MasterJoint™ 6100 FX

Cement Based, One Component Elastic and Flexible Waterproofing Membrane

Description of Product

MasterJoint™ 6100 FX is a single component, cement based, elastic and flexible lightweight membrane for waterproofing and concrete protection. **MasterJoint™ 6100 FX** is composed of specially selected cements, lightweight fillers, sand and special polymers in powder form.

TS EN 1504-2

Areas of Application

- For interior and exterior application
- As a waterproof lining for water retaining structures
- External waterproof lining for reservoir roof applications
- To provide foundation protection
- To protect concrete surfaces from carbonation andchloride attack
- For areas constantly submerged in water

Characteristics and Benefits

- One-component formulation with high elastic properties:Only needs to mix with water. Reduces storage andtransport costs as well as packaging waste.
- Elastic down to -10 °C: High durability and protection withreduced cracking due to embrittlement.
- Low density/Lightweight formulation: Low consumptionproviding high yield (more than 50% compared to ordinarywaterproofing slurries) and time saving in application.
- Rapid curing: Allows early serviceability. Tanks can befilled after only 3 days.
- Waterproof at 2 mm thickness: Resists up to 5 bars (50meter head) of water pressure.
- Excellent adhesion
- Elasticity maintained in immersion
- Breathable: Water vapor permeable.
- High resistance to carbon dioxide diffusion:
- Protectsconcrete from rebar corrosion. A 1mm coating provides anti-carbonation cover equivalent up to 40 cm ofconcrete.
- Sulphate resistant
- No ammonia smell: Can be applied in closed spaces.
- Reduced efflorescence appearance risk
- UV resistant, light grey and white versions available: can be used as final coating in exterior applications.
- Contributes to LEED credits: contains more than 5%of recycled material.

Processing

(A) Surface Preparation

Surfaces must be clean, sound and free of oil, grease and other contaminants. Carefully remove all loose particles and dust. All substrate coatings, defective renders, formwork treatments and other previously applied materials that may affect the bond adversely should be removed. Plug active leaks with **MasterJoint™ 591**. Chamfer must be done with **MasterCrete™ S88 C** If the coating material immediately loses its water and gets a matt appearance during the application, it is understood that the surface is fast drying or not sufficiently wet.

Concrete, cementitious substrates

Prepare the surface by grinding, sandblasting, or wire brushing. Remove remaining dust and particles by suitable measures such as the use of compressed air. Repair any damaged concrete with a suitable **MasterCrete™ S** mortar.

Masonry Prepare the surface by wire brushing. Remove remaining dust and particles by suitable measures such as the use of compressed air. The necessary joint repairs should be repaired with **MasterCrete™ S** structural repair mortars.

(B) Mixing

MasterJoint™ 6100 FX is supplied in pre-measured units and should be mixed on site in clean containers. Blend 15 kg of powder into approximately 5.6 litres

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(maximum 6.2 l) of water using a paddle mixer attachment in a slow-speed drill (400 – 600 rpm). Mix until a thick, batter-like consistency is obtained.
Leave **MasterJoint™ 6100 FX** to stand for 1 – 2 minutes to allow full saturation to take place. Re-mix, adding a small quantity of water, if required to restore the consistency.
Do not mix more material than the quantity which can be used in 45 minutes.
For the first coat, additional 0.5 litre per bag can be added to the mixture. Do not exceed 6.4 litres water addition per bag.

(C) Application

MasterJoint™ 6100 FX can be applied by brush or trowel. Always apply the mix to a pre-dampened surface. High suction substrates require more dampening then dense substrates. However, make sure there is no freestanding water.

First Coat

The first coat MUST be worked into the substrate with a stiff brush, while still wet, to ensure an intimate bond to the substrate. Care must be taken not to spread the material too thinly. When the material begins to drag or “ball”, do not add more water, but dampen the substrate again. Allow at least 2 hours (can be up to 5 hours, depending on application conditions) to cure before applying a second coat.

Second Coat

Dampen the first coat and remove excess moisture. Brush or broom the mix onto the surface (as above), finishing in the opposite direction to the previous coat. To improve the aesthetic appearance an additional layer can be applied by spray, eventually sponge floated to give a uniform surface.

Cleaning of Tools

Cleaning tools and spillages can be done with water, while the material is still fresh and uncured.

Packaging

MasterJoint™ 6100 FX is available in 15 Kg bags.

