

# MasterSeal<sup>®</sup> CR 170/171

## Polysulphide-based, 2-component, Chemical Resistant, Elastomeric Joint Sealant

### DESCRIPTION OF PRODUCT

**MasterSeal<sup>®</sup> CR 170/171** is a polysulphide based elastomeric joint sealant highly resistant to weathering, UV rays, and degradations caused by chemical substances in the atmosphere, jet fuel and oils.

**Complies with ETA-12/0485**

**Complies with ETA-12/0486**

### FIELDS OF APPLICATION

- Interior and exterior areas for horizontal applications
- Airport runways and aprons
- Power plants
- Highways and bridges
- Fuel tanks
- Gas stations
- Warehouses and garages
- Industrial floors exposed to pedestrian and heavy vehicle traffic
- Stadiums
- Terraces and balconies
- Areas exposed to sunlight, water, chemical materials and industrial wastes
- Free of 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)*

### FEATURES AND BENEFITS

- Two parts.
- Self leveling and gun grade types.
- Easy and quick to apply.

- High chemical resistance.
- Perfect adhesion to different materials with suitable primer. (Concrete, steel, etc.)
- Weather conditions do not change its physical properties during service life.

### APPLICATION PROCEDURE

#### Joint Design

In joints where **MasterSeal<sup>®</sup> CR 170/171** will be used, recommended width of the joint must be between 10 mm to 50 mm and depth must be approximately half of the width (depth/width= $\sim$ 1/2). Movements in the joints must not be over  $\pm$ 25% of joint width.

#### Preparation of Substrate Concrete and Stone Surfaces

Joints must be dry, sound and free from dust and other contamination. Remove oil stains and grease from the substrate with the universal thinner. Irregularities on the surface must be repaired with **MasterBrace<sup>®</sup> ADH 1406**. Apply masking tape on the outer sides of the joint to prevent staining.

#### Steel Surfaces

Remove rust on the metal substrate. Remove oil stains and grease from the substrate with a suitable oil remover. Do not allow flash rusting of the surface. Fill deep joints with closed cell polyethylene backer rod which must not be damaged during the application. Do not use backer rods containing bitumen or tar.

TECHNICAL DATA	
<b>Material</b> <b>MasterSeal<sup>®</sup> CR 170/171 Part A</b> <b>MasterSeal<sup>®</sup> CR 170/171 Part B</b>	Polysulphide Mangandioxide
Color	Grey and Black
Density ( <b>MasterSeal<sup>®</sup> CR 170</b> )	1,58 kg/lit (3,44;0,3 by volume)
Density ( <b>MasterSeal<sup>®</sup> CR 171</b> )	1,63 kg/lit (3,70;0,3 by volume)
Shore A Hardness (ISO 7619-1)	25
Solid Content	100 %
Elastic Recovery (gun grade/pouring grade)	80%-90%
Service Temperature	-20°C +60°C
Movement Ability	$\pm$ 30%
Curing Period	24-48 hours
Open Time	30-120 minutes

*Obtained in +23°C, 50% relative humidity conditions. Higher temperatures decrease the time, lower temperatures increase the time.*

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### Mixing

**MasterSeal® CR 170** (gun grade) is delivered in sets, ready to use packing depending on mixture ratio. Please check the material temperature is between +15°C to +25°C before starting the mixing. The entire packing of B part is poured into the A part, making sure that no material is left in packing of B part. **MasterSeal® CR 170** (gun grade) must be mixed with a 300 RPM mixer for at least 5 minutes, carefully avoiding not to entrain air, without leaving material on sides and base of the container, until a homogenous mixture is obtained. **MasterSeal® CR 171** (pouring grade) is delivered in sets, ready to use packing depending on mixture ratio. Please check the material temperature is between +15°C to +25°C before starting the mixing. The entire packing of B part is poured into the A part, making sure that no material is left in packing of B part. **MasterSeal® CR 171** (pouring grade) must be mixed with a 300 RPM mixer for at least 5 minutes, carefully avoiding not to entrain air, without leaving material on sides and base of the container, until a homogenous mixture is obtained.

### APPLICATION

#### Primer Application Concrete Surfaces

Joints must be dry, sound and free from dust and other contamination. Remove oil stains and grease from the substrate with the universal thinner. Irregularities on the surface must be repaired. Apply masking tape on the outer sides of the joint to prevent staining. Then the concrete surfaces of the joint must be primed by **MasterSeal® P 770** using a suitable brush. Primer must not be applied on the surface of polyethylene backer rod. When the primer becomes tack free, sealant application should be started. If the primer is completely dried, then sealant application should not be started, joint surfaces must be primed again.

