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MasterSeal CR 171

(new improved formulation, replaces MASTERFLEX 700 FR pouring grade)

2-component joint sealant, pourable, polysulphide-based, chemical resistant, with European Technical Approval

DESCRIPTION

MasterSeal CR 171 is a pourable chemical-resistant two-component polysulphide based joint sealant with hardening system based on manganese oxide.

FIELD OF APPLICATION

MasterSeal 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 refuelling areas at filling stations and for other sealed areas.

Contact your local Master Builders Solutions representative regarding any application required not mentioned here.

FEATURES AND BENEFITS

- elastic, up to 30% overall deformation admissible
- does not contain chlorinated paraffins
- approved for its use in facilities of storage, handling and filling of substances hazardous to water by DIBt (Deutsches Institut für Bautechnik)
- resistant to fuels, oils and a large number of other chemicals (see chemical and substance resistance lists in European Technical Approval)
- available in black and grey

CE

1213,0767

BASF Bautechnik GmbH
Dr.-Albert-Frank-Str. 32
D-83308 Trostberg

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DE0201/01

ETA-12/0486

Joint sealing system
MasterSeal CR 171

Reaction to fire	Class E
Admissible contact material	Concrete, fibre concrete, polymer-concrete on UP resin base, stainless steel, CD-coated steel
Admissible extension, compression and shear distances	Admissible deformation distances according to Annex 7 of the ETA
Admissible levels of road serviceability	t0 (trafficable with pedestrians) t1 (trafficable with pneumatic tyres)
Resistance to media	Resistance to media in accordance with Annex 2 and 3 of the ETA

APPLICATION METHOD

(a) Surface Preparation

All substrates (new and old) must be structurally sound, free of laitance and loose particles and clean of oil, grease, rubber skid marks, paint stains and other adhesion impairing contaminants.
The temperature of the contact surfaces must be at least 3 °C above the ambient dew point temperature.

(b) Backer rod

Prevent any three point bonding and ensure the recommended sealant depth by using a closed-cell backer rod. For flat joints prevent three point bonding by the use of a bond breaking tape.
Install the backer rod by compressing and rolling it into the joint channel without stretching it lengthwise.
Avoid puncture of the backer rod during installation.

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To achieve a smooth, clearly defined joint, mask the joint edges with self-adhesive tape before caulking. Remove the tape immediately after the joint surface is smoothened.

(c) Primer coat

MasterSeal CR 171 must always be applied to primed surfaces.
Primer selection:

- MasterSeal P 117: for absorbent substrates (e.g. concrete, cementitious mortars, etc.)
- MasterSeal P 107: for non-absorbent substrates and stainless steel
- MasterSeal P 127: for mild steel substrates

Allow primer to flash off before sealant application and apply MasterSeal CR 171 within the open time of the primer.
Do not prime or puncture the backer-rod.

Please note:
Primers do only help to improve the adhesion but are not a substitute for correct substrate preparation or will improve the strength of it significantly.
For further details please refer to the corresponding technical data sheet of the MasterSeal P Primers.

(d) Mixing

MasterSeal CR 171 is supplied with parts A and B in the correct ratio.
The entire Part B must be added to Part A using a trowel.
The two components must be mixed thoroughly with a slow stirrer at about 300 rpm. The material at the bottom and edges of the container must also be mixed. Mixing must continue until a homogenous substance without any sludge is produced. The components must be mixed for at least three minutes. During mixing, the temperature of the two components should be between 15 and 25 °C. The material should not be poured directly from the container

(e) Application

Following mixing, the material may either be filled into a manual spray gun or the container may be inserted into a pressure unit with hose and nozzle.

The joint edge must not be used as an adhesion surface. During the processing time of the sealant, any bubbles which may form on the seal surface may be removed by brushing gently with a soft, dry brush.

The ambient temperature and the temperature of the structure to be coated are crucially important for application and curing. At low temperature, chemical reactions proceed more slowly; open times and curing times will therefore be longer. At higher temperatures, chemical reactions are faster and the times will be shorter. In order to ensure full curing, the material and structure temperatures must not be lower than the minimum limit at any location or at any point during the curing time.

APPROVALS

MasterSeal CR 171 has been tested in accordance with the approval principles of DIBt for seal systems in facilities for the storage, filling and handling of potentially water-polluting liquids. The following approval has been obtained:
– ETA-12/0486

FINISHING AND CLEANING

Tools can be cleaned from fresh material with a solvent cleaner or cleaning agent like MasterSeal Cleaner G
Once dry/cured they can only be cleaned mechanically.

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COVERAGE

The consumption depends on the size of the joint.

Width joint (mm)	Depth joint (mm)	Consumption ml/m
10	10	100
15	12-15	180-225
20	16-20	320-400
25	20-25	500-625
30	24-30	720-900
35	28-35	980-1225
40	32-40	1280-1600

This consumption is theoretical and depends in particular on the evenness of the joint. In special cases a calculation based on in-situ tests might be required.

COLORS

Grey and black

PACKAGING

MasterSeal CR 171 is available in 4L and 10 L kits.

STORAGE

Tightly closed containers may be stored in a dry area at temperatures between +15 and 25 °C.

