

PRODUCT DATA SHEET

Sikaflex® CR 171

(formerly MSeal CR 171)

Two-part, pourable, chemical-resistant, polysulphide-based joint sealant

DESCRIPTION

Sikaflex® CR 171 is a two-part, pourable, chemical-resistant, polysulphide-based joint sealant with German technical approval (AbZ). It is used in facilities for the storage, handling and filling of substances hazardous to water.

USES

Sikaflex® CR 171 is used for sealing horizontal floor joints between foot access and traffic areas (inclination up to 2 %), especially where an effective seal against potentially water-polluting substances is needed, for example in refueling areas at filling stations and for other sealed areas.

FEATURES

- Easy application
- Very good movement capability: 30 %
- Chlorinated paraffin-free formulation
- Approved for use in storage, handling, and filling facilities for substances hazardous to water by DIBt (Deutsches Institut für Bautechnik)
- Very good resistance to hydrocarbons like fuels, oils and many other chemicals

CERTIFICATES AND TEST REPORTS

- CE marking and declaration of performance based on EN 14188-2:2004 Joint fillers and sealants - Part 2: Specifications for cold applied sealants
- Joint sealing system, Sikaflex® CR 171, DIBt, Approval No. Z-74.6-168

PRODUCT INFORMATION

Composition	2-component Polysulphide	
Packaging	4 L and 10 L kits.	
Colour	Grey and black	
Shelf life	Component A: 18 months from date of production Component B: 9 months from date of production	
Storage conditions	The Product must be stored in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +5 °C and +25 °C. Always refer to the packaging. Refer to the current Safety Data Sheet for information on safe handling and storage.	
Density	1.65 kg/L	(ISO 1183-1)

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TECHNICAL INFORMATION

Shore A hardness	25	Cured 28 days at +23 °C	(EN ISO 868)
Secant tensile modulus	Cured 28 days at +23 °C and 50% R.H. Measured at 100% elongation at +23 °C	0.25 N/mm ²	(ISO 8339)
	Cured 28 days at +23 °C and 50% R.H. Measured at 100% elongation at -20 °C	0.35 N/mm ²	
Shrinkage	Loss of volume	< 5 %	(EN ISO 10563)
Elastic recovery	> 90 %		(EN ISO 7389)
Movement capability	30 %		
Resistance to fire	Class E		(EN 13501-1)
Chemical resistance	Approved liquids according to DIBt approval	Stress level	Trafficable
	Gasoline for spark ignition engines according to EN 228, with a maximum 5 % by volume of bio-alcohol acc. to EN 15376	SFH 2	X
	Gasoline for spark ignition engines according to EN 228, with a maximum 20 % by volume of bio-alcohol according to Directive 2009/28/EC	SFH 2	X
	Aviation gasoline	SFH 2	X
	Fuel EL, unused combustion engine oil, unused motor vehicle gear oil, mixture of saturated and aromatic hydrocarbons with an aromatic content < 20 wt.-% and a flash point > 60 °C	SFH 2	X
	Diesel fuel according to EN 590, with a maximum of 20 % by volume of bio-diesel fuel according to EN 14214	SFH 2	X
	All hydrocarbons as well as mixtures containing benzene with max. 5 % by volume except fuels (including Gr. 2, 3, 4b and 4c, excluding Gr. 1, 1a, 3b and 4a)	SFH 1	walkable only
	Benzene and mixtures containing benzene	SFH 1	walkable only
	Crude oils	SFH 2	X
	Used internal combustion engine oils and	SFH 2	X

used vehicle gear oils with a point of ignition of > 55 °C		
Monovalent and polyvalent alcohol (up to a maximum of 48 % by volume of methanol and ethanol), glycols, polyglycols and their monoethers as well as their aqueous mixtures	SFH 2	X
All alcohols and glycol ethers as well as their aqueous mixtures	SFH 2	X
Monovalent and polyvalent alcohol \geq C2 (up to a maximum of 48 % by volume of ethanol) as well as their aqueous mixtures	SFH 2	X
Ethanol including ethanol according to DIN EN 15376 (independent of its manufacturing process) as well as its aqueous mixtures	SFH 2	X
Bio diesel fuel acc. to EN 14214	SFH 2	X
Aqueous solutions of aliphatic aldehyde up to 40 %	SFH 2	X
Aqueous solutions of organic acids (carboxylic) up to 10 % as well as their salts in aqueous solutions	SFH 2	X
Inorganic acids (mineral acids) up to 20 % as well as acidic, hydrolysed inorganic salts in aqueous solution (pH < 6), except for hydrofluoric acids and acids with an oxidizing effect and their salts	SFH 1	walkable only
Inorganic lye as well as alkaline hydrolysing inorganic salts in aqueous solution (pH > 8), except ammonia solution and oxidising salt solutions (e.g. hypochlorite)	SFH 2	X
Aqueous solutions of inorganic non-oxidizing salts with a pH value between 6 and 8	SFH 2	X
Amines as well as their salts (in aqueous solutions)	SFH 2	X
Single liquid: Skydrol®	SFH 2	X

