

## Urethane 85



### Shore hardness: A 85

WEICON Urethane 85 is a 2-C polyurethane putty with excellent mechanical strength for the quick repair, touch-up and coating of rubber and metal pieces, which are exposed to shocks, abrasion, vibration or motion. It shows high elasticity as well as high wear resistance.

Urethane 85 is suitable for many applications, such as the repair of rubber components and conveyor belts, the repair and touch-up of rubber coatings, as flexible wear protection for pump housings and impellers as well as for the quick repair of worn-out seals and rubber rollers.

#### Characteristics

Base	polyurea
Texture	pasty
Colour	black
Minimum shelf life	at room temperature 12 mon.

#### Processing

Relative air humidity	<70 %
Mixing ratio by weight	10:100
Mixing ratio by volume	10:104
Density of the mixture	1,1 g/cm <sup>3</sup>

#### Curing

Pot life	at 20 °C	20 min.
Working strength after	20 °C	6-8 h
Handling strength / demouldable (50 °C)		60-90 h
Final strength	(100 % strength)	24 h

#### Note

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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  
(Headquarters) 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 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) 10 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

#### Mechanical properties after curing

Tensile strength	DIN EN ISO 527-2	7,8 MPa
Elongation at break (tensile)	DIN EN ISO 527-2	470 %
E-modulus (tensile)	DIN EN ISO 527-2	9,6 MPa
Tear resistance	DIN 53515 / ASTM D 1002	31 kN/m
Hardness (Shore A)		85
Lap shear strength material thicken. 1,5mm DIN EN 1465		
Steel 1.0338 sandblasted		8 N/mm <sup>2</sup>
Stainless steel V2A sandblasted		8 N/mm <sup>2</sup>
Aluminium sandblasted		7 N/mm <sup>2</sup>
Galvanized steel		4 N/mm <sup>2</sup>
Swelling in water (7 days)		<1,5 %

#### Thermal parameters

Temperature resistance wet	-60 °C - +60 °C
Temperature resistance dry	-60 °C - +100 °C

#### Approvals / Guidelines

IMPA Code	551625
MIL-Spec	complies with MIL-M-24041

### 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](http://www.weicon.com)) must be observed.

### Surface Pre-Treatment

The successful application of WEICON Urethane depends on the thorough pre-treatment of all surfaces. This is the most important factor for ensuring overall success.

Dust, dirt, oil, grease, rust and moisture or wetness have a negative impact on adhesive strength. Therefore, before processing WEICON Urethane, the following points must be observed:

the areas to be bonded or repaired must be free of any oil, grease, dirt, rust, oxides, paint and other impurities or residues. For cleaning and degreasing, we recommend WEICON Cleaner Spray S. Before application, the cleaner must flash off/evaporate without leaving any residue. Otherwise the urethane will not cure fully.

Do not use alcohol-based cleaners on absorbent surfaces.

Smooth and particularly heavily soiled surfaces should additionally be treated by mechanical surface pre-treatment, e.g. by grinding or preferably by blasting. In case of blasting, the surface should be brought to a degree of purity of SA 2 ½ - "Near White Blast Cleaning" (according to ISO 8501/1-2, NACE, SSPC, SIS). In order to achieve an optimum surface roughness of 75-100 µm, angular disposable blasting media (aluminium oxide, corundum) should be used. Reusable abrasive media (slag, glass, quartz) but also ice blasting will have a negative effect on the surface quality. The air for blasting must be dry and oil-free.

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Metal parts that have come into contact with sea water or other salt solutions should first be rinsed thoroughly with demineralised water and, if possible, left to rest overnight so that all salts can be dissolved from the metal. Before each application of WEICON Urethane, a test for soluble salts should be carried out according to the Bresle method (DIN EN ISO 8502-6). The maximum amount of soluble salts remaining on the substrate should not exceed 40 mg/m<sup>2</sup>. Heating and repeated blasting of the surface may be necessary to remove all soluble salts and moisture.

After each mechanical pre-treatment, the surface should be cleaned again with WEICON Cleaner Spray S and protected from further contamination until the coating is applied.

