



## LOCTITE 480™

### • PRODUCT DESCRIPTION

LOCTITE 480™ is a reinforced elastomeric adhesive, whose flexibility and peeling resistance are increased, which also improves impact resistance.

LOCTITE 480™ involves the following characteristics:

<b>Technology</b>	Cyanoacrylate
<b>Chemical nature</b>	Ethyl cyanoacrylate
<b>Aspect</b>	Black liquid
<b>Components</b>	Monocomponent
<b>Viscosity</b>	Low
<b>Polymerization</b>	Dampness
<b>Application</b>	Gluing
<b>Substrates</b>	Metals, Plastics and rubbers

**Tariff : 24.30 €Excluding tax**

**CARRIAGE COSTS ARE CALCULATED ACCORDING  
TO THE DELIVERY POINT**



### • TYPICAL DATA FOR POLYMERIZATION

In normal conditions, atmospheric dampness initiates the polymerization process. Even if we can reach a functional resistance in a relatively short time, polymerization continues at least 24 hours before chemical resistance is completely reached.

#### Polymerization speed according to substrate

Polymerization speed depends on substrate. The board below gives cure time obtained with several materials in 22°C and 50% of relative dampness. It is defined as the time that allows one to have a shear resistance of 0.1 N/mm<sup>2</sup>.

Cure time, seconds :

Steel (degreased):	60 up to 120
Aluminum:	10 up to 30
Zinc-plated surface:	50 up to 150
Neoprene:	< 20
Nitrile rubber:	< 20
ABS:	20 up to 50
PVC:	50 up to 100
Polycarbonate:	30 up to 90
Phenolic materials:	20 up to 60

#### Polymerization speed according to the assembly set

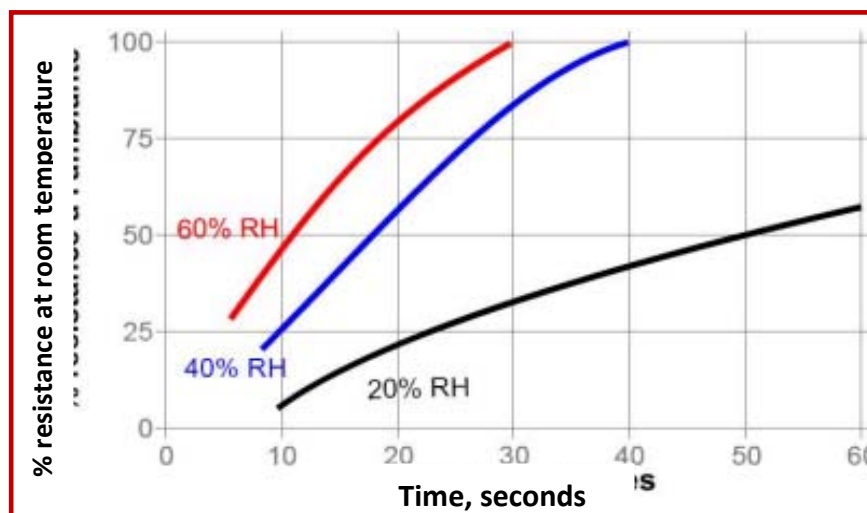
Polymerization speed depends on the assembly set. An important assembly set can reduce polymerization speed; a not very important one can increase it.

#### Polymerization speed according to the activator

When polymerization speed is too long because of important clearances, the use for an activator on one of the surfaces will allow increasing this speed. However, it could lead to a reduction of assembly final resistance and it is consequently advisable to do preliminary tests.

#### Vitesse de polymérisation en fonction de l'activateur

Polymerization speed depends on the surrounding relative dampness. The graphic illustrates the evolution of the traction resistance according to time, for a Buna rubber N, at different dampness rates.





