Abel CC), °C	>12	

TYPICAL CURING PERFORMANCE

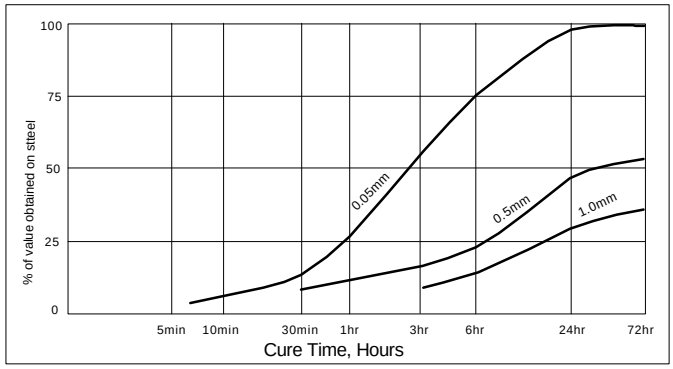
Cure speed vs substrate

The rate of cure may vary depending on the substrate used. The following graph shows shear strength developed with time on steel lapshears compared to different materials and tested according to ASTM-D1002.



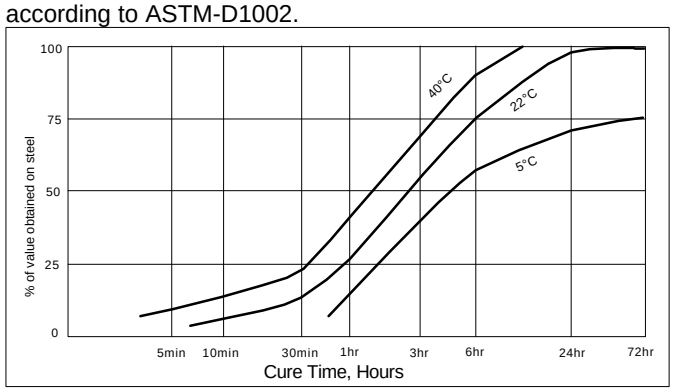
Cure speed vs bond gap

The rate of cure will depend on the bondline gap. The following graph shows shear strength developed with time on steel lapshears at different controlled gaps and tested according to ASTM-D1002.



Cure speed vs temperature

The rate of cure will depend on the ambient temperature. The following graph shows shear strength developed with time at different temperatures on steel lapshears and tested according to ASTM-D1002.



TYPICAL PROPERTIES OF CURED MATERIAL

Physical Properties

Coefficient of thermal expansion, ASTM D696, K^{-1}	10^{-4}
Coefficient of thermal conductivity, ASTM C177, $W.m^{-1}K^{-1}$	0.1
Specific Heat , $kJ.kg^{-1}K^{-1}$	0.3

PERFORMANCE OF CURED MATERIAL

(After 48 hrs at 22°C)

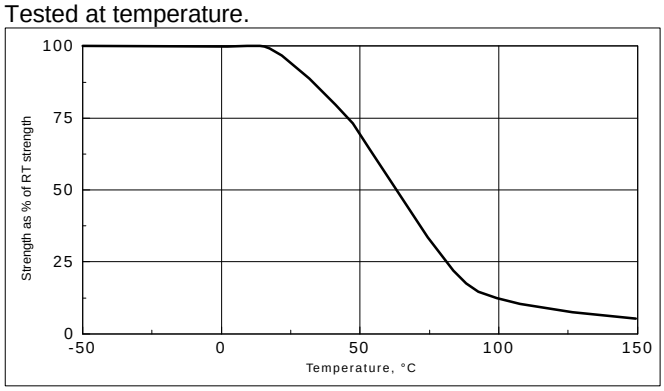
	Typical Value	Range
Shear Strength, ASTM D1002 / DIN EN 1465		
Mild Steel, N/mm^2	25	20 to 30
(psi)	(3600)	(3000 to 4400)
Oiled Steel, N/mm^2	7.5	5 to 10
(psi)	(1100)	(700 to 1500)
Aluminium, N/mm^2	17.5	12 to 23
(psi)	(2500)	(1700 to 3300)
ABS, N/mm^2	2	1 to 3
(psi)	(300)	(150 to 400)
PVC, N/mm^2	4.5	1 to 8
(psi)	(650)	(150 to 1200)
Polycarbonate, N/mm^2	3	2 to 4
(psi)	(400)	(300 to 600)
Wood, N/mm^2	2.5	1 to 4
(psi)	(400)	(150 to 600)
Peel Strength, ASTM D1876 / DIN 53282		
Aluminium, N/mm	4	2 to 6
(lb/in)	(20)	(10 to 30)

