Bylamet 3G_UVL

Description

Bylamet 3G_UVL is part of a family of 3rd generation cyanoacrylate adhesives. It is an odorless, light-curing cyanoacrylate adhesive designed for bonding that requires very rapid fixture, fillet cure or surface hardening. The UV and visible light cure properties enabled rapid surface hardening, making it a unique product in the world of light-curing adhesives.

Base	Alkoxyethyl Cyanoacrylate
Appearance:	Transparent, colourless to slightly yellowish
Specific Gravity [g/ml]:	1,1
Viscosity [mPas]:	8 ~ 20
Temperature range [°C]:	-54 ~ +100
Cure:	Ultraviolet light / Blue light
Secondary Cure:	Humidity
Full Cure [h]:	24
Shelf Life:	6 months

Tack Free Time

Lamps	**Time [sec]**
V bulb, 70 mW/cm², 365 nm	< 10
H bulb, 30 mW/cm², 365 nm	< 10
H bulb, 100 mW/cm², 365 nm	< 10
Blue light Laser, 70 mW/cm², 445 nm	< 10

Cure Speed

The cure rate depends on the materials used. Acid surfaces such as paper and leather need longer times than most plastics and rubbers. Some plastics such as PE, PP, PTFE or silicone rubber require the use of primers.
The table below shows the initial strengths of various materials at 25 ° C and 50% RH. It is defined as the time after which 0.12 N / mm² has been reached. Measurements without UV/Blue light.

Subtrate	**Time [sec]**
ABS	15
PVC	150
PC	40
Acrylic	90

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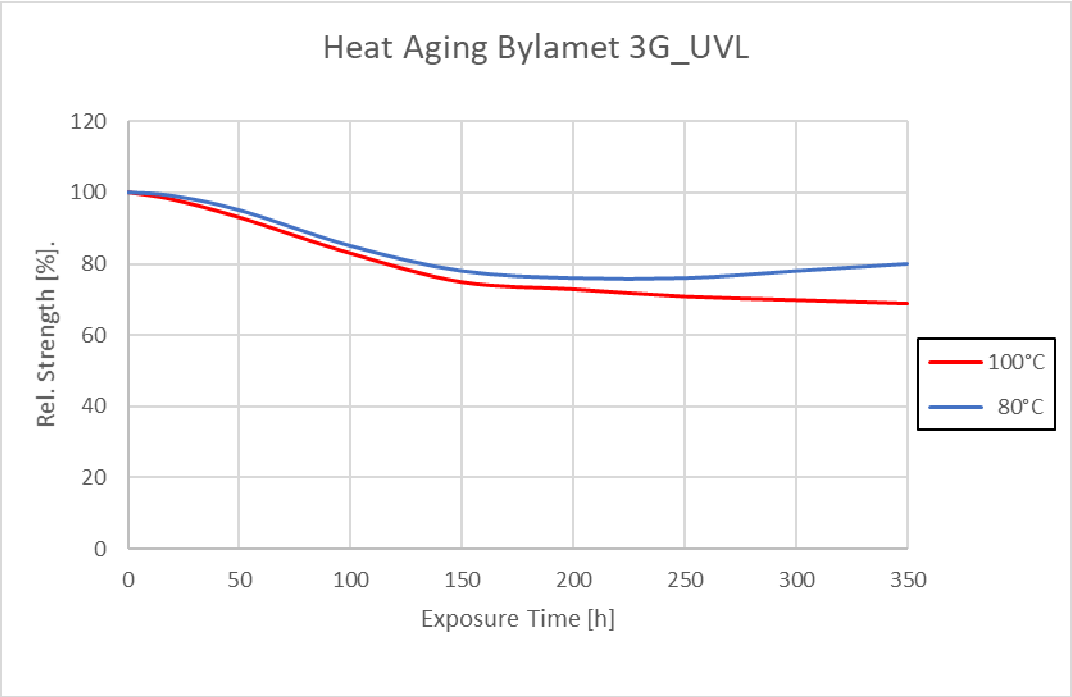
Heat Resistance

Cured @ 30 mW/cm², measured @ 365 nm, for 10 sec plus 24 hours post cure @ 22°C



Cure Speed vs. Bond Gap

The curing rate depends on the distance of the substrates to be bonded. The thinner the adhesive film, the faster the polymerization and strength. Larger gaps ensure a longer curing time and lower strength. The activator *Bylaspeed* can be used to shorten the cure time, but be careful: The strength may suffer.

