

## KÖSTER Crisin® 76

Technical guidelines/Article

3.081

Issued: March 12, 2013

- Industry classification "CRISIN" registered at the German patent office, K 50 864
- Official examination report, Ostfriesland Fachhochschule [Technical College]: Resistance against bacteria and mildew
- Official certification report, MFPA [Material Development and Testing Institute], Leipzig, Germany - in accordance with WTA guidelines 4-4-03 (KÖSTER Crisin suction angle system)

## Synthetic resin against rising damp, heavy moisture penetration and salt contamination

### Features

KÖSTER Crisin® 76 is a very thin liquid synthetic resin. It penetrates deeply into even the smallest capillaries and pores in building materials. Due to its very low density and a surface tension lower than that of water, KÖSTER Crisin® 76 displaces the water in the capillaries. Capillaries lined with KÖSTER Crisin® 76 are water repellent. The curing of the injected product is independent of the drying of the masonry.

After its full cure, KÖSTER Crisin® 76 remains flexible, does not decay or decompose, acts neutrally, does not effloresce, and does not affect steel reinforcement. During application and after full cure, KÖSTER Crisin® 76 is resistant to all of the usual corrosives in masonry, such as acids, alkalis, and salts.

### Technical data

Density	0.76 g / cm <sup>3</sup>
Type of effect	narrowing of pores / hydrophobization of pores
Viscosity	1.2 mPa.s (compared to water: 1 mPa.s)
Surface tension	approx. 24 mN / m (compared to water: 73 mN / m)

### Field of application

KÖSTER Crisin® 76 is a pressureless injection material for installing a retroactive horizontal waterproofing against rising damp in all mineral building materials. It can be applied from inside and/or from the outside of the building. It can be applied in cases of high degrees of moisture penetration (95% +/- 5% saturation) and with all degrees of salt contamination.

### Application

KÖSTER Crisin® 76 is applied using the following systems:

- KÖSTER Crisin® 76 cartridge system  
for diagonal cross-section sealing
- KÖSTER Crisin® 76 suction angle system  
for horizontal cross-section sealing

KÖSTER Crisin® 76 can also be applied using low pressure injection systems.

Please refer to the respective system descriptions for detailed information.

### Consumption

Approx. 0.1 l / m per cm wall thickness.

### Packaging

210 l barrel, 30 l and 10 l plastic canister,  
450 ml cartridge = 28 units / carton

### Storage

Store the material in sealed leak proof containers. In originally sealed packages, the material can be stored for 12 months. Please follow the instructions for the storage of flammable liquids.

### Safety

Wear solvent-resistant protective gloves and safety goggles.

### Please note

After the application of KÖSTER Crisin® 76, salts which are already present in the substrate can cause efflorescence and have damaging effects during the drying process. We recommend the application of KÖSTER Polysil® TG 500 and the application a KÖSTER Restoration Plaster System.

If cement based systems such as sealing slurries or plasters are to be applied after KÖSTER Crisin® 76 has been applied, this should be done at the earliest two weeks after the application of the horizontal barrier. If applied earlier, discolorations may occur due to migration of KÖSTER Crisin® 76. In a few cases where KÖSTER Crisin® 76 in liquid form came into direct contact with bituminous building materials and specific plastics, it softened them. Please contact our technical staff before applying KÖSTER Crisin® 76 in interior rooms.

### Technical guidelines cited

KÖSTER Polysil® TG 500	Art. Nr.	4.011
KÖSTER Restoration Plaster Systems	Art. Nr.	5.06

### System descriptions cited

Cartridge system with KÖSTER Crisin® 76  
Suction Angle System with KÖSTER Crisin® 76

The information contained in this technical data sheet is based on the results of our research and on our practical experience in the field. All given test data are average values which have been obtained under defined conditions. The proper and thereby effective and successful application of our products is not subject to our control. The installer is responsible for the correct application under consideration of the specific conditions of the construction site and for the final results of the construction process. This may require adjustments to the recommendations given here for standard cases. Specifications made by our employees or representatives which exceed the specifications contained in this technical guideline require written confirmation. The valid standards for testing and installation, technical guidelines, and acknowledged rules of technology have to be adhered to at all times. The warranty can and is therefore only applied to the quality of our products within the scope of our terms and conditions, not however, for their effective and successful application. This guideline has been technically revised; all previous versions are invalid.