#### Sealant Application

**MasterSeal® CR 170** (gun grade) is used in horizontal and vertical joints. The material, prepared as described above, must be sucked into aluminum sealant gun from its mouth without entraining air. Afterwards, **MasterSeal® CR 170** has to be applied on the joint, where polyethylene backer rod is placed before, starting from the surface of the backer rod and going to right and left inner surfaces, and then to the middle of the joint. After this 3-step process, filled joint surface must be smoothed with joint spatula. Then, masking tapes have to be taken from the surface without deforming the joint.

**MasterSeal® CR 171** (pouring grade) is only used in horizontal joints. The material, prepared as described above, must be applied on the joint, where polyethylene backer rod is placed and primer is applied before, by a suitable container for pouring or by an aluminum sealant gun loaded from the mouth. To prevent formation of air voids, filling of the joint must be started from below (from

the surface of the polyethylene backer rod) and continued till the desired surface is reached. Then, masking tapes have to be taken from the surface without deforming the joint.

### COVERAGE

Theoretical joint lengths by using 1 liter of

#### MasterSeal® CR 170/171:

Joint Depth	Joint Width				
	10 mm	20 mm	30 mm	40 mm	50 mm
5 mm	20 m				
10 mm		5,0 m			
15 mm			2,23 m		
20 mm				1,25 m	
25 mm					0,80 m

*Coverage is theoretical. Coverage changes depending on smoothness of joint and shape of polyethylene backer rod*

### WATCH POINTS

- Do not apply **MasterSeal® CR 170/171** on substrates below +4°C and above +35°C.
- Application must be protected from rain and water contact within the first 48 hours.
- Working and reaction time of resin based systems are affected from the ambient, substrate temperatures and the relative humidity in the air. Low temperatures slow down the chemical reaction and increase the working time. High temperatures accelerate the chemical reaction and reduce the working time.
- Painting over **MasterSeal® CR 170/171** is not recommended.
- **MasterSeal® CR 170/171** not suitable for permanent immersion in water.

### CLEANING OF TOOLS

All the tools and equipments must be cleaned by appropriate solvent after the application. When **MasterSeal® CR 170/171** is hardened, it can only be removed from the surface mechanically.

### PACKAGING

**MasterSeal® CR 170** is available in 3,74 lt cans

Part A: 3.44 lt

Part B: 0.30 lt

**MasterSeal® CR 171** is available in 4 lt cans

Part A: 3.70 lt

Part B: 0.30 lt

### STORAGE

Must be stored at temperatures between +15°C +25°C protected from freezing and sunlight.

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## SHELF LIFE

For **MasterSeal® CR 170/171** Part A shelf life is 18 months, Part B shelf life is 9 months after the production date under appropriate storing conditions.

## HEALTH AND SAFETY PRECAUTIONS

Work cloth, protective gloves, goggles and masks concordant with Work and Worker Health rules must be used during the application. Due to irritant effects of the non-cured material, avoid contact to skin and eyes during storing and application. If such a contact occurs, it must be washed by soap and plenty of water. Consult a physician urgently if swallowed. Food and drink must be kept outside the application areas. Must be stored away from children. Please look at the Material Safety Data Sheet for detailed information.

## DISCLAIMER

The technical information given in this publication is based on the present state of our best scientific and practical knowledge. **Master Builders Solutions Yapı Kimyasalları Sanayi ve Ticaret Ltd. Şti.** is only responsible for the quality of the product. **Master Builders Solutions Yapı Kimyasalları Sanayi ve Ticaret Ltd. Şti.** is not responsible for results that may occur because the product is used other than advised and/or out of instructions regarding the place and the method of use. This technical form is valid only till a new version is implemented and nullifies the old ones.