Cure Speed vs. Activator

The activator can be used in conjunction with Bylamet to increase the rate of cure. Curing rates of less than two seconds have been observed. The use of an activator can reduce the final strength. For critical strengths, this effect should be checked by measurements. Apply activator on one side, adhesive on the other.

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Lap Shear Strength

Measurement after 24 hours in a dark room respectively 10 sec UV / Blue light

Subtrate	Strength [N/mm²] after 24 h @ RT in dark room without UV / Blue light	Strength [N/mm²] after 10 sec UV / Blue light only
ABS	12,7 †	8,9 †
PVC	6,6 †	6,2
PC	11,9 †	6,5 †
Acrylate	6,5 †	3,7 †

† substrate failure

Chemical/Solvent Resistance

Lap Shear Strength, Steel/Steel

		% of initial strength		
Environment	**Temperature [°C]**	**100 [h]**	**500 [h]**	**1000 [h]**
Water	25	85	83	73
Ethanol	25	80	65	40
Isopropanol	25	85	80	75
Water/Glycol	25	107	97	98
Unleaded Gasoline	25	96	97	95
Motor Oil	25	98	81	75
98 % rel. Humidity	40	89	79	70

Lap Shear Strength, PC/PC

		% of initial strength		
Environment	**Temperature [°C]**	**100 [h]**	**500 [h]**	**1000 [h]**
Air	25	95 †	96 †	99 †
98 % rel. Humidity	40	96 †	91 †	85

† substrate failure

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General Information

Additional Information
This product is not recommended for use in continuous contact with strong oxidizing materials and polar solvents, although it resists solvent washing without any deterioration in adhesive strength. Users should be advised that all materials, whether harmless or not, should be treated according to the principles of good work hygiene. Complete information can be found in the safety data sheet (SDS).

Directions for Use:
- Ensure that the surfaces to be bonded are clean, dry and free from grease before the adhesive is applied.
- Apply only one drop or drops to one surface.
- Bring the parts to be bonded together quickly and correctly.
- Apply sufficient pressure to ensure the adhesive spreads in a thin film.
- Do not disturb or re-align until sufficient strength is achieved, usually within a few seconds.
- Excess adhesive can be removed with solvents such as *Bylasolv*.
- Because Bylamet condenses through polymerization, blooming may occur on the surface of the container or the bonded materials. If this happens, wipe the surface well with *Bylasolv*.
- The product should have full strength before being exposed to stress (usually 24 to 72 hours after assembly, depending on bond gap, materials and environmental conditions).

Storage:
Keep in a cool place away from direct sunlight. Cooling to 5 ° C ensures optimal storage stability. Allow the adhesive to warm slowly to room temperature before use when stored in the refrigerator. This prevents condensation in the bottle, which reduces the shelf life. Containers should be tightly closed when not in use. Product taken from containers may be contaminated during use, so do not throw product back into the original container. Improper use of the product invalidates all warranties. The shelf life is 6 months from the date of manufacture.

Precautions:
- Use with good ventilation. Avoid contact with skin and eyes.
- If skin contact occurs, rinse with warm water or gradually dissolve with a solvent such as *Bylasolv*. Do not try to forcibly remove.
- If adhesive gets in eye, keep eye open and rinse thoroughly. Seek medical advice immediately.
- Keep out of the reach of children.
- Store the adhesive in a cool, dry place away from direct sunlight. For long-term storage, cooling of 5°C is recommended.
- Allow the adhesive to reach room temperature before opening the bottle after removed from a refrigerator to avoid condensation in the bottle, which shortens the shelf life of the bottle contents.

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