TYPICAL ENVIRONMENTAL RESISTANCE

Test Procedure : Shear Strength ASTM-D1002
Substrate: Mild steel laps
Cure procedure: 1 week at 22°C

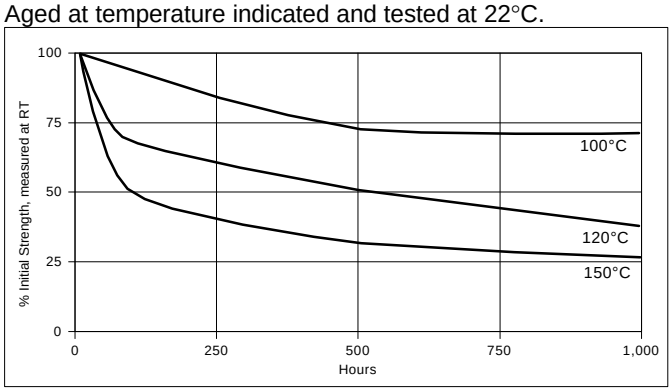
Hot Strength

Tested at temperature.



Heat Ageing

Aged at temperature indicated and tested at 22°C.



Chemical / Solvent Resistance

Aged under conditions indicated and tested at 22°C

Solvent	Temp.	% Initial Strength retained at		
		100 hr	500 hr	1000 hr
Motor Oil (MIL-L-46252)	125°C	90	90	90
Petrol	22°C	80	75	70
Humidity 98% RH	40°C	90	65	60
Water/Glycol (50%/50%)	87°C	50	50	45
Water	22°C	100	100	65
Acetone	22°C	30	15	0

GENERAL INFORMATION

This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected as a sealant for chlorine or other strong oxidising materials.

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

Directions for use

For best performance bond surfaces should be clean and free of grease. To ensure a fast and reliable cure, product should be applied through a static mixer using appropriate dispensing equipment. Open time in the static mixer is approximately 5 minutes. At longer times product will begin to gel but can be dispensed from the nozzle up to a maximum of 10 minutes. In this case, dispense until fresh product is obtained. Avoid cross contamination of Part A and Part B. Remove static mixer when finished. To restart, ensure any gelled product is removed.

Green is the colour of the correctly mixed product. Parts should be assembled immediately, (within 5 minutes). Excess adhesive can be wiped away with organic solvent.
Bond should be held clamped until adhesive has fixtured. Joint should be allowed to develop full strength before subjecting to any service loads, (typically 24 to 72 hours after assembly depending on bond gap and materials).

Storage

HIGHLY FLAMMABLE

Product must be handled in a manner applicable to flammable materials and in compliance with relevant local regulations. For example, special care must be taken to avoid contact of the product or its vapour with naked flame or any electrical equipment that is not flame proofed.

- Use only in a well ventilated area.
- No smoking in presence of product.

Storage

Product shall be ideally stored in a cool, dry location in unopened containers at a temperature between 8°C to 28°C (46°F to 82°F) unless otherwise labelled. Optimal storage is at the lower half of this temperature range. To prevent contamination of unused product, do not return any material to its original container. For further specific shelf life information, contact your local Technical Service Centre.

Data Ranges

The data contained herein may be reported as a typical value and/or range (based on the mean value ±2 standard deviations). Values are based on actual test data and are verified on a periodic basis.

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. In light of the foregoing, Loctite Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Loctite Corporation's products. Loctite Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits. 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 licence under any Loctite Corporation patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.