

MasterJoint® 50I

Cement Based Capillary Crystalline Waterproofing Material

Material Description

MasterJoint® 50I is a cement based capillary crystalline waterproofing material that is applied against surface waters in old and new structures from negative and positive directions.

Complies with EN 1504-2

Areas of Application

- Indoor and outdoor areas for vertical and horizontal applications
- Waterproofing of foundations and curtain walls
- Water tanks
- Tunnels
- Elevator pits
- Supporting walls, dams and harbors

Characteristics and Benefits

- Easy to prepare and apply.
- Applied by brush.
- Long working time.
- MasterJoint® 50I fills the capillary gaps by forming permanent (insoluble) crystals and enables water impermeability.
- Protects concrete.
- Resistant to negative and positive water pressure.
- Water vapor permeable.

Processing Method

(A) Preparation of Substrate

Application substrate must be dry, sound mainly smooth, clean and fine pored, free from honey combs, voids, cracks, ridges, dust, tar, pitch forming oil, old paint and other bond breaking residues. Wooden or iron wedges must be removed from the surfaces and active water leakages must be prevented with MasterJoint® 59I. Voids and hollows must be filled with MasterJoint® 59I or MasterCrete® S88 C. On vertical and horizontal corners fillet with min. 4 cm radius must be applied. Substrate must be dampened before application. If the coating loses its water rapidly, this means that substrate is not dampened enough. For the applications in hot and windy environment, only for the first coat, mixing water can be increased 10% at the recommended mixing water ratio.

(B) Mixing

MasterJoint® 50I powder in a clean mixing container. Add recommended amount of water while mixing with a 400-600 RPM mixer at least for 3-6 minutes until a homogenous and uniform mixture is obtained. After waiting for 3-6 minutes, mix again for approximately 30 seconds and it becomes ready to use.

Technical Properties

Structure of the Material	Mineral Fillers and Special Cement	
Color	Grey	KR
Substrate Temperature	+5°C +30°C	
Service Temperature	-20°C +80°C	
Maturity Period	3-6 minutes	
Pot Life	20 minutes	

Typical values are obtained from the test results in 23°C and 50% relative humidity conditions. High temperatures shorten the curing and working time, lower temperatures extends the durations.

- Resistant to freeze-thaw cycle.

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MasterJoint® 501

Cement Based Capillary Crystalline Waterproofing Material

Mixing Ratio

MasterJoint® 501	Application with Brush
Mixture Water	6,00 liter
Density of Mixture	2,00 kg/liter

(C) Processing

Apply MasterJoint® 501 with brush on the dampened substrate. When the first layer sufficiently cured apply the second coat. This period may change between 3 to 5 hours depending on environmental temperature. Application period between each layer must be less than 6 hours.

Curing

After MasterJoint® 501 application, material must be protected from losing its water rapidly. Do not use curing compounds. MasterJoint® 501 must be kept wet for 5-7 days. In water tanks, 24 hours after MasterJoint® 501 application, water tank must be filled with water to increase crystal formation period and penetration depth.

Consumption

First Coat: 1.00 kg/m² powder product
Second Coat: 1.00 kg/m² powder product

Point to Consider

- Wait for the appropriate ambient and substrate temperature if it is less than 5°C or more than 30°C.
- Do not apply MasterJoint® 501 under the rain or prediction of rainy weather.
- Application must be protected from direct sun light, wind, frost or rain in 24 hours.
- MasterJoint® 501 applied in +23°C gains mechanic strenght after 1 day, becomes impermeable to water after 7 days and gains final strength after 14 days.

- Working times of cement based systems are affected from environmental and surface temperatures and relative humidity in the air. In low temperatures the reaction slows down and this increases working period and working time. High temperatures accelerate the reaction and the periods stated above decrease depending on this. In order to complete the curing of material, environmental and surface temperatures must not decrease below the minimum allowed temperatures.
- Prepared material must be used in 20 minutes.
- If any coating will be made on MasterJoint® 501, consult MBT Teknik Yapı Kimyasalları San. ve Tic. A.Ş. Technical Service.

Cleaning of Tools

All the tools and equipments must be cleaned by water after the application. After MasterJoint® 501 is hardened, it can only be removed from the surface mechanically.

Packaging

20 kg polyethylene reinforced kraft bag.

Shelf Life

6 months after the production date under appropriate storing conditions. Opened packages have to be stored by tightly sealing the bag/cover and must be used in one week.

Storage

Must be stored in unopened original packing, and in cool and dry environment protected from freezing. In short-term storing, maximum 3 palettes can be stowed on top of each other and delivery has to be according to first in first out system. In long-term storing, the palettes must not be stowed on top of each other.

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Health and Safety

It is dangerous to approach the application sites. During the application, a protective apparel, protective gloves, goggles and masks which comply with the Occupational Health and Safety Rules should be used. Due to the irritation effect of the uncured materials, the mixture should not come into contact with skin and eyes; in case of a contact, the affected area should be washed with plenty of water and soap; in case of swallowing, a physician should be consulted immediately. No food or beverages should be brought to the application area. The product should be stored and kept out of reach of children. For detailed information please consult the Material Safety Data Sheet.

Disclaimer

The technical information given in this publication is based on the present state of our best scientific and practical knowledge. MBT Teknik Yapı Kimyasalları Sanayi ve Ticaret A.Ş. is only responsible for the quality of the product MBT Teknik Yapı Kimyasalları Sanayi ve Ticaret A.Ş. 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.

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MasterJoint® 501	
TS EN 1504-2:2004	
Nem kontrolü 2.2, Artan direnç 8.2	
2.2 Moisture control, 8.2 Increasing resistivity	
Beton için yüzey koruma sistemleri	
Surface protection systems for concrete	
Kaplama uygulaması	
Coating application	
Kapiler Su Emme ve Su Geçirgenliği (Capillary Absorption and Permeability to water)	w<0,1 kg /m ² .v/h
Su Buharı Geçirgenliği (Permeability of water vapour)	Sınıf I (Class I)
Çekip koparma deneyi yoluyla yapışma dayanımı (Adhesion strength by pull-off test)	Rijit sistemler trafik yükü olmadan: ≥1 N/mm ² Rigid systems without traffic load
Yangına karşı tepki (Reaction to fire)	A1
Tehlikeli maddeler (Dangerous substances)	Maddeler 5.3'e uygun (Comply with clause 5.3)

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