LD 4		
Single liquid: Shell Di- ala®	SF3 2	X
Single liquid: AdBlue® (aqueous urea solution 35 %)	SF3 / H2	X

Legend

(S): storage	(H): handling	(F): filling
(1): stress level low	(2): stress level medium	(3): stress level high

For additional information about chemical resistance, refer to the following document: DIBt, Approval No. Z-74.6-168 or chemical resistance chart Sikaflex® CR 170 and Sikaflex® CR 171

Service temperature	Maximum	+60 °C (without chemical load)
	Minimum	-20 °C

Joint design	The joint dimensions must be designed to suit the movement capability of the sealant.	
	For construction all relevant regulations are applicable and other technical guidelines or standards must be observed, as well as the general building regulation, DIBt (Germany) No. Z-74.6-168. The planning of the joint sealing system may only be carried out by expert planners.	
	Refer to all relevant local construction guidelines and regulations. The sealant must only be subjected to stress including chemical exposure after full curing so that its adhesion and performance is not impaired.	
	Generally the joint width should be between 10 and 20 mm in areas subject to vehicle traffic and 40 mm in areas subject to foot traffic. For floor joints, a width-to-depth ratio of 1:1 or 1:0.8 must be maintained. Minimum joint width for movement joints: 10 mm Joint design acts in accordance with the general technical guidelines.	

APPLICATION INFORMATION

Mixing ratio	Part A : Part B	100 : 9 by weight
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Consumption	Joint width	Joint depth	Consumption
	10 mm	10 mm	100 ml/m
15 mm	12–15 mm	180–225 ml/m	
20 mm	16–20 mm	320–400 ml/m	
25 mm	20–25 mm	500–625 ml/m	
30 mm	24–30 mm	720–900 ml/m	
35 mm	28–35 mm	980–1225 ml/m	
40 mm	32–40 mm	1280–1600 ml/m	

Backing material	Use closed cell, polyethylene foam backing rod. In exceptional cases, PE films may be used. In the case of chamfered components, the chamfer must not be filled. It is important to ensure a completely tight seal against the joint flanks or contact surfaces. If necessary, the backing rod can be pre-sealed with a stable sealant at difficult intersections and connection points. Do not pierce or damage the backing rod during installation.
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Sag flow	Self-leveling, can be used on slopes ≤ 2 %
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Material temperature	Maximum	+40 °C
	Minimum	+5 °C

Ambient air temperature	Maximum	+40 °C
	Minimum	+5 °C
Substrate temperature	Maximum	+40 °C
	Minimum	+5 °C
The substrate temperature must be +3 °C above dew point temperature and free from frost and ice.		
Open Time	30–120 min	
Curing time	16 hours (minimum, at 23 °C). The specified time is temperature-dependent and may therefore vary. The surface of the sealant may remain slightly sticky for some time after curing.	

BASIS OF PRODUCT DATA

All technical data stated in this Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

IMPORTANT CONSIDERATIONS

Important:

- Do not use Sikaflex® CR 171 for joints that are permanently submerged in liquids or exposed to constant water exposure, e.g. swimming pools or sewage treatment tanks.
- Do not use Sikaflex® CR 171 in swimming pools or as a glazing sealant.
- Do not dilute or mix with water, alcohols, thinners, solvents or similar.
- To achieve full load-bearing capacity, a curing time of at least 16 hours must be observed at approx. +23 °C (material and floor temperature).
- Colour variations may occur due to the exposure in service to chemicals, high temperatures and/or UV-radiation. This effect is aesthetic and does not adversely influence the technical performance or durability of the product.
- Elastic sealants should not generally be overpainted.
- Depending on type of paint used, plasticiser migration may occur causing the paint to become surface 'tacky'.
- Do not use on PTFE (Teflon), Polyethylene (PE), Polypropylene (PP), Polystyrene (PS) and bituminous substrates, natural rubber, EPDM rubber or on any building materials which might leach oils, plasticisers or solvents that could degrade the sealant.