## Cartridge system with KÖSTER Crisin® 76

### System description

Issued: January 7, 2010

- Official examination report, Ostfriesland Fachhochschule [Technical College]: Resistance against bacteria and mildew
- Test report according to WTA Guideline "Injection materials against rising damp
- Industry classification "CRISIN" registered at the German patent office, K 50 864

## Self dosing waterproofing against rising damp, also suitable in cases of heavy moisture penetration and salt contamination

### Features

KÖSTER Crisin® 76 is a very thin fluid synthetic resin. It penetrates deeply into even the smallest capillaries and pores in building materials. Due to its very low density and a surface tension that is less than that of water, KÖSTER Crisin® 76 pushes water out of the capillaries. Capillaries treated in this way are lined by the substance and become water repellent. The curing of the injected product is independent of the drying of the masonry. After its full cure, KÖSTER Crisin® 76 remains flexible, does not decay or decompose, acts neutrally, does not effloresce and does not affect steel reinforcement. KÖSTER Crisin® 76 is resistant to all of the usual aggressive masonry corrosives, such as acids, bases and salts, both during application and after full cure.

### Technical Data

Density	0.76 g / cm <sup>3</sup>
Type of effect	narrowing of pores / hydrophobing of pore walls
Viscosity	1.2 mPa.s (compared to water: 1 mPa.s)
Surface tension	approx. 24 mN/m (compared to water: 73 mN/m)

### Field of application

Drill hole injection for creating subsequent horizontal waterproofing against rising damp in all mineral building materials. Can be applied from inside and/or outside. Can be applied in cases of high degrees of moisture penetration and with all degrees of salt contamination. The KÖSTER Crisin® 76 cartridge system is recommended especially for waterproofing jobs in which efficient protection of adjacent components against damp can only be achieved by way of drilling angled holes, for example, with wooden floorboard supports.

### Application

1. Drill the required number of holes according to the table overleaf. The holes should be cleaned with compressed air, an industrial vacuum cleaner or, if necessary, be briefly flushed out with water. Holes should be drilled at an approximate 40° downward angle until approximately 5 cm before the end of the masonry. At least one horizontal joint should be traversed. The application can be carried out from the inside or the outside. If wall

thickness is greater than 50 cm, it is recommend to drill holes from both sides to the middle.

2. After the drill holes have been cleaned, the KÖSTER Capillary Rods are inserted into the drill holes. Through this, prior filling of cavities, fissures and joints utilizing suspensions is usually not necessary. Put in the capillary rods so that approximately the first 4 cm of the drill hole are left clear. In this space, the cartridge will later be placed. The capillary rods saturated with KÖSTER Crisin® 76 can remain in the drill holes once the application is completed. In case the prior filling of the masonry should be necessary, the cavities are to be filled with KÖSTER Mautrol® Borehole Suspension prepared according to the respective technical guideline. Before full cure (after approximately 30 minutes up to a maximum of 3 hours) the holes are drilled out again.

3. Then put the KÖSTER Crisin® 76 cartridges in the drill holes and leave them there until they are completely empty.

Do not apply in temperatures below 0 °C, apply only as long as the masonry is not frozen.

4. After emptying (approximately 3 - 48 hours) remove the cartridges. In cases of high degrees of moisture penetration or in the case of very dense building materials, it is possible that a longer exposure time can be necessary. After that, the drill holes can be sealed with KÖSTER Mautrol® Borehole Suspension or KÖSTER KB-Fix 5.

### Packaging

450 ml cartridge = 28 units / carton

### Storage

Store the material in sealed leak proof containers. In originally sealed packages, the material can be stored for 12 months. Please follow the instructions for the storage of flammable liquids.

### Safety

Wear solvent-resistant protective gloves and safety goggles. Please follow the instructions for the storage of flammable liquids.

**Please note**

After the application of KÖSTER Crisin® 76, salts which are already present in the substrate can during the drying process cause efflorescence and have damaging effects. We recommend the application of KÖSTER Polysil® TG 500 and the application of a fresh coat of a KÖSTER Restoration Plaster System.

If cement based systems such as sealing slurries or plasters are to be applied after KÖSTER Crisin® 76 has been applied, then this should be done at the earliest two weeks after the application of the horizontal barrier. If applied earlier, discolourations may occur due to migration of the KÖSTER Crisin® 76. In a few cases where KÖSTER Crisin® 76 in liquid form came into direct contact with bituminous building materials and specific plastics, it softened them.