### • TYPICAL PROPERTIES OF POLYMERIZED PRODUCT

After polymerization 24 h up to 22 °C

#### Physical properties:

Linear dilatation ratio ISO 11359-2,  $80 \times 10^{-6} \text{ K}^{-1}$   
 Thermal conduction ratio ISO 8302, 0, 1 W / (m.k)  
 Temperature of vitreous transition, ISO 11359-2, 150°C

#### Electrical properties:

Volume resistivity, IEC 60093  $10 \times 10^{15} \Omega \text{ cm}$   
 Surface resistivity, IEC 60093  $10 \times 10^{15} \Omega \text{ cm}$   
 Dielectric rigidity, IEC 60243-1 25 kV/mm  
 Dielectric constant/dispersion factor, IEC 60250:

1.1-kHz	2.65/<0.02
1-kHz	2.75/<0.02
10-kHz	2.75/<0.02

### • POLYMERIZED PRODUCT PERFORMANCES

Adhesive properties

Polymerization 30 seconds up to 22°C  
 Resistance to tension, ISO 6922:

<b>Buna-N</b>	$\geq 1.8 \text{ N/mm}^2$	( $\geq 260 \text{ psi}$ )
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Polymerization 24 h up to 22°C  
 Shear sample, ISO 4587:

<b>Steel (sandy)</b>	22 up to 30 N/mm <sup>2</sup>	(3,200 à 4,400 psi)
<b>Aluminum without oxyde</b>	14 up to 22 N/mm <sup>2</sup>	(2,000 à 3,200 psi)
<b>Bichromate zinc plated surface</b>	8 up to 15 N/mm <sup>2</sup>	(1,200 à 2,200 psi)
<b>ABS</b>	6 up to 20 N/mm <sup>2</sup>	(870 à 2,900 psi)
<b>PVC</b>	4 up to 20 N/mm <sup>2</sup>	(580 à 2,900 psi)
<b>Phenolic materials</b>	5 up to 15 N/mm <sup>2</sup>	(730 à 2,200 psi)
<b>Polycarbonate</b>	5 up to 20 N/mm <sup>2</sup>	(730 à 2,900 psi)
<b>Nitrile</b>	5 up to 15 N/mm <sup>2</sup>	(730 à 2,200 psi)
<b>Neoprene</b>	5 up to 15 N/mm <sup>2</sup>	(730 à 2,200 psi)



After polymerization 24 h up to 22°C, followed by 48h up to 120°, test at 22°C  
Shear sample, ISO 4587:

Steel (sandy)

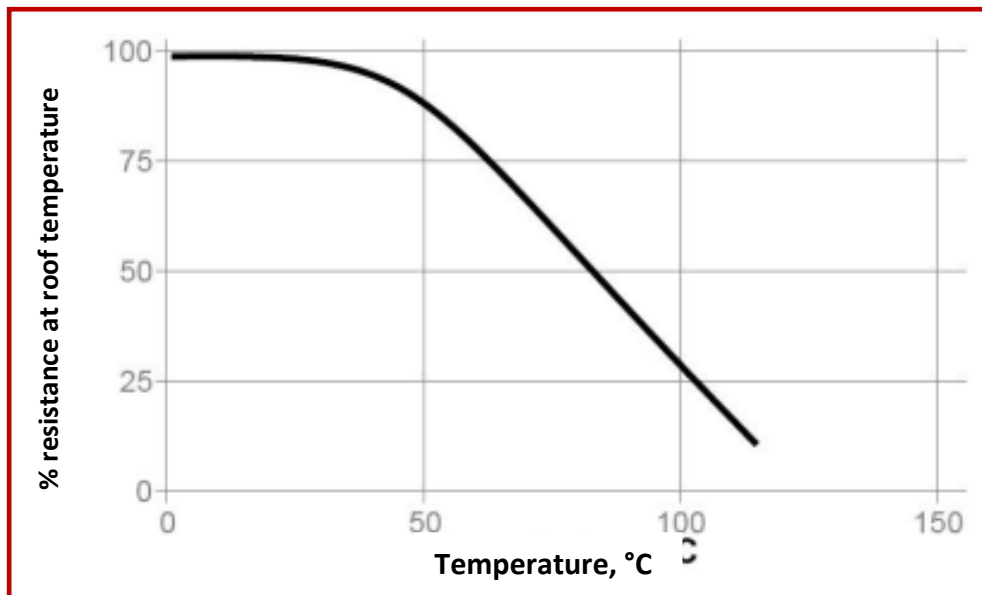
≥18.0 N/mm<sup>2</sup>

(≥ 2,610 psi)

