1-Component Adhesives and Sealants

# Contact Cyanoacrylate Adhesives

# VM 2000 Cyanoacrylate Adhesive




## Cyanoacrylate adhesive for metals | high viscosity | slow-curing = position correction

WEICON Contact VM 2000 is suitable for all types of metal bonds and can also be used on absorbent and porous products. Contact VM 2000 can be used in the metalworking industry, in machine construction, in housing and apparatus engineering and in many other applications.

**Characteristics**

| | | |
|---|---|---|
| Base | | methyl |
| Texture | | liquid |
| Texture | | colourless, clear substance |
| Colour after curing | | colourless |
| Silicone-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 | | 1700 - 2.000 |
| 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 | | ~6 sec. |
| on ABS untreated | | ~25 sec. |
| on rigid PVC | | ~46 sec. |
| Final strength | (100 % strength) | 24 h |

**Mechanical properties after curing**

| | | |
|---|---|---|
| Shear strength according to DIN EN 1465 | | |
| Steel sandblasted | | 11-25 MPa |
| Aluminium sandblasted | | 7-19 MPa |
| Rigid untreated PVC | | 12 MPa |
| Untreated ABS | | 6-11 MPa |
| PC (polycarbonate) | | 5-12 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 |

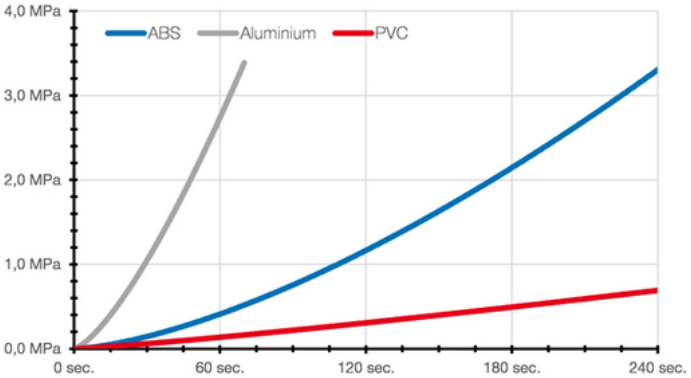
**Approvals / Guidelines**

| | | |
|---|---|---|
| ISSA Code | | 75.509.07 |
| IMPA Code | | 812903 |
| MIL-Spec | complies with | Mil-A-46050C Type I Class 3 |

## 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

Note
The specifications and recommendations given in this technical data sheet must not be seen as guaranteed product characteristics. They are based on our laboratory tests and on practical experience. Since individual application conditions are beyond our knowledge, control and responsibility, this information is provided without any obligation. We do guarantee the continuously high quality of our products. However, own adequate laboratory and practical tests to find out if the product in question meets the requested properties are recommended. A claim cannot be derived from them. The user bears the only responsibility for non-appropriate or other than specified applications.

WEICON Middle East L.L.C.
United Arab Emirates
phone +971 4 880 25 05
info@weicon.ae

WEICON Czech Republic s.r.o.
Czech Republic
phone +42 (0) 417 533 013
info@weicon.cz

WEICON GmbH & Co. KG
(Headquaters) Germany
phone +49 (0) 251 9322 0
info@weicon.de

WEICON Romania SRL
Romania
phone +40 (0) 3 65 730 763
office@weicon.com

WEICON South East Asia Pte Ltd
Singapore
Phone (+65) 6710 7671
info@weicon.com.sg

WEICON Colombia S.A.S
Colombia
Phone: +57 314 793 86 06
Email: info@weicon.co

WEICON Inc.
Canada
phone +1 877 620 8889
info@weicon.ca

WEICON Ibérica S.L.
Spain
phone +34 (0) 914 7997 34
info@weicon.es

WEICON Italia S.r.L.
Italy
phone +39 (0) 010 2924 871
info@weicon.it

WEICON SA (Pty) Ltd
South Africa
phone +27 (0) 21 709 0088
info@weicon.co.za

WEICON Kimya Sanayi Tic. Ltd. Şti.
Türkiye
phone +90 (0) 212 465 33 65
info@weicon.com.tr