## CONTACT INFORMATION

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**MasterSeal® CR 170/171** Technical Data Sheet -Revision  
Date: 10/2022

# MasterSeal® CR 170/171

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KİMYASAL DAYANIM					
Salt Solutions					
Alumimum 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	doygun	+
Barium sulphate	40%	+	Sodium carbonate	doygun	+
Calcium chloride	40%	+	Sodium chloride	doygun	+
Calcium nitrate	40%	+	Sodium nitrate	doygun	+
Ferrous sulphate	40%	+	Sodium phosphate primary	doygun	+
Potassium carbonate	40%	+		10%	+
Organic Solvents					
Petrol, normal&super		++	xylene		+
benzene		(+)	perchloroethylene		(+)
Jet fuel, IP4		++	dichlorobenzene		+
petroleum		++	dimethylaniline		+
styrene		-	dimethylformamide		(+)
White spirit		++	trichloroethylene		(+)
touene		+	Carbon tetra chloride		-
Aldehyde					
benzaldehyde		-	formaldehyde	35%	-
crotonaldehyde		-	Carbon tetra aldehyde		(+)
Inorganic Acids					
Boric acid	doygun	+	Hydrofluoric acid	10%	(+)
Hydrofluoric acid	10%	(+)	phosphoric acid	konsantre	-
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		+

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KİMYASAL DAYANIM					
<b>Alkaline Solutions</b>					
Formic acid	5%	+	Lactic acid	40%	+
Formic acid	10%	(+)	Lactic acid	konsantre	(+)
Formic acid	98%	-	Oleic acid	50%	(+)
Benzoic acid	doygun	+	Oxalix acid	10%	+
Succinic acid	20%	+	Wine acid	doygun	(+)
Acetic acid	10%	(+)	Wine acid	15%	+
Acetic acid	60%	-	Citric acid	20%	+
Maleic acid	20%	+			
<b>Alkaline Solutions</b>					
Alcoholic caustic soda	10%	+	Potassium hydroxide	20%	
ammonia	25%	++	Caustic soda	10%	
Calcium hydroxide	doygun	++			
<b>Alcohols</b>					
Benzyl alcohol		(+)	isobutanol		++
ethyl alcohol	50%	++	isopropanol		++
ethyl alcohol	96%	+	cresol	5%	(+)
ethyl alcohol		++	Methyl alcohol		+
furfuryl alcohol		+	phenol	5%	+
glycerine		++	phenol	doygun	(+)
<b>Ketone</b>					
acetone		+	Methylethyl ketone		+
acetophenone		+	Methylisobutyl ketone		+
cyclohexanone		(+)			
<b>Ester</b>					
butylacetate		+	Methylglycol acetate		+
ethylacetate		+			
<b>Others</b>					
Distilled water		+	Hydrogen peroxide		+
whey		++			

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Yangına karşı tepki (Reaction to fire)	D-s2,d0
Elastik geridönüm (Elastic recovery)	≥70%
Su geçirmezlik ve hava sızdırmazlık (Water Tightness & Air Tightness as determined by)	
Akmaya karşı direnç (Resistance to flow)	≤3mm
Çekme özellikleri- (Sekant modülü) (+23°C'de ve -20°C'de) (Tensile properties (secant modulus) (+23°C / -20°C))	(+23°C ≤0,4 ve -20°C ≤0,6 N/mm <sup>2</sup> )
Sabit uzamada çekme özellikleri (Tensile properties at maintained extension)	NF
Suya daldırma sonrası sabit uzatmada adhezyon/kohezyon (Adhesion/Cohesion properties at maintained extension after water immersion)	NF
Değişken sıcaklıklarda adhezyon/kohezyon (Adhesion/Cohesion Properties of Sealants Variable Temperatures)	NF
Hacim Kaybı (Change in volume)	≤10
Yırtılma mukavemeti (Tear resistance)	NF

	
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Yangına karşı tepki (Reaction to fire)	D-s2,d0
Elastik geridönüm (Elastic recovery)	≥70%
Su geçirmezlik ve hava sızdırmazlık (Water Tightness & Air Tightness as determined by)	
Çekme özellikleri- (Sekant modülü) (+23°C'de ve -20°C'de) (Tensile properties (secant modulus) (+23°C / -20°C))	(+23°C ≤0,4 ve -20°C ≤0,6 N/mm <sup>2</sup> )
Sabit uzamada çekme özellikleri (Tensile properties at maintained extension)	NF
Suya daldırma sonrası sabit uzatmada adhezyon/kohezyon (Adhesion/Cohesion properties at maintained extension after water immersion)	NF
Değişken sıcaklıklarda adhezyon/kohezyon (Adhesion/Cohesion Properties of Sealants Variable Temperatures)	NF
Hacim Kaybı (Change in volume)	≤10
Yırtılma mukavemeti (Tear resistance)	NF

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