ECOLOGY, HEALTH AND SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY

The substrate must be clean, dry, sound and free from oils, grease, dust, cement laitance, loose or friable particles, paint, hydrophobizing and antigriffitti-coating. The compatibility with paints and anti-corrosion coatings must be tested in individual cases.

SUBSTRATE PREPARATION

Removal techniques such as wire brushing, grinding, grit blasting or other suitable mechanical tools can be used. Damaged joint edges can be repaired with suitable Sika repair products. The Product must always be applied to primed surfaces.

Sika® Primer-107: for non-absorbent substrates made of alloyed steel (stainless steel), UP-resin-based polymer concrete, uncoated unalloyed steel, polymer-modified concrete substitute systems (PRM/PRC), glazed ceramics, non-ferrous metals, etc. thorough pre-cleaning to remove release agents is required. Can also be used as an adhesion promoter on cured Sika® Primer-127.

Flash-off time at least 10 minutes (at 23 °C).

Sika® Primer-215: for substrates made of concrete, fibre-reinforced concrete, cement-bound concrete substitute systems (RM/RC), cement screed, sand-lime brick, clinker and similar materials.

Also for cut (e.g. diamond saw) asphalt (according to EN 13108-1 and EN 13108-6 with minimum 50 % aggregates on the surface).

Appropriate substrate preparation must be carried out. Flash-off time at least 30 minutes (at 23 °C).

Sika® Primer-127: for substrates made of Cathodic Dip Coating (CDC) steel and galvanised steel. Also for steel, iron, cast iron, etc.; in this case, substrate pre-treatment, e.g. by blasting (cleanliness grade SA 2 ½ or St 3 in accordance with DIN EN ISO 12944-4), is absolutely essential. Flash-off time at least 8 hours (at 23 °C).

For more details of the primer or pretreatment products, refer to the corresponding Product Data Sheet. Contact Sika Technical Services for additional information.

Note: Primers only help to improve the adhesion. They are not a substitute for correct substrate preparation nor do they improve the strength of the substrate significantly.

1. Allow primer to flash off before sealant application.
2. Apply the Product within the open time of the primer.

MIXING

Sikaflex® CR 171 is supplied in the correct mixing ratio of component A and component B. Use a spatula to completely incorporate component B into component A. Mix the components thoroughly using a slow-speed mixer at approx. 300 rpm with a paddle mixer. Ensure that the bottom and sides of the mixing vessel are also thoroughly mixed. The mixing process must be carried out until a homogeneous, streak-free consistency is achieved, but for at least 3 minutes. Avoid introducing air during mixing.

If necessary, allow the mixture to vent briefly in the container before application. The temperature of both components should be between 15 and 25 °C during mixing. Use container holders suitable for the respective container to ensure safe mixing.

You can obtain details of where to purchase application equipment and further information from your sales advisor.

APPLICATION

To ensure a smooth and cleanly defined joint seal, the joint chamfers or edges should be masked with adhesive tape where necessary before applying the primer and installing the sealant. The primed joint flanks must be dust-dry before jointing; to this end, the primer's flash-off times must be observed. Sikaflex® CR 171 can be poured into the joint directly from the container or into another suitable can after mixing. Care must be taken to ensure that the sealant is applied to the joint cavity with as few bubbles as possible. The joint chamfer must not serve as an adhesion surface. Remove any masking tape applied within the open time. Remove any rising air bubbles with a soft flat brush or a smoothing tool.

Ambient temperature

The substrate and ambient temperatures are of essential importance for application and curing. At low temperatures, the chemical reactions are delayed, thereby extending the working and walk-on times. At high temperatures, the chemical reactions are accelerated, so that the times are shortened accordingly. For complete curing, the material and substrate temperatures must not fall below the lower limit at any point or at any time during the curing phase.

CLEANING OF EQUIPMENT

Clean all tools and application equipment with Sika® Remover-208 or Sika® PowerClean cleaning wipes, immediately after use. Hardened material can only be removed mechanically.

For cleaning skin use suitable cleaning wipes, e.g. Sika® PowerClean cleaning wipes, or other suitable skin cleaner and water.

Don't use solvents at the skin!

LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for the exact product data and uses.

LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

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