### • ENVIRONMENT RESISTANCE PERFORMANCE

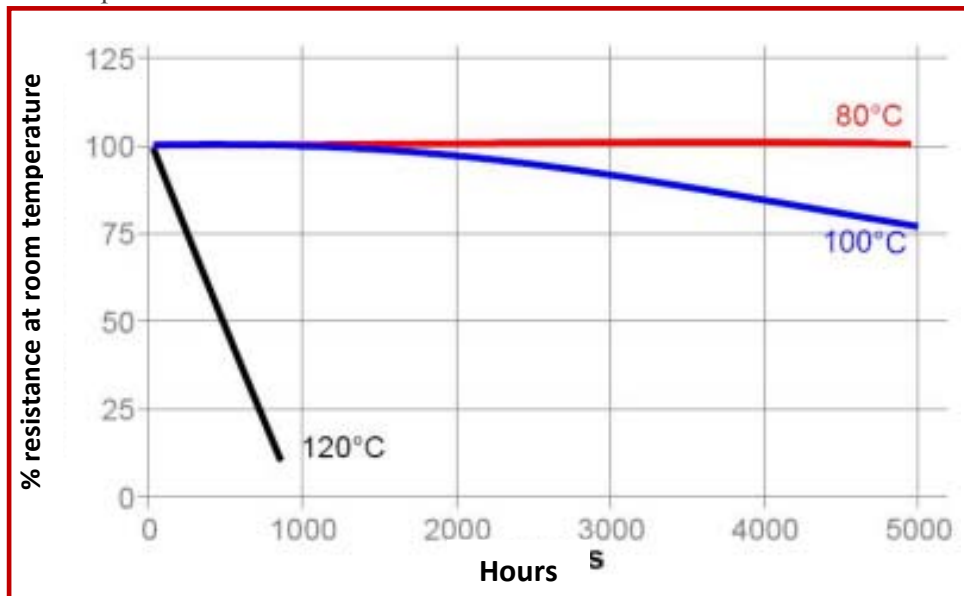
#### Immediate resistance

Measured according to temperature



#### Resistance to immediate ageing

Ageing at the indicated temperature and measurement after a return to 22°C





### Resistance to chemical products

Ageing at the indicated temperature and measurement after a return to 22°C

Chemical agent	°C	% of the initial resistance preserved after		
		100 h	500 h	1,000 h
Motor oil	40	85	85	85
(Leaded) gasoline	22	90	70	70
Ethanol	22	95	95	80
Isopropanol	22	75	75	75
Freon TA	22	90	90	85
Air 95% of relative dampness	40	80	80	65

Shear sample, ISO 4587 : Polycarbonate

Chemical agent	°C	% of the initial resistance preserved after		
		100 h	500 h	1,000 h
Air 95% of relative dampness	40	100	100	100

### • GENERAL INFORMATION

The use of such a product is not advisable for systems that carry pure oxygen or for combinations that contain too much oxygen; it shouldn't be used as a tightness product in relation with chlorine or for other highly oxidizing bodies.

#### Recommendations for implementation

- To obtain the best performances, the surfaces must be clean and exempt from fats.
- The product gives better results at low clearance (0.05 mm).
- Excessive adhesive could be dissolved with Loctite cleaning solvents, nitromethane or acetone.

#### Note

The information contained in this document is given as information. We cannot take the responsibility for the results obtained by outsiders through methods we are not able to control.