

Bylamet 3G_HT

Description

Bylamet 3G_HT is part of a family of 3rd generation cyanoacrylate adhesives that are produced using a new manufacturing process. It is the first low odor, low bloom cyanoacrylate adhesive that can withstand prolonged exposure to temperatures up to + 150 ° C while maintaining performance and adhesion. In addition, it tolerates temperature fluctuations up to + 170 ° C and is thus a truly thermally stable adhesive.

With Bylamet 3G_HT, the most diverse plastics, metals and rubber types can be bond, especially if good looks are desired.

Base	2-Methoxyethyl-2-Cyanoacrylat
Appearance:	Transparent, colourless to slightly yellowish
Specific Gravity [g/ml]:	1,1
Viscosity [mPas]:	200 ~ 400
Temperature range [°C]:	-54 ~ +150/+170
Full Cure [h]:	24
Shelf Life:	6 months

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.

Substrate	Time [sec]
Steel	10 ~ 20
Aluminium	10 ~ 20
ABS	10 ~ 20
PVC	10 ~ 15
PC	20 ~ 30
Oak Wood	45 ~ 60
Pine Wood	15 ~ 25
Beech Wood	10 ~ 20
NBR	15 ~ 20
Paper	< 5

Bylamet 3G_HT

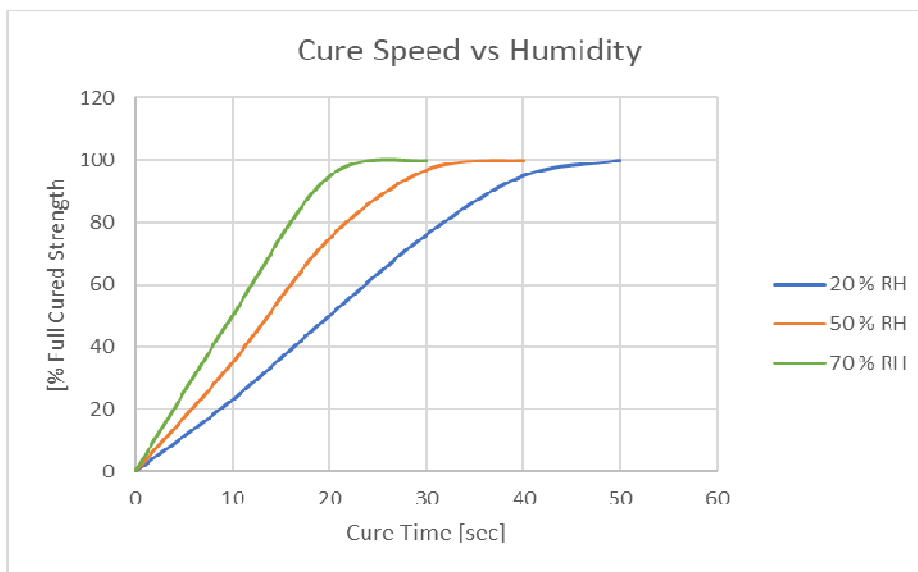
Cure Speed vs. Bond Gap

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.

Cure Speed vs. Rel. Humidity



Lap Shear Strength

Cured for 72 hours at 25°C

Substrate	Strength [N/mm ²]
Steel	20,6
Aluminium	7,0
ABS	8,6 †
PVC	9,7 †
PC	9,1 †
NBR	0,7 †

† substrate failure

Bylamet 3G_HT

Block Tensile Strength

Cured for 72 hours at 25°C

Substrate	Strength [N/mm ²]
Stainless Steel	29,6

Side Impact Strength

Cured for 72 hours at 25°C

Substrate	Strength [kJ/m ²]
Stainless Steel	3 ~ 5
Aluminium	3 ~ 5

Physical Properties

Cured for 24 hours at 25°C

Coefficient of Thermal Expansion	90 x 10 ⁻⁶	mm/mm/K
Coefficient of Thermal Conductivity	0,1	W/mK
Glass Transition Temperature	120	°C
Hardness	80	Shore D

Elektrical Properties

Cured for 24 hours at 25°C

Dielectric Constant	2,5	@10 kHz
Dielectric Breakdown Strength	25	kV/mm
Surface Resistivity	5 ~ 9 x 10 ¹⁵	Ω
Volume Resistivity	5 ~ 9 x 10 ¹⁵	Ωcm
Dielectric Dissipation Factor	< 0,025	@ 10 kHz

