

Easy-Mix PU Crystal Polyurethane Adhesive



High-strength | fast-curing | UV-resistant | for transparent and visually appealing adhesive bonds | pot life approx. 120 - 240 seconds

WEICON Easy-Mix PU Crystal is a crystal clear and colourless two-component polyurethane adhesive for bonding plastics (e.g. polycarbonate) as well as plastics to steel, stainless steel, aluminium, concrete, wood, and glass. The high-strength and fast-curing structural adhesive is sandable and paintable after approx. 30 minutes. It provides excellent adhesion to a variety of materials and is resistant to weathering and many aggressive chemicals. PU is temperature-resistant from -55 °C to +100 °C (-67 °F to +212 °F). Due to its transparent curing, it is particularly suitable for bonding e.g. plastics and glass. It can also be used for structural adhesive bonding, where a coloured adhesive joint would affect the overall appearance of the component. PU Crystal bonds transparent plastics, like Plexiglas and other materials, can be bonded safely in a clean and visually appealing way. PU Crystal can be used in plastic technology, machine construction, model and mould making, metal construction, ship and boat building, carriage and vehicle construction, trade show and exhibition construction, and in many other areas.

Characteristics

Base	polyurethane	
Colour	crystal clear	
Minimum shelf life	Humidity < 70 %	12 Mon.

Processing

Mixing ratio by weight	1:1	
Viscosity of the mixture	at +25 °C	6.000-8.000 mPa·s
Density of the mixture	1,13 g/cm³	
Gap bridging up to max.	0.1 mm	

Curing

Pot life	at 20 °C	2-4 min.
Handling strength	(35 % strength)	30 min.
Working strength after	(50 % strength)	60 min.
Final strength	(100 % strength)	12 h

Mechanical properties after curing

Tensile strength	DIN EN ISO 527-2	12 N/mm²
Elongation at break (tensile)	DIN EN ISO 527-2	20 %
E-modulus (tensile)	DIN EN ISO 527-2	240 - 280 N/mm²
Hardness (Shore D)	73	
Lap shear strength material thickn. 1,5mm DIN EN 1465		
Steel 1.0338 sandblasted	17 N/mm²	
Stainless steel V2A sandblasted	17 N/mm²	
Aluminium sandblasted	11 N/mm²	
Galvanized steel	12 N/mm²	
PC (polycarbonate)	3,2 N/mm²	
PMMA	2,3 N/mm²	

Thermal parameters

Temperature resistance	-55°C to +100°C	
Tg after curing at room temperature	(DSC)	~ 48 °C
Heat deflection resistance	DIN EN ISO 75-2	+50 °C

Electrical parameters

Dielectric strength	DIN EN 60243-1 (20°C)	20 kV/mm
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Approvals / Guidelines

MIL-Spec	complies with	MIL-M-24041
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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.

Surface Pre-Treatment

For a flawless adhesive bond, surfaces must be clean and dry (e.g. clean and degrease with Surface Cleaner). Higher strengths can be achieved by further pre-treatment of the surfaces, such as roughening by blasting or grinding. Some low-energy plastics, especially PTFE and polyolefins etc., can only be bonded after special pre-treatment of the surfaces by e.g. fluorination, low-pressure plasma, corona, flame treatment, or similar.

Application

WEICON Easy-Mix products can be processed straight from the double cartridge by means of the included static mixer. Dismiss the first 5 cm of the adhesive bead. The adhesive is applied to just one side.

The specified pot life refers to a material batch of 10 ml at room temperature. Larger batch quantities will result in faster curing. Higher temperatures also reduce the pot life and curing time. (General rule: every increase by +10 °C above room temperature results in a decrease of the pot life and curing time by half). Temperatures below +16 °C increase the pot life and curing time significantly. From approx. +5 °C and below, no reaction takes place.

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.

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Polyurethane Systems

Polyurethanes

Storage

Store in the unopened original container at a relative humidity of <70% and at a constant room temperature in a dry place. Avoid sources of heat and both direct and indirect sunlight. Once opened, the shelf life is reduced.

Scope of delivery

Adhesive | Quadro Mixing Nozzle A

Accessories

10005237	Dispenser Easy-Mix D 50, 1 PCE
10005236	Quadro Mixing Nozzle A, 1 PCE, blue
10010887	Processing Spatula, 1 PCE
10068261	Dosing Tip, 1 PCE
10101999	WEICON Manual Dispenser, 1 x 1:1 2:1

Conversion table

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$	$\text{Nm} \times 8.851 = \text{lb}\cdot\text{in}$
$\text{mm}/25.4 = \text{inch}$	$\text{Nm} \times 0.738 = \text{lb}\cdot\text{ft}$
$\mu\text{m}/25.4 = \text{mil}$	$\text{Nm} \times 141.62 = \text{oz}\cdot\text{in}$
$\text{N} \times 0.225 = \text{lb}$	$\text{mPa}\cdot\text{s} = \text{cP}$
$\text{N}/\text{mm}^2 \times 145 = \text{psi}$	$\text{N}/\text{cm} \times 0.571 = \text{lb}/\text{in}$
$\text{MPa} \times 145 = \text{psi}$	$\text{kV}/\text{mm} \times 25.4 = \text{V}/\text{mil}$

Available sizes

10058022	Easy-Mix PU Crystal Polyurethane Adhesive, 50 ml, crystal clear
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To the product detail page:



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