

CF CRYSTAL

ADHESIVE AND SEALANT

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NOTE: THIS TECHNICAL DATA SHEET REPLACES ALL PREVIOUS VERSIONS. THE INSTRUCTIONS IN THIS DOCUMENTATION ARE BASED ON OUR TESTS AND EXPERIENCE AND HAVE BEEN PREPARED TO THE BEST OF OUR KNOWLEDGE AND CONSCIENCE. DUE TO THE VARIETY OF DIFFERENT MATERIALS AND SUBSTRATES AND THE MANY DIFFERENT POSSIBLE APPLICATIONS BEYOND OUR CONTROL, WE ASSUME NO RESPONSIBILITY FOR THE RESULTS ACHIEVED. SINCE THE CONSTRUCTION AND NATURE OF THE SUBSTRATE AND THE PROCESSING CONDITIONS ARE BEYOND OUR CONTROL, WE DO NOT ACCEPT ANY LIABILITY FOR THIS PUBLICATION. IN ANY CASE, IT IS RECOMMENDED TO CARRY OUT APPROPRIATE TESTS BEFORE USE.



Technical properties

Chemical basis	SMX Hybrid Polymer
Consistency	Stable paste
Curing system	Moisture curing
Skin formation* (23°C/50% R.F.)	ca. 4 min
Curing speed* (23 °C/50 % RH)	2 mm/24 h to 3mm/24 h
Hardness**	38 ± 5 Shore A
Density**	1,05 g/ml
Elastic recovery (ISO 7389)**	> 75 %
Max. allowed distortion (ISO 11600)	± 20 %
Tensile strength (ISO 37)**	ca. 1,80 N/mm ²
Elasticity modulus 100% (ISO 37)**	ca. 0,60 N/mm ²
Elongation at break (ISO 37)**	350 %
Temperature resistance**	-40 °C to +90 °C
Application temperature	+5 °C to +35 °C

* These values may vary depending on environmental factors such as temperature, humidity or type of substrate.

** The data refer to the fully cured product.

Product description

CF Crystal is a high quality, crystal clear, neutral, elastic, 1-component adhesive based on SMX-Polymer.

Properties and benefits

- crystal clear formulation
- Excellent adhesion on nearly all surfaces, even if slightly moist
- Very good mechanical characteristics
- Impervious to mould, contains biocide with fungicidal action
- Suitable for sanitary applications
- Good extrudability even at low temperatures
- Free of isocyanates, solvents, halogens and acids
- Can be painted with water based systems
- Permanently elastic after curing

Application examples

- All common bonding and sealing applications, both in and outdoor
- Transparent and elastic bonding in construction and building applications
- Invisible bonding of glass and other transparent materials in indoor applications
- Joints in bathrooms and kitchens



Packaging

Colour: Transparent
Package: 290 ml Cartridge

Shelf life

12 months in unopened packaging in a cool and dry storage place at temperatures between +5°C and +25°C.

Chemical resistance

Good resistance to (salt)water, aliphatic solvents, hydrocarbons, ketones, esters, alcohols, diluted mineral acids and alkalis. Poor resistance to aromatic solvents, concentrated acids and chlorinated hydrocarbons.

Substrates and material compatibility

CF Crystal is suitable for use on all common building substrates, as well as on PVC, plastic, treated wood, glass and much more.

Before application, the substrate should be checked for load-bearing capacity and should be clean, dry and free of dust and grease.

Porous surfaces should be primed with a primer.

Non-porous surfaces should be pre-treated with an activator or cleaner if necessary.

Adhesive surfaces should be degreased before application.

CF CRYSTAL has good adhesion to the following plastics: Polycarbonate (Makrolon®), polyamide, glass fibre reinforced epoxy resin, polyester.

Release agents, auxiliary materials and protective agents (e.g. protective films) are very often used in the production of plastics. These must be removed before bonding or sealing. For optimal adhesion, the use of an activator is recommended.

NOTE: When bonding plastics loaded to stress such as PMMA (e.g. Plexi® glass), polycarbonate (e.g. Makrolon® or Lexan®), stress cracks or net cracks may form in the material. The CF CRYSTAL is not recommended for these applications. The CF CRYSTAL is not suitable for PE, PP, PTFE (e.g. Teflon®), bituminous substrates, copper or materials containing copper such as bronze and brass. It is advisable to first carry out an adhesion and compatibility test on each substrate.

The following table of the application overview gives an orientation.

