1-Component Adhesives and Sealants

Contact Cyanoacrylate Adhesives

VA 1403 Cyanoacrylate Adhesive



Cyanoacrylate adhesive for special requirements | high viscosity | longer curing time | odourless and little to no blooming

It is less susceptible to moisture effects after curing. WEICON Contact VA 1403 is suitable for the clean and visually appealing bonding of various materials. WEICON Contact VA 1403 can be used in numerous industrial applications.

Characteristics

Base		alkoxy
Texture		liquid
Texture		colourless, clear substance
Colour after curing		colourless
Silicone-free		yes
Hydroquinone-free		yes
Minimum shelf life	at room temperature	9 mon.
Minimum shelf life	from +2 °C to +7 °C	12 Mon.
- measured at		23 °C and 50 % relative humidity

Processing

Processing temperature		+15 °C to +40 °C
Relative air humidity		40% - 70%
Viscosity		1.100 - 1.800
Density	(+20 °C)	1,1 g/cm³
Gap bridging up to max.		0,2 mm

Curing

Initial adhesion in seconds (shear strength: 0,1 MPa)		
- measured at		23 °C and 50 % relative humidity
on aluminium sandblasted		~4,5 min.
on ABS untreated		~60 sec.
on rigid PVC		~5 min.
Final strength	(100 % strength)	24 h

Mechanical properties after curing

Shear strength according to DIN EN 1465		
Steel sandblasted		15-18 MPa
Aluminium sandblasted		9-12 MPa
Rigid untreated PVC		5-7 MPa
Untreated ABS		6-10 MPa
PC (polycarbonate)		5-8 MPa

Thermal parameters

Temperature resistance		-50°C to +80°C, briefly up to +100°C
Softening temperature		+150 °C
Refraction index		~ 1,49 nD20
Thermal expansion coefficient		~ 80 x 10^-6 m/(m·K)
Thermal conductivity	DIN EN ISO 22007-4	~0,1 W/m·K

Electrical parameters

Resistance	DIN IEC93	>10^15 Ω·cm
Dielectric strength		~ 25 kV/mm

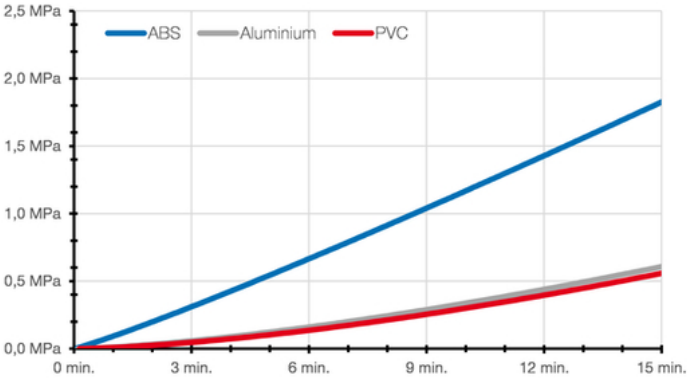
Approvals / Guidelines

MIL-Spec	complies with	-

Instructions for use

When using WEICON products, the physical, safety-related, toxicological and ecological data and regulations in our EC safety data sheets (www.weicon.com) must be observed.

Reaction rate of various materials



Curing time

Surface Pre-Treatment

The successful application of WEICON Contact Cyanoacrylate Adhesives depends on the thorough preparation of the surfaces. This is the most important factor for overall success. Dust, dirt and moisture or wetness have a negative impact on the adhesion.

Therefore, before processing WEICON Contact Cyanoacrylate Adhesives, the following points must be observed: For a flawless adhesive bond, adhesive surfaces must be clean and dry (clean and degrease with WEICON Surface Cleaner). Smooth surfaces should be roughened mechanically. To improve the adhesion of plastics that are difficult to bond (e.g. PE, PP, POM, PTFE), thermoplastic

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elastomers (TPE) and silicones, WEICON CA-Primer can be applied to the bonding surface.