Areas where no adhesion to the substrate is desired must be treated with silicone-free mould release agents. For smooth surfaces, we recommend WEICON Mould Release Agent Liquid F 1000 or, for porous surfaces, WEICON Mould Release Agent Wax P 500.

After the surface pre-treatment, WEICON Urethane should be applied as soon as possible (within one hour) to avoid oxidation, flash rust or new contamination.

## Mixing

### Cartridge

Thanks to the modern mixing and dosing system, WEICON Urethane 85 can be automatically dispensed, mixed and applied cleanly and precisely in just one step. In this way, a uniform quality and process assurance are guaranteed in a production series. Insert the double cartridge for processing into the dispenser provided with the 10:1 slider. Remove the cap and squeeze out a small amount of urethane until both components emerge evenly. Attach mixing nozzle and apply evenly to the surface to be bonded within the pot life of 20 minutes.

### Work package

Mix the resin and hardener thoroughly and without bubbles at 20°C (68°F) for at least four minutes. The included processing spatula can be used for this purpose. The components should be stirred until a homogeneous mixture is achieved. The mixing ratio of the two components must be strictly adhered to, as otherwise deviating physical values will result (max. deviation +/- 2%). Only prepare a batch as large as can be processed within the pot life of 20 minutes. The specified pot life refers to a material batch of 500 g and 20°C (68°F) material temperature.

## Application

During the application, we recommend an ambient temperature of 20°C at a relative air humidity below 70%. The highest adhesive strength is achieved when the parts to

be processed are heated to >35°C (95°F) before application. Using a short-bristled brush for a thin pre-coat, work thoroughly into the surface in crosswise layers to achieve maximum adhesion. By means of this technique, the urethane resin penetrates well into all cracks and roughness depths. Afterwards, further applications can be carried out straight away, until the desired layer thickness is reached.

## Curing

Final hardness is reached after 24 hours at 20°C (68°F) at the latest. At lower temperatures, the curing can be accelerated by evenly applying heat up to max. 40°C (104°F), e.g. with a heating pack, hot air blower or fan heater. Higher temperatures shorten the curing time. The following rule of thumb applies: each increase by +10°C (50°F) above room temperature (20°C/68°F) will decrease the curing time by half. Temperatures below 16°C (61°F) increase the curing time, until at approx. 5°C (41°F) and below, almost no reaction will take place at all.

## Storage

WEICON Urethane should be stored at room temperature in a dry place. Unopened containers can be stored at temperatures of +18 °C to +25 °C and a relative humidity of < 70 %. Opened containers must be used up within 3 months.

## Scope of delivery

Resin & Hardener | Instructions for use | Processing Spatula | Gloves | Contour Spatula Flexy | Mixing nozzle MFHX (only for cartridges)

## Accessories

1000147	Cleaner Spray S, 500 ml, transparent
1000347	Cleaner S, 5 L, colourless, transparent
10024313	Surface Cleaner, 400 ml, transparent
10025288	Surface Cleaner, 5 L, transparent
10026647	Mould Release Agent Liquid F 1000, 250 ml, white, milky
10026712	Mould Release Agent Wax P 500, 150 g
10010887	Processing Spatula, 1 PCE
10022562	Processing Spatula, 1 PCE
10057514	Dispenser 2C 10:1 Standard, 1 PCE
10057191	Mixing Nozzle MFHX, 1 PCE, orange
10010066	Contour Spatula Flexy, 1 PCE
10065455	Brush 35, long, Adhesive, 1 PCE

## Recommended equipment

Angle grinder	Fabric tape
Blast machine	Brush
Heat pocket	Lint-free cloth
Hot or fan heater	

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(Headquarters) Germany  
phone +49 (0) 251 9322 0  
info@weicon.de

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phone +40 (0) 3 65 730 763  
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Singapore  
Phone (+65) 6710 7671  
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WEICON Inc.  
Canada  
phone +1 877 620 8889  
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WEICON Ibérica S.L.  
Spain  
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phone +39 (0) 10 2924 871  
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South Africa  
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## 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

10057130	Urethane 85, 0,5 kg, black
10057188	Urethane 85, 0,54 kg, black

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