**Technical guidelines cited**

KÖSTER Mautrol® Borehole Suspension	Art.-No.	3.05
KÖSTER Crisin® 76	Art.-No.	3.081
KÖSTER Polysil® TG 500	Art.-No.	4.011
KÖSTER KB-Fix 5	Art.-No.	5.015
KÖSTER Restoration Plaster Systems	Art.-No.	5.06
KÖSTER Capillary Rods	Art.-No.	11.06

Wall thickness including interior/exterior plaster	Ø the drill holes	Drill holes per metre	Distance between drill holes from centre of the hole to centre of the hole (horizontal)	Cartridges per metre	Cartridges per drill hole	Consumption of capillary rods (48 cm)
	[mm]	[unit]	[cm]	[unit]	[unit]	[unit per m]
to 10 cm	14	8	12.5	8	1	1
to 20 cm	14	9	11.0	9	1	3
to 30 cm	14	9	11.0	9	1	5
to 40 cm	14	10	10.0	10	1	8
to 50 cm	14	12	8.5	12	1	13
to 60 cm	14	14	7.0	14	1	19
to 70 cm	14	16	6.0	16	1	26
to 80 cm	14	18	5.5	18	1	34
to 90 cm	14	20	5.0	20	1	43
to 100 cm	14	22	4.5	22	1	54

PLEASE NOTE: the use of the KÖSTER Suction Angle System is recommended for wall thicknesses of more than 24 cm.

The information contained in this technical data sheet is based on the results of our research and on our practical experience in the field. All given test data are average values which have been obtained under defined conditions. The proper and thereby effective and successful application of our products is not subject to our control. The installer is responsible for the correct application under consideration of the specific conditions of the construction site and for the final results of the construction process. This may require adjustments to the recommendations given here for standard cases. Specifications made by our employees or representatives which exceed the specifications contained in this technical guideline require written confirmation. The valid standards for testing and installation, technical guidelines, and acknowledged rules of technology have to be adhered to at all times. The warranty can and is therefore only applied to the quality of our products within the scope of our terms and conditions, not however, for their effective and successful application. This guideline has been technically revised; all previous versions are invalid.

## Suction Angle System with KÖSTER Crisin® 76

### System description

Issued: January 7, 2010

- Official certification report, AMPA, Hanover – damp proofing
- Industry classification "CRISIN" registered at the German patent office, K 50 862
- Capillary rods - German patent Nr. 43 06 687
- CRISIN 76 – German patent Nr. 195 45 879
- Official examination report, Ostfriesland Fachhochschule [Technical College]: Resistance against bacteria and mildew
- Official certification report, MFPA [Material Development and Testing Institute], Leipzig - in accordance with WTA guidelines 4-4-03

## Self-dosing waterproofing against rising damp

### Features

The suction angle system with KÖSTER Crisin® 76, a dissolved synthetic resin which remains flexible after curing and does not decay or decompose, allows for quick and safe waterproofing against rising damp.

The system's most important feature is its special adaptability to the specific requirements of the object at hand.

Using the suction angle system,

- the depth of the drill hole is reduced drastically.
- the actual required drill depth can be exactly calculated and adhered to.
- the horizontal barrier can be placed directly in the horizontal joint between the first and second row of bricks.
- the holes can all be drilled from one side, even in case of greater wall thicknesses.
- time and materials are saved.

### Technical Data

KÖSTER Crisin® 76:

Density	0.76 g / cm <sup>3</sup>
Type of effect	astringent / hydrophobic
Viscosity	1.2 mPa·s (compared to water: 1 mPa·s)
Surface tension	Approx. 24 mN / m (compared to water: 73 mN/m)

### Field of application

For waterproofing against rising damp in brickwork with continuous horizontal joints. Fissures or cavities do not compromise the functionality of the system.

A combination with the cartridge system (angled drill holes) is possible if this is practical and appropriate in certain parts, for example with wooden floorboard supports.

