

Preliminary Technical Data Sheet

LOXEAL INSTANT 26UV

Description

Loxeal INSTANT 26 UV is a dual-cure high viscosity cyanoacrylate adhesive, solvent free. It provides excellent performances on a variety of substrates, such as metals, plastics and rubbers. Developed for fast bonding on transparent and opaque substrates when a tack-free finish is needed. UV light curing allows the fast bonding of transparent parts and minimizes the blooming effect. The moisture cure provides polymerization in small shadow areas. It is certified for biocompatibility according to ISO10993-5.

Typical physical properties

Composition:	ethyl cyanoacrylate
Colour:	yellow
Viscosity Brookfield (+25°C - mPa s)	
Spindle 2, 20 rpm:	1000
Fluorescence:	fluorescent under UV light
Specific weight (g/ml):	1,1
Shelf life	12 months in original unopened packaging at +2°/+7°C

Typical curing properties

Curing rate depends on the substrate used, on environmental conditions, such as the temperature and on the environmental humidity, on the gap and on the quantity of adhesive.

Fixture time at +23°C, 50% RH (seconds)

Fixture time as reported below, refers to cyanoacrylate cure only, without UV activation.

NBR:	3
EPDM:	20
Stainless steel:	30
Mild steel:	30
Aluminium:	30
Nylon 6:	20
ABS:	10
PC:	40
PMMA:	80
PETG:	55

Tack-Free time* (at 23°C - 50%RH)

Tack-Free time detected with UV cure

Spot LED, 150 mW/cm ² , 405nm	≤1s
Spot LED, 25mW/cm ² , 405nm	≤5s

*Tack-Free time depends on the power of the UV lamp, on the emission spectre and on the distance between the lamp and the joint.

Typical proprieties of cured product (Non-UV cure)

Shear strength (MPa):
 (after 24 hours at +23°C - 50% RH, ISO 4587):

Mild steel (abraded)	12 CF
Stainless steel	14 CF
Aluminium	5 CF
PC	6 CF
PMMA	7 SF
Nylon 6	7 CF

CF=Cohesive failure SF=Substrate failure

Typical proprieties of cured product (UV cure)

Aspect: Transparent

Shear strength (MPa) (ISO 4587)

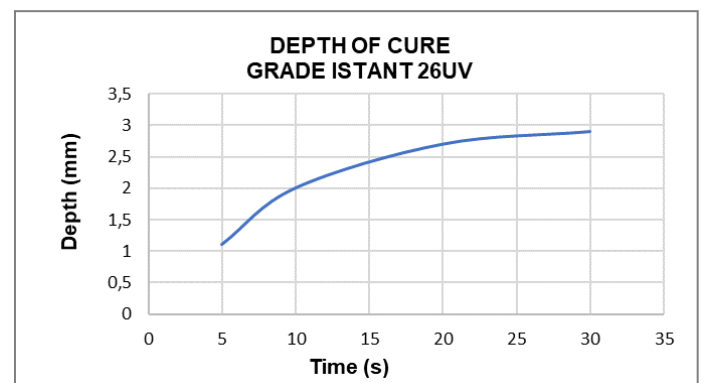
Product cured 1 minute with Spot LED, 150 mW/cm² @395nm, and tested after 5 minutes

PC	9 SF
PMMA	7 SF

SF=Substrate failure

Depth of cure*

The graph below shows the depth of cure achieved with the Spot LED lamp 405nm, intensity 25mW/cm².



*Depth of cure depends on the power of the UV lamp, on the emission spectre and on the distance between the lamp and the joint.

Heat and moisture resistance

The table below shows the shear strength retained after ageing at +85°C e 85%RH.
Specimen cured 24h @+25°C, aged at the given conditions and tested at +25°C

Material	% initial strength at +25°C			
	T(°C)	Rh%	336h	772h
PC	85	85	100%	100%
PMMA	85	85	100%	100%

Directions for use

- Surface preparation

For best results lightly scratch the surfaces of metal and plastic substrates (not recommended for polyolefins).

Degrease and clean with a cleaner suitable for the substrate (i.e. Loxeal Cleaner 10 or Acetone or Isopropyl Alcohol).

For the bonding of low surface energy plastics such as Polyolefins, PTFE, silicone rubbers and some types of rubber, apply Loxeal Primer 7 on the surface and wait for the solvent to evaporate.

- Assembly

Non-UV cure

Apply the adhesive on one surface and couple the parts as soon as the deposition is complete.

Press and hold the parts in place for the time necessary for the fixing. Do not apply stress to the joint before functional strength is achieved.

In presence of large gaps between the parts, the cure speed is decreases. It is possible to use Activator 9 in order to increase the speed of curing.

UV Cure

Assess the transparency of the material through which the ultraviolet radiation has to pass by using a suitable radiometer.

It is recommended to use UV light sources that ensure the adhesive receives a minimum radiation intensity of 5mW/cm², emitted at wavelengths between 365nm and/or 420nm.

In the case of LED lamps, the peak of radiation should be near 365nm or 420nm.

Record the radiation intensity that will reach the adhesive and set the distance between the lamp and the components to be assembled to ensure repeatability and control of the bonding process.

The UV curing may lead to some heating: cool the bonding area to reduce the heating of the components, especially if thermoplastic materials are involved.

Proceed with irradiation for the time required to fix the components at the identified radiation intensity.

Continue with light exposure for a time at least 5-6 times longer than the fixture time to identify the time required for the complete polymerization of the adhesive (it is recommended to consider an additional safety coefficient).

The full cure of the adhesive is reached when further exposure to the radiation does not improve the adhesive performances.

Allow the components to cool before subjecting the bonding to any loads and before testing.

- Cleaning

Remove any surplus of adhesive outside the bonding area.

It's important to clean the mixing equipment before the adhesive has cured. Once the adhesive is cured, it is necessary mechanical action to remove it. It is also possible to remove the cured cyanoacrylate by using Loxeal CR1 or CR2 following the instructions reported in their respective TDS.

Storage

We recommend to store product in a cool and dry place at temperature non-exceeding +20°C. For better and enhanced shelf life, keep product in a refrigerator at +2°C/+7°C. To avoid contaminations do not refill containers with used product. For more information on applications, storage and handling contact Loxeal Technical Service

Safety, handling and disposal

Consult the Safety Data Sheet before use.

This adhesive is not approved for usage neither with pure nor with gaseous oxygen. It is not suitable to be used as a sealant for chlorine and other strong oxidizing agents.

Note

The data contained herein, obtained in Loxeal laboratories, are given for information only; if specifics are required, please contact Loxeal Technical Department. Loxeal ensures abiding quality of supplied products according to its own specifics. Loxeal cannot assume responsibility for the results obtained by others which methods are not under Loxeal control. It is user's responsibility to determine suitability for user's purpose of any product mentioned herein. Loxeal disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Loxeal products. Loxeal specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits.

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