DRIZORO® Construction Products

MAXCLEAR® INJECTION

INJECTION SYSTEM FOR WALLS AGAINST RISING DAMP

CE





DESCRIPTION

MAXCLEAR® INJECTION is a solvent-free liquid resin based on siloxanes which once diluted in water it is converted into a water- repellent microemulsion, to provide a highly effective horizontal barrier against rising damp in masonry.

APPLICATION FIELDS

Damp-proof courses injected under gravity or under pressure, for any kind of masonry, both exterior or interior walls, affected by capillary moisture.

ADVANTAGES

- Allows the substrate to breathe, it does not seal the pores.
- Suitable for application in thick walls and high damp content.
- Excellent penetration power in damp substrates.
- It does not produce or release any salts. No aesthetic changes on the original surface.
- Concentrate product, excellent coverage and savings in storage and transport costs.
- Reduces application costs compared to other conventional systems and requires no maintenance.
- Environmentally friendly. It is solvent-free, non-corrosive and non-toxic, improves the working area conditions for operators and occupants.

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- Only requires potable water for diluting.
- Easy to clean.

APPLICATION INSTRUCTION

Substrate preparation

Remove previous render or coatings at least 90 cm. above the highest point of the rising damp level. Eliminate all efflorescences, damaged masonry, loose particles and unsound mortar joint until a good substrate and patch with ***MAXREST***® (Technical Bulletin No. 2). Large cavities and surface voids in the substrate must be sealed also with ***MAXREST***®.

Drills preparation

Drill a horizontal line of boreholes placing intervals of 10-12 cm, depending on the substrate absorption. Holes are drilled in the mortar and in a downward direction at an angle of 30º to 45º for gravity injection or 15º to 30º for pressure injection. The higher wall thickness the lower angle required. In all cases, the borehole must cross at least one horizontal mortar joint, as this is where ***MAXCLEAR***® ***INJECTION*** achieves the best dispersion once injected. Drill length must be approx. 5 cm shorter than wall thickness.

For applications where the wall is thicker than 1 m, drill the holes from both sides of the wall. Remove dust and traces inside the boreholes with air pressure before the injection.

For non-homogeneous substrates full of voids and cavities or extremely porous, a fine fluid mortar such as ***MAXGROUT***® ***INJECTION*** (Technical Bulletin No. 151) should be injected previously as a filler and sealer. Insert a stick to open up the boreholes before the initial setting time of the mortar (approx. 30 minutes), in order to allow later ***MAXCLEAR***® ***INJECTION*** penetration.

Micro-emulsion preparation

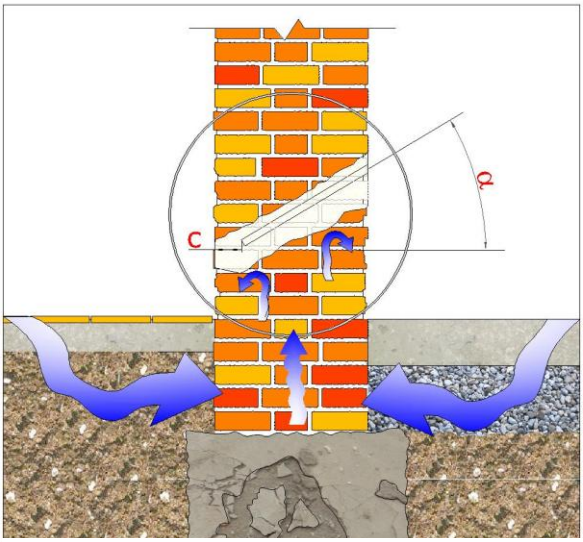
Prepare a dilution ***MAXCLEAR***® ***INJECTION***: potable water with a ratio between 1:15 to 1:20. Pour ***MAXCLEAR***® ***INJECTION*** into water. The microemulsion must be injected on the same day that is prepared.

Gravity injection method

Insert suitable feeding recipient such as funnel-shaped feeders into the boreholes. Re-fill the feeders, wet on wet, until the complete saturation of the substrate.

Pressure injection method

This is the most suitable method to achieve the better dispersion and ensure the total saturation of the substrate, and it will be used when the damp content in substrate exceeds 50 %. Coat with ***MAXSEAL***® ***FLEX*** (Technical Bulletin No. 29) below the injection level and 20 cm above to avoid ***MAXCLEAR***® ***INJECTION*** coming out from cracks and pores.



α: 30º to 45º Gravity injection method
α: 15º to 30º Pressure injection method
C = 5-7 cm aprox.

Figure 1. Section wall

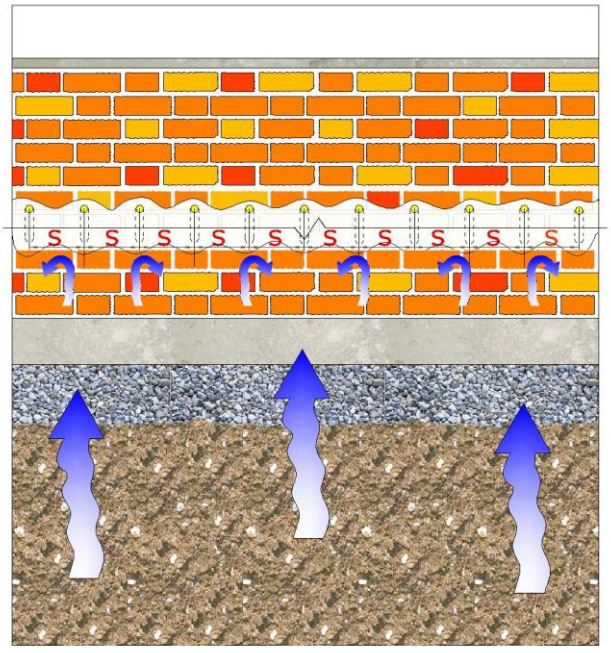


Figure 2. Front view

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MAXCLEAR® INJECTION

Injection is carried out with a pump through suitable injection packers inserted into the holes, at a pressure of 3-20 bars, and allowing 5-10 minutes to elapse. The pressure will vary depending on the strength, porosity, saturation degree of the substrate. It is advisable to use lower pressure but allowing a longer injection time.