SHELF LIFE

18 months (Part A) respectively 9 months (Part B) in unopened original containers, if stored at above mentioned storage conditions.

WATCH POINTS

- MasterSeal CR 171 is only for industrial use.
- MasterSeal CR 171 is not suitable for continuous exposure to water.

HANDLING AND TRANSPORT

Usual preventive measures for the handling of chemical products should be observed when using this product, for example do not eat, smoke or drink while working and wash hands when taking a break or when the job is completed.

Specific safety information referring the handling and transport of this product can be found in the Material Safety Data Sheet. For full information on Health and Safety matters regarding this product the relevant Health and Safety Data Sheet should be consulted.

Disposal of product and its container should be carried out according to the local legislation in force. Responsibility for this lies with the final owner of the product.

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Product Data			
Property	**Method**	**Unit**	**Data**
Mixing ratio A:B	-	by weight	100 : 9
Density	-	g/ml	1.65
Solid material content	-	-	100 %
Viscosity	-		pouring grade
Open time	-	min	60 - 120
Curing time	-	h	24 - 48
Application temperature	-	° C	5 - 40
Shore A hardness	ISO 7619-1		approx. 25
Tensile stress for 120% elongation	EN 28340	N/mm^2	approx. 0.20 (at + 20 °C)
			approx. 0.40 (at - 20 °C)
Recovery capacity	EN 27389	%	approx. 90
Max. admissible overall deformation	-	%	approx. 30
Service temperature range (without chemical	-	°C	From -20 to + 60

Note: Values are measured at 23°C ± 2°C and 50% ± 10% relative humidity. Higher temperatures and/or higher R.H. can shorten these times, and vice versa. Technical data shown are statistical results and do not correspond to guaranteed minima.

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Chemical Resistance					
Media	**Conc.**	**Resistance**	**Media**	**Conc.**	**Resistance**
Inorganic acids					
boric acid	sat.	+	hydrochloric acid	10%	(+)
hydrofluoric acid	10%	(+)	hydrochloric acid	conc.	-
phosphoric acid	10%	+	sulphuric acid	25%	(+)
phosphoric acid	25%	(+)	sulphuric acid	40%	-
nitric acid	10%	+			
Oils					
bio fuel		++	castor oil		++
drilling oil		++	silicone oil		++
brake oil		+	skydrol		++
fuel oil		++	tar oil		+
hydraulic oil		+	terpentine oil		+
Organic acids					
formic acid	5%	+	lactic acid	40%	+
formic acid	10%	(+)	lactic acid	conc.	(+)
formic acid	98%	-	oleic acid	50%	(+)
benzoic acid	sat.	+	oxalic acid	10%	+
succinic acid	20%	+	oxalic acid	sat.	(+)
acetic acid	10%	(+)	wine acid	15%	+
acetic acid	60%	-	citric acid	20%	+
maleic acid	20%	+			
Alkaline solutions					
alcoholic caustic soda	10%	+	potassium hydroxide	20%	++
ammonia	25%	++	caustic soda	10%	++
calcium hydroxide	sat.	++			

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Chemical Resistance					
Media	**Conc.**	**Resistance**	**Media**	**Conc.**	**Resistance**
Salt solutions					
aluminium chloride	35%	+	potassium dichromate	20%	+
ammonium nitrate	40%	+	potassium nitrate	40%	+
ammonium phosphate	40%	+	potassium permanganate	2%	+
ammonium sulphate	40%	+	copper sulphate	25%	+
barium chloride	40%	+	sodium acetate	sat.	+
barium sulphate	40%	+	sodium carbonate	sat.	+
calcium chloride	40%	+	sodium chloride	sat.	+
calcium nitrate	40%	+	sodium nitrate	sat.	+
ferrous sulphate	40%	+	sodium phosphate primary	10%	+
potassium carbonate	15%	+			
Organic solvents					
petrol, normal & super		++	xylene		+
benzene		(+)	perchloroethylene		(+)
jet fuel, IP4		++	dichlorobenzene		+
petroleum		++	dimethylaniline		+
styrene		-	dimethylformamide		(+)
white spirit		++	trichloroethylene		(+)
toluene		+	carbon tetra chloride		-
Aldehyde					
benzaldehyde		-	formaldehyde	35%	-
crotonaldehyde		-	cinnamic aldehyde		(+)

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Chemical Resistance					
Media	**Conc.**	**Resistance**	**Media**	**Conc.**	**Resistance**
Alcohols					
benzyl alcohol		(+)	isobutanol		++
ethyl alcohol	50%	++	isopropanol		++
ethyl alcohol	96%	+	cresol	5%	(+)
ethylene glycol		++	methyl alcohol		+
furfuryl alcohol		+	phenol	5%	+
glycerine		++	phenol	sat.	(+)
Ketone					
acetone		+	methylethyl ketone		+
acetophenone		+	methylisobutyl ketone		+
cyclohexanone		(+)			
Ester					
butylacetate		+	methylglycol acetate		+
ethylacetate		+			
Others					
distilled water		+	hydrogen peroxide		+
whey		++			

\+ resistant without any changes
\- non-resistant
(+) resistant, but with changes (slight swelling). Only for occasional contact or splashing mode, with periodical cleaning.

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