FIBROMIX 40

PRODUCT DESCRIPTION

FIBROMIX 40 is a fibre-reinforced thixotropic mortar with medium modulus of elasticity and controlled shrinkage, ideal for the structural repair of reinforced concrete.

UNI EN 1504-3
CLASSE R4

PRODUCT APPLICATION

- To reinforce and repair reinforced concrete structures such as columns, beams and floors
- To repair walls
- To repair exposed and prefabricated concrete walls
- To repair viaducts and dams

ADVANTAGES

- High impermeability
- Good resistance against the aggression of atmospheric chemical agents
- Excellent adhesion to concrete and reinforcement bars
- Light colour
- Excellent thixotropy that allows the product to be applied without formwork
- Easy processing and quick spray application

PREPARATION AND APPLICATION

Preparing the surfaces

Perfect adhesion of the product to the surface, which is absolutely necessary to ensure repair resistance, depends on the quality of the surface preparation on which the mortar is to be applied. Therefore, the following steps must be carried out in advance:

- Carefully remove all deteriorated parts by sand-blasting or bush-hammering
- Roughen the surface, removing any film or cement slurry
- Clean each exposed reinforcement bar from rust and apply protective SANOFER (see relative data sheet) on the cleaned bars
- Thoroughly soak the surfaces with water, keeping them damp from when the application process begins

Preparing the mixture

The preparation of the mixture should be done according to the following method:

- Pour the mixing water into a mortar mixer (4÷4.5 l per bag equivalent to 16÷18% in weight)
- Slowly add the product while the mixer is on
- Mix the mixture for approximately 3 minutes, then check its workability. If necessary, add a little water to adjust the workability (small variations in added water will not alter the characteristics of the product)
- Continue mixing the mixture for another 3 minutes

Mixing in a concrete mixer or with a planetary mixer is possible as an alternative, while complying with the above instructions.

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Application
Apply FIBROMIX 40 with a trowel or a brush in layers that do not exceed 3 cm.
Wait at least 60 minutes between one layer and another when thicker layers are applied; it is recommended to roughen the surface of the base layer in order to optimise the grip of the next layer.
In case of applications on large surfaces, use a reinforcing mesh, fixed with anchoring to the support or by means of CONNETTORE 20 (see relative data sheet).

Sprayed application
The product can also be applied with a plastering machine with levelling wand after separately mixing the product, or also with a continuous mixing plastering machine equipped with an adjusting flow meter (for more information contact the Volteco Technical Service).
In this case, always follow the previous application indications.

Finishing
FIBROMIX 40 finishing can be carried out with a sponge float when the mortar begins to harden.
Following the float finish, and in any case not before a minimum of 24 hours after product application, FIBROMIX 40 can be finished directly with CP SYSTEM, X-LIME (see relevant technical data sheets) or a suitable finishing product/system.




References available at www.volteco.com

CONSUMPTION AND YIELD

18 kg/m^2 per centimetre of applied thickness.
A bag of FIBROMIX 40 yields about 14 l of mortar.

PACKAGING AND STORAGE

FIBROMIX 40 is packed in 25 kg bags.
The products must be stored in a dry area protected from sunlight, humidity and from temperatures below 5°C.
FIBROMIX 40 in the original packaging has a storage time of 18 months

WARNINGS - IMPORTANT NOTES

No water is to be added to prolong the pot life of FIBROMIX 40.
In the presence of a high temperature or wind, keep the surface damp so as to guarantee a proper curing process.
When applying the product on large surfaces (> 9 m^2), set-up sectioning joints across the overall thickness.
The preparation and installation data refer to normal environmental conditions (temperature +20°C; relative humidity 60%).