In case of high damp content (>80 %) to speed up the activation of ***MAXCLEAR® INJECTION***, it can be injected 1 or 2 days later ***MAXCLEAR® INJECTION CAT***, thus a faster build-up of the water-repellent barrier is achieved. The same equipment can be used for this purpose.

Repairing drills
The boreholes can be filled with ***MAXGROUT® INJECTION*** after 3-4 days.

Application conditions
Do not apply when the substrate and/or ambient temperature is below 5°C, or if temperatures are expected to fall below this within 24 hours of application. Similarly, do not apply to drill holes filled with water.

Curing and application of mortars
For providing a mortar finish, 14 days after the injection, a macroporous mortar such as ***THERMOSAN®*** (Technical Bulletin No. 84), can be applied with its waterproof and decorative finish ***THERMOSAN® -F*** (Technical Bulletin No. 85), both suitable for masonry affected by rising damp. Lower temperatures and/or higher relative humidity levels will prolong the curing time.

Cleaning
Use water to clean tools and equipment immediately after the injection works. Once it has set, it can only be removed by mechanical means.
Clean the surface of the substrate with water if ***MAXCLEAR® INJECTION*** leaks through the pores during injection, so as not to compromise the adhesion of subsequent render coats.

CONSUMPTION

The estimated consumption of ***MAXCLEAR® INJECTION*** is from 20 to 40 liters microemulsion ***MAXCLEAR® INJECTION:***water per square meter of cross-section is needed. For example, a 1 m length of wall and 1 m thickness and boreholes spaced 10 cm would require from 2 to 4 liters of microemulsion per borehole (0,125-0,250 kg pure ***MAXCLEAR® INJECTION*** diluted with a ratio 1:15).

The consumption for ***MAXCLEAR® INJECTION CAT*** is 10 % of microemulsion used.

Consumption may vary depending on the porosity, degree of saturation and condition of the substrate, as well as the method of application. Carry out an on-site test to determine the exact amount required.

IMPORTANT INDICATIONS

- Do not add any agents or solvents that may affect the product's properties.
- Use the recommended amounts of water to form microemulsion.
- Do not use dilution ***MAXCLEAR® INJECTION:***water with more than one day prepared.
- Adhere to the recommended minimum and maximum consumption levels.
- Do not mix different products in the injection pump before cleaning it thoroughly with water.
- For any application not specified in this Technical Bulletin, or for further information or enquiries, please contact the Technical Department.

PACKAGING

MAXCLEAR® INJECTION is available in 5 and 25 kg drums.

STORAGE

Twelve months in its original, unopened and undamaged packaging. Store in a cool, dry place, protected from damp, frost and direct sunlight, at temperatures above 5°C.

SAFETY AND HEALTH

MAXCLEAR® INJECTION This is a flammable product and all standard precautions regarding the handling, transport, storage and application of this type of chemical must be observed. Do not smoke in the work area and ensure adequate ventilation to prevent the build-up of vapors. Although the product is not toxic in its composition, contact with the skin and eyes must be avoided. Wear gloves and safety goggles when handling and applying the product. In the event of skin contact, wash the affected area with soap and water. In the event of splashes or contact with the eyes, rinse with plenty of clean water without rubbing. If irritation persists, seek medical attention. Safety Data Sheet for ***MAXCLEAR® INJECTION*** is available by request.

The final user must do disposal of the product and its empty container according to official regulations.

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TECHNICAL DATA

Product characteristics	
CE Marking, EN 1504-2 Description. Water-repellent treatment by injection, either by gravity or under pressure. Hydrophobic impregnation (H). Principles / Methods. Protection against penetration (1/1.1), moisture control (2/2.1) and increasing resistivity by limiting moisture content (8/8.1)	
General appearance and colour	Amber liquid
Density, (g/cm^3)	0,95 ± 0,05
Active principle content, (%, in weight)	100
Solvent content, (%,in weight)	0
Viscosity using a No. 4 Ford cup, (s)	15
Dilution ratio (product:water)	1:15 to 1:20
Flash point, (°C)	25
Toxicity	None
Corrosiveness	None
Application and curing conditions	
Application temperature for the substrate and ambient conditions, (ºC)	> 5
Waiting time before injection of ***MAXCLEAR® INJECTION CAT***, (d)	1-2
Curing time for mortar application at 20°C and 50 % R.H., (d)	14
Cured product characteristics	
Degree of penetration, UNE-EN 14630	Class II: ≥ 10 mm
Water absorption and alkali resistance, UNE-EN 13580	Degree of absorption (AR): 4,7 % Degree of absorption (AR alk): 5,6 %
Drying rate, UNE-EN 13579	Class I: 47 %
Consumption*	
Estimated consumption (litres of microemulsion per square metre of wall area)	20 - 40

* Consumption may vary depending on the porosity, degree of saturation and condition of the substrate, as well as the method of application. Carry out an on-site test to determine the exact figure.

GUARANTEE

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