

WEICON B4NV Anti-Stick



wear protection | sprayable | anti stick-effect

WEICON B4NV Anti-Stick is a liquid, grey 2-component epoxy resin system with mineral fillers for the protection of heavily stressed surfaces against aggressive chemicals, corrosion and mechanical wear. It has been specially developed for processing with a low-pressure system. B4NV Anti-Stick contains special additives that create an anti-stick effect. The anti-wear system has good chemical and thermal resistance. It is free of solvents and cures with almost no shrinkage. B4NV Anti-Stick is applied directly to the parts by sandblasting after thorough preparation of the substrate. The coating adheres very well to a wide variety of surfaces and is suitable for a wide variety of parts, such as pipelines, pumps and exhaust systems. In any case, preliminary tests under practical conditions are recommended; especially if the parts are additionally exposed to increased temperature or mechanical stress.

Characteristics

Base	Epoxy
Filler	mineral
Texture	liquid
Colour	grey
Shelf life	24 mon.

Processing

Processing temperature	+15 °C to +40 °C
Component temperature	>3 °C above dew point
relative air humidity	max. 85%
Mixing ratio by weight	100 : 45
Mixing ratio by volume	100 : 61
Viscosity of the mixture	at +25 °C 15.000-20.000 mPa·s
Density of the mixture	1,5 g/cm³
Consumption	Layer thickness 10 mm 1,5 kg/m²
max. layer thickness	per step 10 mm

Curing

Pot life	at 20 °C, 500 g batch	ca. 30 min.
Additional layer after	(35 % strength)	5 h
Working strength after	(80 % strength)	8 h
Final strength	(100 % strength)	24 h
Shrinkage		0,22 %

Mechanical properties after curing

- measured after curing at		24 h RT + 24 h 60 °C
Tensile strength	DIN EN ISO 527-2	54 MPa
Elongation at break (tensile)	DIN EN ISO 527-2	1,0 %
E-modulus (tensile)		4.500-5.000 MPa
Compressive strength	DIN EN ISO 604	118 MPa
Bending strength	DIN EN ISO 178	76 MPa
Hardness (Shore D)	DIN ISO 7619	87±3
Adhesive strength	DIN EN ISO 4624	22,2 MPa
Taber Test	DIN ISO 9352 (H18, 1 kg, 1000 rotations)	0,5 g / 0,3 cm³

Lap shear strength material thickn. 1,5mm DIN EN 1465

Steel 1.0338 sandblasted	17 MPa
Stainless steel V2A sandblasted	19 MPa
Aluminium sandblasted	10 MPa
Galvanized steel	6 MPa

Thermal parameters

Temperature resistance		-35 °C to +120 °C
Tg after curing at room temperature	(DSC)	56 °C
Tg after tempering (at 120°C)	(DSC)	60 °C
Heat deflection resistance	DIN EN ISO 75-2	65 °C
Thermal conductivity	DIN EN ISO 22007-4	0,684 W/m·K
Heat capacity	DIN EN ISO 22007-4	0,1255 J/(g·K)

Electrical parameters

Resistance	DIN EN 62631-3-1	7,17 · 10 ¹⁴ Ω·m
magnetic		no

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

The successful application of WEICON B4NV Anti-Haft depends on the thorough preparation of the surfaces. This is the most important factor for overall success. Dust, dirt, oil, grease, rust and moisture or wetness have a negative impact on the adhesion. Therefore, before processing WEICON B4NV Anti-Haft, the following points must be observed: The surfaces 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.

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

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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.
Turkey
phone +90 (0) 212 465 33 65
info@weicon.com.tr

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(aluminum oxide, corundum) should be used. The surface quality is negatively influenced by the use of reusable blasting media (slag, glass, quartz), but also by ice blasting. The air for blasting must be dry and oil-free. 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 B4NV Anti-Haft, 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/m². 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 B4NV Anti-Haft should be applied as soon as possible (within one hour) to avoid oxidation, flash rust or new contamination.

Mixing

First, stir the resin. Then mix the resin and hardener together thoroughly and bubble-free for at least four minutes at 20°C (68°F). The included processing spatula or a mechanical mixer, such as the Stirrer Stainless Steel, can be used for this purpose. With mechanical mixers, a low speed of max. 500 rpm should be used. The components should be stirred until a homogeneous mixture is achieved. The mixing ratio of the two components must be strictly observed, as otherwise, strongly deviating physical values will result (max. deviation +/- 2 %). Only prepare a batch as large as can be processed within the pot life of 30 minutes. The specified pot life refers to a material batch of 500 g and 20°C (68°F) material temperature. Mixing larger quantities or higher processing temperatures will result in faster curing due to the typical reaction heat of epoxy resins.



Application

We recommend an ambient temperature of 20°C (68°F) at below 85 % rel. humidity for application. The highest adhesive strength is achieved when the parts to be processed are heated to >35°C (>95°F) before application. Work WEICON B4NV Anti-Stick intensively crosswise into the surface with the Contour Filler Flexy for a thin pre-coat to achieve maximum adhesion. With the help of this technique, the epoxy resin penetrates well into all cracks and roughness depths. The next coat can then be applied directly to the desired thickness. Make sure that the application is even and without air bubbles. To fill large gaps or holes, glass fibre, expanded metal or other mechanical fixing materials should be used. Finally, the surface can be smoothed very easily using a PE film and a rubber roller.

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.

Shelf life

Store WEICON B4NV Anti-Haft at room temperature in a dry place. Unopened containers can be stored at temperatures of +18°C to +28°C for at least 24 months after delivery date. Opened containers must be used up within 6 months.

Accessories

11202500	Cleaner Spray S, 500 ml, transparent
15200005	Cleaner S, 5 L, colourless, transparent
11207400	Surface Cleaner, 400 ml, transparent
15207005	Surface Cleaner, 5 L, transparent
10604025	Mould Release Agent Liquid F 1000, 250 ml, white, milky
10604515	Mould Release Agent Wax P 500, 150 g
10539115	Repair Stick Multi-Purpose, 115 g, vintage white
10850005	Glass Fibre Cloth Tape, 1 PCE, white
10953001	Processing spatula, 1 PCE
10953003	Processing spatula, 1 PCE
15841500	Pump Dispenser WPS 1500, 1 PCE
52000035	Cable Scissors No. 35, 1 PCE
10851010	Processing Kit, 1 PCE

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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

17150002	WEICON B4NV Anti-Stick, 200 g, grey
17150005	WEICON B4NV Anti-Stick, 0,5 kg, grey
17150020	WEICON B4NV Anti-Stick, 2 kg, grey

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