Contact Primer for Polyolefines

Without pre-treatment, many plastics cannot or can only be bonded under certain conditions. When these plastics are pre-treated with WEICON Contact Primer, their surface structure changes. This makes it possible to bond plastics that are otherwise difficult to bond, e.g. polyethylene (PE) and polypropylene (PP) from the polyolefine group. Even modern thermoplastic elastomers (TPE), PTFE and related plastics as well as silicones can be bonded, when pre-treated with WEICON Contact Primer.

Application

The products are supplied ready for use. Depending on the form of delivery, they can be processed by hand directly from the container or with appropriate dosing equipment. Apply WEICON Contact Cyanoacrylate Adhesive to just one of the bonding surfaces. The layer thickness when applying the adhesive should be between min. 0.05 mm and max. 0.2 mm, as otherwise complete curing cannot be guaranteed. For large-surface bondings, WEICON Contact Cyanoacrylate Adhesives should be applied in dots in order to prevent inner tensions. WEICON Contact Cyanoacrylate Adhesives are very economical. One drop is sufficient for an adhesive area of 3 to 5 cm^2.

Curing

After applying the product, the parts to be bonded must be joined quickly and fixed if possible, since the curing of the products has already started as a result of the humidity in the ambient air or condensed on the bonding surfaces. The components should be bonded at a relative air humidity level between 40 % and 70 %. Below 40 %, the curing process is slowed down significantly or even prevented altogether. At an air humidity level above 70 % or with strongly alkaline substrates (e.g. glasses), there is a risk of shock curing. In these cases, certain materials show a drop in strength by 10 % to 15 % due to tensions in the adhesive layer. Alkaline surfaces (pH value >7) accelerate the curing process, acidic surfaces (pH value <7) slow down the curing process and can prevent polymerisation altogether in extreme cases. If curing is delayed or disturbed by factors such as a too wide adhesive gap, porous or acidic surface, the use of WEICON Contact Activator is recommended.

WEICON Contact Activator

The activator speeds up the curing process of WEICON Contact Cyanoacrylate Adhesives. When applied to absorbing surfaces, e.g. wood or foam etc., and all chemically-treated surfaces, e.g. zinc galvanized metals etc., the activator's effectiveness lasts approx. one minute. On non-absorbent surfaces, the activator's effectiveness lasts up to approx. 12 hours. Use is recommendable with:

- highly viscous WEICON Contact types
- large thickness of the adhesive layer
- absorbing and porous surfaces
- passive materials (alkaline surfaces, like for example zinc-coated metal parts)
- disadvantageous environmental conditions (low temperatures, low air humidity < 30 %).

Storage

Store WEICON Contact Cyanoacrylate adhesives unopened at room temperature in a dry place, avoiding direct sunlight. Storage in a refrigerated environment (+2 °C bis +7 °C) increases the shelf life.

Scope of delivery

Adhesive

Accessories

10024317	Surface Cleaner, 150 ml, transparent
10024313	Surface Cleaner, 400 ml, transparent
10000282	CA-Activator Spray, 150 ml
10033805	CA-Activator Spray AC, 150 ml
10000275	CA Primer for Polyolefines, 10 ml
10000278	CA Primer for Polyolefines, 100 ml
10068262	Dosing Tip S Size 0, 1 PCE
10068261	Dosing Tip A Size 0,5 mm, 1 PCE
10012382	Contact Filler, 30 g, transparent
10063106	Contact Filler, 30 g, black
10059034	CA-Remover, 12 ml
10051358	CA-Remover, 30 ml
10010887	Processing Spatula short, 1 PCE

Available sizes

10016512	VA 1403 Cyanoacrylate Adhesive, 30 g
10018879	VA 1403 Cyanoacrylate Adhesive, 12 g
10019798	VA 1403 Cyanoacrylate Adhesive, 60 g

Conversion table

(°C x 1.8) + 32 = °F	Nm x 8.851 = lb·in
mm/25.4 = inch	Nm x 0.738 = lb·ft
µm/25.4 = mil	Nm x 141.62 = oz·in
N x 0.225 = lb	mPa·s = cP
N/mm^2 x 145 = psi	N/cm x 0.571 = lb/in
MPa x 145 = psi	kV/mm x 25.4 = V/mil

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To the product detail page:

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