PHYSICAL AND TECHNICAL SPECIFICATIONS

Specification	Values
Appearance	grey powder
Mixture consistency	thixotropic
Application temperature	from +5°C to +30°C
Workability time at +20 °C	20'
Maximum aggregate size	1.2 mm
Mixture ratio	100 parts powder 16-18 parts liquid
Specific weight	< 2.2 kg/l

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Feature	Test method	Performance requirements UNI EN 1504-3 Class R4	Declared performance (*)	Certified performance (**)
Shrinkage	-	-	controlled	-
Flexural strength after 1 day *after 7 days* *after 28 days*	UNI EN 196-1 UNI EN 196-1 UNI EN 12190	-	> 4.5 MPa > 5.5 MPa > 6.5 MPa	 8.3 MPa
Compressive strength after 28 days	UNI EN 12190	≥ 45 MPa	> 45 MPa	55.6 MPa
Chloride ions content	UNI EN 1015-17	≤ 0.05%	-	0.00%
Adhesion to the concrete	UNI EN 1542	≥ 2.0 MPa	> 2.0 MPa	2.03 MPa
Compressive modulus of elasticity after 28 days	UNI EN 13412	> 20 GPa	-	27.5 GPa
Resistance to carbonation	UNI EN 13295	dk < control concrete (0.45 MC)	-	fulfilled requisite
Capillary absorption coefficient	UNI EN 13057	≤ 0.5 $kg*m^{-2}*h^{-0.5}$	< 0.4 $kg*m^{-2}*h^{-0.5}$	0.03 $kg*m^{-2}*h^{-0.5}$
Thermal compatibility Part 1 (adhesion after 50 un/freezing cycles)	UNI EN 13687-1	≥ 2.0 MPa	-	2.57 MPa
Thermal compatibility Part 2 (adhesion after 30 thunder cycles)	UNI EN 13687-2	≥ 2.0 MPa	-	3.46 MPa
Thermal compatibility Part 4 (adhesion after 30 dry thermal cycles)	UNI EN 13687-4	≥ 2.0 MPa	-	2.63 MPa
Slipping resistance	UNI EN 13036-4	Class I: >40 units with wet test Class II: >40 units with dry test Class III: >55 units with wet test	-	Dry: class II Wet: class I
Reaction to fire	UNI EN 13501-1	Classification	-	Euroclass A1

The quoted data are obtained in a laboratory at +20 °C and 60% RH.
* Performance thresholds guaranteed by VOLTECO
** Performance values certified by accredited third parties

SAFETY

Refer to the related Safety Data Sheet.

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VOLTECO S.p.a
Via delle Industrie, 47 - 31050 Ponzano Veneto (I)

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FIBROMIX 40
Structural and non-structural repairs: CC repair mortar for the restoration of concrete, structural strengthening and the preservation or restoration of passivity

Reaction to fire: Class A1
Compressive strength: Class R4 ≥ 45 MPa
Chloride ions content: ≤ 0.05%
Adhesion: ≥ 2.0 MPa
Resistance to carbonation: dk ≤ concrete ref. (MC 0.45)
Modulus of elasticity: ≥ 20 GPa
Thermal compatibility:
• Part 1: Un/freezing cycles: ≥ 2.0 Mpa
• Part 2: Thunderstorm cycles (thermal shock): ≥ 2.0 MPa
• Part 4: Dry cycles: ≥ 2.0 MPa
Slip resistance: dry class II; wet class I
Capillary absorption: ≤ 0.5 $kg*m^{-2}*h^{-0.5}$
Hindered shrinkage/expansion: NPD
Coefficient of thermal expansion: NPD
Hazardous substances: See SDS

In case of translation text may contain technical and linguistic inaccuracies.

LEGAL NOTES

Note for buyer/installer:
This document prepared by Volteco S.p.A. is provided as an aid and guideline for the buyer/installer.
This does not take into consideration the details of each single operational context, for which Volteco S.p.A. will not be held liable.
This does not change and does not extend the obligations of Volteco S.p.A.
It may vary and the installer is therefore required to update his/her information prior to each application by referring to www.volteco.com.
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