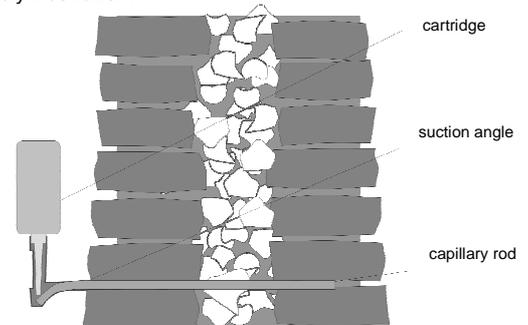
### Application

Drill horizontal holes (14 mm diameter) according to the table overleaf in the lowest horizontal joint with a depth of 5 cm less than the thickness of the masonry and clean the holes by flushing with compressed air or briefly with water.

The length of the capillary rods must be at least 7 cm longer than the depth of the drill hole. Measure and cut the capillary rods accordingly. Now insert the end of the capillary rod into the suction angle's supply tank and then push the capillary rod and the suction angle together into the drill hole so that the suction angle is securely stuck in the hole. The suction angle is reusable.

Now fill the supply tank with water twice in short intervals in order to achieve a rapid swelling of the capillary rods. After about 15 minutes, place the KÖSTER Crisin® 76 cartridge in the suction angle's clamping device, so that the supply tank fills up with KÖSTER Crisin® 76.

Assembly illustration:



Remove the cartridge after approximately 24-48 hours (when completely empty). In cases of high degrees of moisture penetration or in case of very dense building materials, it is possible that a longer exposure time may be necessary.

After applying the injection, the capillary rods can remain in the masonry. Protruding ends can be pulled out and cut off so that the drill holes can be sealed with KÖSTER KB-Fix 5.

### Storage

The material can be stored for approx. 12 months in sealed leak proof containers. Please follow the instructions for the storage of flammable liquids.

### Packaging

KÖSTER Crisin® 76 Cartridge	450 ml cartridge = 28 units / carton
KÖSTER Suction Angle	individual delivery
KÖSTER Capillary Rods (48 cm)	50 units
KÖSTER Capillary Rods (96 cm)	50 units

### Safety

Wear solvent-resistant protective gloves and safety goggles. Please follow the instructions for the storage of flammable liquids.

### Please note

After the application of KÖSTER Crisin® 76, salts which are already present in the substrate can during the drying process

cause efflorescence and have damaging effects. We recommend the application of KÖSTER Polysil® TG 500 and the application of a fresh coat of a KÖSTER Restoration Plaster System.

If cement based systems such as sealing slurries or plasters are to be applied after KÖSTER Crisin® 76 has been applied, then this should be done at the earliest two weeks after the application of the horizontal barrier. If applied earlier, discolourations may occur due to migration of the KÖSTER Crisin® 76. In a few cases where KÖSTER Crisin® 76 in liquid form came into direct contact with bituminous building materials and specific plastics, it softened them.

### Technical guidelines cited

KÖSTER Crisin® 76	Art.-No.	3.08
KÖSTER Polysil® TG 500	Art.-No.	4.011
KÖSTER KB-Fix 5	Art.-No.	5.015
KÖSTER Restoration Plaster Systems	Art.-No.	5.06
KÖSTER Capillary Rods	Art.-No.	11.06

Wall thickness including interior and exterior plaster	Ø drill holes	Drill holes per metre	Distance between drill holes from centre of the hole to centre of the hole (horizontal)	Cartridges per metre	Cartridges per drill hole	Consumption of capillary rods (48 cm)
	[mm]	[unit]	[cm]	[unit]	[unit]	[unit per m]
to 20 cm	14	8	12.5	8	1	4
to 30 cm	14	8	12.5	8	1	5
to 40 cm	14	8	12.5	8	1	7
to 50 cm	14	10	10.0	10	1	11
to 60 cm	14	11	9.0	11	1	14
to 70 cm	14	13	7.5	13	1	20
to 80 cm	14	15	6.5	15	1	26

The information contained in this technical data sheet is based on the results of our research and on our practical experience in the field. All given test data are average values which have been obtained under defined conditions. The proper and thereby effective and successful application of our products is not subject to our control. The installer is responsible for the correct application under consideration of the specific conditions of the construction site and for the final results of the construction process. This may require adjustments to the recommendations given here for standard cases. Specifications made by our employees or representatives which exceed the specifications contained in this technical guideline require written confirmation. The valid standards for testing and installation, technical guidelines, and acknowledged rules of technology have to be adhered to at all times. The warranty can and is therefore only applied to the quality of our products within the scope of our terms and conditions, not however, for their effective and successful application. This guideline has been technically revised; all previous versions are invalid.