

Koster Crisin 76 Concentrate and Koster Crisin Cream

DESCRIPTION

In masonry that is affected by rising damp, moisture is continuously drawn upwards through the capillary action of the wall. The water evaporates on the surface and more moisture follows.

This process will usually lead to an increase in the concentration of salts within and on the surface of a wall.

Most evaporation takes place between the dry top area and the damp lower part of the wall. Often the first signs of damage will appear in this area.

This can show as peeling paint, blown and crumbling plaster or excessive salt contamination. Often the only cure is to install a chemical damp proof barrier and a salt resisting plaster.

Note: Rising damp is the most commonly misdiagnosed form of dampness in buildings. There can be many reasons for high damp readings at the base of a wall, such as leaking gutters, poor/damaged pointing or condensation. A correct diagnosis/assessment by a trained and competent surveyor is important in establishing the most suitable remedial solution.

Koster Crisin systems have been developed to form a physical, flexible barrier within the pore structure in order to combat the rise of capillary moisture within walls. Pores with a radius between 0.1 microns and 100 microns are capillary active and responsible for rising damp. Most damp proof treatments work by hydrophobing the wall. Koster Crisin products are hydrophobic (water repellent), but also contain a synthetic resin that elastically blocks or narrows capillaries to the point where they are no longer active for the passage of water. Both Crisin products have WTA approval for walls with a moisture content of up to 95%.

Koster Crisin 76 Concentrate is a unique, solvent free synthetic resin which can be used regardless of the salt or moisture content of the wall. It will not dilute, nor can its effectiveness be reduced by acids, alkalis or salts held in the wall. Crisin 76 is supplied in cartridges, together with Koster Suction Angles and Koster Capillary Rods. This patented system allows the resin to be drawn into the capillaries of the wall and to spread in a consistent manner, delivering a high dosage of the elastic resin and forming a physical barrier that will last for the lifetime of the building.



Koster Crisin Cream has been developed from the same chemistry as the Koster Crisin 76 Concentrate but in the form of a convenient and easy to use cream. The Koster Cream is solvent free and contains hydrophobing ingredients as well as a capillary narrowing synthetic resin. It can be used in walls that have very high moisture levels and salt contamination. The cream contains 85% active ingredients.

The cream is simply pumped into the boreholes using a sealant gun and left to slowly spread throughout the capillary network, displacing water, hydrophobing and narrowing the water pathways. It does not slump and offers a simplified application technique over the concentrate version.

Preparation (both systems)

It is important to ensure that the area is prepared thoroughly prior to any treatments taking place. You need to install the horizontal barrier (DPC) at a height of approximately 100mm above ground level, normally into a horizontal mortar joint. Checking the height of external or internal ground level is also important.

A suitable preparation would be: -

1. All traces of internal plaster should be removed, as a minimum to 300mm above the last sign of damage or 1.5m – whichever is higher. Ensure the wall is clean and free of salts – brush and vacuum them up.
2. Using the consumption chart in this document, mark out then drill holes using a 14mm drill bit. Drill to the following depths. Crisin
 - Concentrate, bore hole length = wall thickness minus 50mm
 - Crisin Cream, bore hole length = wall thickness minus 30mm
3. The boreholes should be drilled horizontally and not angled.
4. Once all holes have been drilled, remove any debris using compressed air or water. You could also clean mechanically with a wire "bottle brush".

METHOD OF APPLICATION - for Koster Crisin 76 Concentrate

Following on from proper preparation as noted above: -

1. Koster Capillary Rods are installed so that they protrude 7 cm from the borehole. Capillary rods can be cut and joined together using a small piece of wire.
2. The suction angles are installed so that the capillary rods reach into the supply chamber of the Koster Suction Angles.
3. Unscrew the caps of the cartridges and replace with the application nozzles (supplied).
4. The cartridges are then installed into the suction angles. The cartridges can take between 3 and 7 days to empty. If the level in the cartridge stops moving for 24 hours, then the capillaries at that point have reached saturation and no more material is required.