Solvent Resistance

Lap Shear Strength, PC/PC

Environment	Temperature [°C]	% of initial strength		
		100 [h]	500 [h]	1000 [h]
Air	25	102 †	98 †	103 †
98 % rel. Humidity	40	97 †	91 †	80

† substrate failure

Bylamet 3G_HT

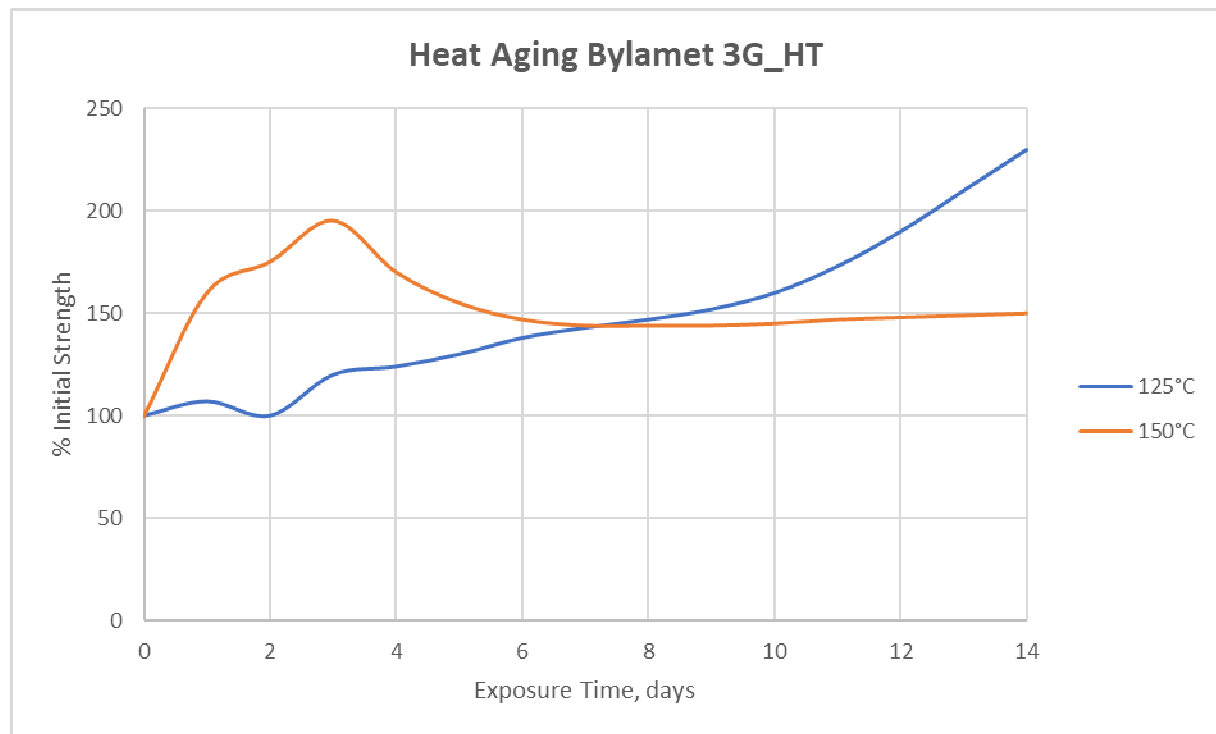
Chemical/Solvent Resistance

Lap Shear Strength, Steel/Steel

Environment	Temperature [°C]	% of initial strength		
		100 [h]	500 [h]	1000 [h]
Water	25	90	80	70
Ethanol	25	95	90	89
Isopropanol	25	101	102	105
Water/Glycol	25	95	82	80
Unleaded Gasoline	25	98	90	90
Motor Oil	25	100	98	96
98 % rel. Humidity	40	85	74	70

Heat Resistance

Cured for 1 week at 25°C, Lap Shear Strength, Steel/Steel



Bylamet 3G_HT

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.

Bylamet 3G_HT

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.

Above stated instructions are indicative only and no responsibility can be assumed. We recommend to check suitability of our products for your purpose by doing tests on your own.