# VM 2000 Cyanoacrylate Adhesive



difficult to bond (e.g. PE, PP, POM, PTFE), thermoplastic 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

| | |
|---|---|
| 10019865 | VM 2000 Cyanoacrylate Adhesive, 30 g |
| 10019867 | VM 2000 Cyanoacrylate Adhesive, 60 g |
| 10000270 | VM 2000 Cyanoacrylate Adhesive, 0,5 kg |

## 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 |

Note
The specifications and recommendations given in this technical data sheet must not be seen as guaranteed product characteristics. They are based on our laboratory tests and on practical experience. Since individual application conditions are beyond our knowledge, control and responsibility, this information is provided without any obligation. We do guarantee the continuously high quality of our products. However, own adequate laboratory and practical tests to find out if the product in question meets the requested properties are recommended. A claim cannot be derived from them. The user bears the only responsibility for non-appropriate or other than specified applications.

WEICON Middle East L.L.C.
United Arab Emirates
phone +971 4 880 25 05
info@weicon.ae

WEICON Czech Republic s.r.o.
Czech Republic
phone +42 (0) 417 533 013
info@weicon.cz

WEICON GmbH & Co. KG
(Headquaters) Germany
phone +49 (0) 251 9322 0
info@weicon.de

WEICON Romania SRL
Romania
phone +40 (0) 3 65 730 763
office@weicon.com

WEICON South East Asia Pte Ltd
Singapore
Phone (+65) 6710 7671
info@weicon.com.sg

WEICON Colombia S.A.S
Colombia
Phone: +57 314 793 86 06
Email: info@weicon.co

WEICON Inc.
Canada
phone +1 877 620 8889
info@weicon.ca

WEICON Ibérica S.L.
Spain
phone +34 (0) 914 7997 34
info@weicon.es

WEICON Italia S.r.L.
Italy
phone +39 (0) 010 2924 871
info@weicon.it

WEICON SA (Pty) Ltd
South Africa
phone +27 (0) 21 709 0088
info@weicon.co.za

WEICON Kimya Sanayi Tic. Ltd. Şti.
Türkiye
phone +90 (0) 212 465 33 65
info@weicon.com.tr

# VM 2000 Cyanoacrylate Adhesive



To the product detail page:

Note
The specifications and recommendations given in this technical data sheet must not be seen as guaranteed product characteristics. They are based on our laboratory tests and on practical experience. Since individual application conditions are beyond our knowledge, control and responsibility, this information is provided without any obligation. We do guarantee the continuously high quality of our products. However, own adequate laboratory and practical tests to find out if the product in question meets the requested properties are recommended. A claim cannot be derived from them. The user bears the only responsibility for non-appropriate or other than specified applications.

WEICON Middle East L.L.C.
United Arab Emirates
phone +971 4 880 25 05
info@weicon.ae

WEICON Czech Republic s.r.o.
Czech Republic
phone +42 (0) 417 533 013
info@weicon.cz

WEICON GmbH & Co. KG
(Headquaters) Germany
phone +49 (0) 251 9322 0
info@weicon.de

WEICON Romania SRL
Romania
phone +40 (0) 3 65 730 763
office@weicon.com

WEICON South East Asia Pte Ltd
Singapore
Phone (+65) 6710 7671
info@weicon.com.sg

WEICON Colombia S.A.S
Colombia
Phone: +57 314 793 86 06
Email: info@weicon.co

WEICON Inc.
Canada
phone +1 877 620 8889
info@weicon.ca

WEICON Ibérica S.L.
Spain
phone +34 (0) 914 7997 34
info@weicon.es

WEICON Italia S.r.L.
Italy
phone +39 (0) 010 2924 871
info@weicon.it

WEICON SA (Pty) Ltd
South Africa
phone +27 (0) 21 709 0088
info@weicon.co.za

WEICON Kimya Sanayi Tic. Ltd. Şti.
Türkiye
phone +90 (0) 212 465 33 65
info@weicon.com.tr