METHOD OF APPLICATION - for Koster Crisin Cream

Following on from proper preparation as noted above: -

1. Cut the end off a Koster Crisin Cream foil pack and insert into a suitable sealant gun (sausage gun) and attach the nozzle. Alternatively use a pump-up sprayer (with the spray nozzle removed) filling as required from a 10 Litre drum.
2. If using a sealant gun, attach the Koster Extension piece (plastic hose) to the nozzle and ensure it is long enough to reach to the end of the bore hole.
3. Starting at the back of the bore hole, slowly inject the Koster Crisin Cream ensuring you are completely filling the hole as you draw the extension piece out.
4. Once the hole is completely full, move on until all holes are filled.

COMPLETION

Regardless of which system you use, following injection works seal up the bore holes using Koster KB Fix 5 – fast setting mortar. Once all injection works have been completed, re-plastering should be done using a hydrophobic and salt encapsulating plaster such as the Koster Restoration Plasters.





CONSUMPTION TABLES

Koster Crisin Cream 600ml Foil Packs		
Thickness of the wall	Amount of Koster Crisin Cream required per metre	Spacing of boreholes
10-20cm	0.27L	10cm
25-30cm	0.42L	10cm
30-35cm	0.50L	10cm
35-40cm	0.58L	10cm
40-45cm	0.65L	10cm
45-50cm	0.73L	10cm
50-55cm	0.81L	10cm
55-60cm	0.88L	10cm
60-65cm	0.96L	10cm
65-70cm	1.04L	10cm
70-75cm	1.11L	10cm
75-80cm	1.19L	10cm

Notes: For part cartridges on thinner walls, the Crisin 76 that's not required should be decanted into a clean container before placing the cartridge. After use the empty cartridges can be refilled with the saved material and placed at another borehole.

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Once you have established the total amount of Koster Crisin Cream required in Litres, divide by the unit size of 0.6 (600ml foil packs) or 10 (10 Litre Buckets) to establish how many packs you need.

Example

- 12m of 43cm thick wall
- $0.65L \times 12m = 7.8$ Litres Required
- Divide 7.8 Litres by 0.6 = 13 x 600ml foil packs

ENVIRONMENTAL

Koster Bauchemie are always exploring new ways to ensure we are as environmentally considerate as possible, through our manufacture, supply, packaging and in our day to day activities. One way we can showcase this is through the Koster Crisin Cream system.

Compared to the old 310ml rigid cartridges, a single 600ml foil pack of the Crisin Cream contains nearly double the material and once used, collapses down to almost nothing.

This means significantly less plastic going to landfill. Koster have also reduced the comparative price of the 600ml foil packs relative to the old 310ml cartridges meaning you can now save money and help the environment at the same time.

Available Materials	Unit Size	Consumption
Main Material		
Koster Crisin 76 Concentrate	200 ml Cartridge	Refer to consumption tables
	5 L or 10 L Drum	
Koster Crisin Cream	600 ml Foil Pack	Refer to consumption tables
	10 L Drum	
Accessories		
Koster Suction Angles	per unit	1 per borehole
Koster Capillary Rods	450 mm long	Dependent on wall thickness
Installation Tool for Capillary Rods	per unit	One per job
Extension for Crisin Cream Cartridges	100 cm long	If Required (long boreholes)
Optional Finishing Materials		
Koster Restoration Plaster Grey/White	25 kg Bag	12kg/m ² /cm layer thickness
Koster Restoration Plaster Key Coarse	25 kg Bag	3kg/m ²
Koster Fine Plaster	25 kg Bag	1.4kg/m ² /mm
Koster Polysil TG500	10 kg Drum	150g/m ²

FURTHER INFORMATION

Please follow these links for videos which may be of interest: -

Rising Damp chemical DPC (damp proof course) - This video demonstrates installation of the Crisin 76 system and ancillary products. N.b. This is the old Crisin 76, rather than the newer Crisin 76 Concentrate, but the application methods are the same. <https://youtu.be/YEy3lvy3pbg>

Rising Moisture and Salt Damage: Use KÖSTER Restoration Plasters - Presented by Paul Osselmann, this gives a technical look at the salt blocking properties of Koster Restoration Plaster. <https://youtu.be/GR2aAsS-4QA>

Restoration Plaster - An insight into the application. <https://youtu.be/x8MzujrITUg>

N.b. They are not using the Restoration Plaster Key Course in this video. Instead they are using the main restoration plaster with the addition of the Koster SB Bonding Emulsion for the Key coat. Either way is acceptable, but the Restoration Plaster Key is much quicker to dry.

Please also seek guidance from the individual materials Technical Data Sheets or speak with a member of the Delta Technical Team.