Coverage

Approximately 1.2 Kg of mixed product (approx. 0.9 Kg of powder product) per m^2 and mm of thickness.
For a 2 mm thickness application, this means that one bag of 15 Kg covers approx. 8 m^2.
Consumption is influenced by the roughness of the substrate. On rough substrates the quantities required will increase significantly. In these cases, to obtain real consumption calculation based on in-situ tests might be required.

Points to Consider

- Do not apply at temperatures below +5°C nor above +35°C.
- Do not apply **MasterJoint™ 6100 FX** to frozen substrates or if the ambient temperature is below +5°C or expected to fall below +5°C within 24 hours.
- Avoid application in direct sunlight.
- Do not mix with cement, sand or other materials that can alter product performance.
- Under no circumstances should MasterSeal 6100 FX be re-tempered by the later addition of water.

Storage

MasterJoint™ 6100 FX should be stored under cover and clear off the ground. Protect the materials from all sources of moisture and do not store at temperatures over +30°C.

Shelf Life

12 months in unopened original bags.if stored at above mentioned storage conditions.

Health and Safety

In case of contact with eyes, immediately flush with Usual preventive measures for the handling of chemical products should be observed when using

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this product, for example do not eat, smoke or drink while working and wash hands when taking a break or when the job is completed. Specific safety information referring the handling and transport of this product can be found in the Material Safety Data Sheet. For full information on Health and Safety matters regarding this product the relevant Health and Safety Data Sheet should be consulted. Disposal of product and its container should be carried out according to the local legislation in force. Responsibility for this lies with the final owner of the product.

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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Product Data			
Property	**Standard**	**Unit**	**Data**
Density of mixed material	EN 1015-6	g/cm³	approx. 1.2
Mixing water	-	l/bag	5.6-6.2 (0.38 – 0.41 l/Kg)
Mixing time	-	minutes	Approx. 3
Maturing time	-	minutes	1 - 2
Workability time	-	minutes	Approx. 45 (+20ºC) Approx. 30 (+30ºC)
Applicable thicknesses	-	mm	2 (up to 5 for reprofiling)
Application temperature (substrate and material)	-	°C	from +5 to +35
Service temperature	-	°C	from -20 to +60
Exposure to mechanical loads after	-	days	3
Exposure to water pressure after	-	days	3
Tensile strength 28 days	EN ISO 527-1/-2	Mpa	1,6
Elongation 28 days	EN ISO 527-1/-2	%	29 (dry storage)
Capillary water absorption	EN 1062-3	$Kg/m^2h^{0,5}$	0,02
Positive side waterproofing	EN-12390-8	bar	up to 5 (2mm thickness)
Negative side waterproofing	based on UNI 8298-8	bar	up to 2.5 (2mm thickness)
Static crack bridging:	EN 1062-7	mm	up to 2.0 (+20°C) up to 0.6 (-10°C)
Static crack bridging with conditioning	EN 1062-7 EN 1062-11	-	A4 (+20°C) A3 (-10°C)
Dynamic crack bridging with conditioning	EN 1062-7 EN 1062-11	-	B 3.1 (+20°C) B 3.1 (-10°C)
Water vapour permeability	EN ISO 7783-1/2	S_D	1.3 m (Class I, required < 5 m)
CO2 permeability	EN 1062-6	S_D	104 m (required > 50m)
Adhesion strength	EN 1542	N/mm²	2,0
Adhesion strength after freeze-thaw cycles (50) with de-icing salts and Thunder Shower cycling (10)	EN 13687-1 EN 13687-2	N/mm²	1,7
Abrasion resistance	EN ISO 5470-1	mg	1150 (required < 3000 m)
Impact resistance:	EN ISO 6272-1	Nm	5 (Class I, required > 4)
Resistance to salt solutions:			No change observed in the product after 175 days of permanent immersion
Synthetic seawater	based on DIN 50905-4	-	
Salt mix solution 30 g/l NaCl, NaNO3, and NA2SO4	based on WTA-Merkblatt	-	
KJ solution (10 g/l)	-	-	
NaSO4 solution	based on Wittekindt-process	-	
Tap water	-	-	

Note: *Hardening times are measured at 21°C ± 2°C and 60% ± 10% relative humidity. Higher temperatures and/or higher R.H. can shorten these times, and vice versa. Technical data shown are statistical results and do not correspond to guaranteed minima. Tolerances are those described in appropriate performance*