Overview applications			
Material		Pre-treatment	CF Crystal
		Basically, cleaning the materials with plastic or metal cleaner is sufficient and pre-treatment is not necessary, it is only based on a recommendation and serves to improve and ensure process reliability.	Suitability
Metals	Aluminium	Adhesive Cleaner Universal	● ●
	Copper	Adhesive Cleaner Universal	●
	Brass	Adhesive Cleaner Universal	●
	Stainless steel	Adhesive Cleaner Universal	● ●
	cast iron steel	Adhesive Cleaner Universal	● ●
	hot-dip galvanised parts	Adhesive Cleaner Universal	● ●
	galvanised parts	Adhesive Cleaner Universal	● ●
Plastics	ABS	Plastic and varnish primer	● ●
	Polyethylene (PE)	Corona / Plasma	●
	PMMA (acrylic)	Plastic and varnish primer	● ●
	Polyamides (PA 6, PAA 6.6, Nylon*)	Plastic and varnish primer	● ●
	Polycarbonates (PC)	Plastic and varnish primer	● ●
	Other polyesters (PBT, PET)	Plastic and varnish primer	●
	Polystyrene (PS)	Plastic and varnish primer	● ●
	Polysulphones (PSU)	Plastic and varnish primer	●
	Polypropylene (PP)	Primer for PP	● ●
	PVC	Plastic and varnish primer	● ●
Varnishes	Water-based coatings*	Plastic and varnish primer	● ●
	Powder coating systems*		● ●
	Synthetic resin coatings*		● ●
Composites	Celluloses (CAB, CAP)	Plastic and varnish primer	● ●
	Carbon (CFK)	Plastic and varnish primer	● ●
	Gelcoat**		● ●
	Fibreglass (GFK)	Plastic and varnish primer	● ●
	Polyester resin (UP)	Plastic and varnish primer	● ●
	Polyurethane (PU)	Plastic and varnish primer	● ●
	PTFE (Teflon*)		—
	Epoxy	Plastic and varnish primer	●
Silicones		—	
Wood	Wood (hard and soft)	dedusting	● ●
	Wood materials	dedusting	● ●
	Plywood	dedusting	● ●
Other	Glass	Plastic and varnish primer	● ●
	Ceramics	Adhesive cleaner Universal	● ●
	Concrete	Plastic and varnish primer	● ●
	Bricks	Plastic and varnish primer	● ●

- ● = well suitable
- = suitable
- = not advisable

* Due to the large number of paint systems on the market, in-house tests are necessary to determine the lowest possible pre-treatment.

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Joint dimensions

- Min. width for bonding: 1 mm
- Max. width for bonding: 3 mm
- Min. width for joints: 5 mm
- Max. width for joints: 10 mm
- Min. depth for joints: 5 mm

Recommendation for sealings: Joint width = 2 x joint depth

Handling

A manual, battery-operated or pneumatic cartridge squeezer must be used for processing. Cleaning processes are to be carried out before the material has cured. A suitable cleaner is petroleum ether.

Before skin formation, the CF CRYSTAL can be smoothed with a soapy solution or a smoothing agent.

The CF CRYSTAL can be used to touch up/repair cured CF CRYSTAL.

Safety instructions

Follow the usual regulations for industrial hygiene. Further information can be found on the packaging and in the safety data sheet.

CF CRYSTAL may be disposed of in household waste in normal quantities. Anything in excess of this must be disposed of separately at a specialist disposal company (mobile hazardous waste collection point, materials depot with hazardous waste collection point, etc.).

Remarks

- CF CRYSTAL can be overpainted with water-based paints. However, due to the variety of paints and varnishes available, it is strongly recommended to carry out a compatibility test before application.
- The drying time of alkyd resin-based paints may increase.
- CF CRYSTAL can be applied on a variety of substrates. As certain substrates such as plastics, polycarbonate, etc. may vary depending on the manufacturer, it is recommended to carry out a compatibility test in advance.
- CF CRYSTAL cannot be used as a sealant for window glazing.
- CF CRYSTAL is not suitable for use on natural stone.
- CF CRYSTAL is not suitable for expansion joints.
- During application, make sure that the adhesive surfaces are not soiled.
- Despite the anti-fungal effect of CF CRYSTAL, the joint should be cleaned regularly. Heavy soiling, deposits or soap residues lead to increased fungal development.
- CF CRYSTAL may discolour under extreme conditions or after very long UV exposure.
- When using different reactive grouts, the first grout must be fully cured before applying the next one.
- CF CRYSTAL must not be used if permanent exposure to water is possible.
- Discolouration may occur due to chemicals, high temperatures or UV radiation. Colour changes do not affect the technical properties of the product.
- Avoid contact with bitumen, tar or other materials that release plasticisers, such as EPDM, neoprene or butyl. Possible consequences of contact are discolouration of the product and loss of adhesion.

NOTE

The information in this technical data sheet is based on tests, monitoring and experience. They are of a general nature and do not establish any liability. It is up to the user to determine with his own tests whether the agent is suitable for the intended application.