

Kimitech BS ST 400

ST7-0324



Basalt fiber reinforcement fabrics for FRCM reinforcements



DESCRIPTION

Kimitech BS ST 400 is a bi-directional basalt fiber reinforcement fabric specific for structural reinforcements; it is used with mortars from the Basic line for structural consolidation of reinforced concrete elements, reinforced concrete, prestressed concrete, wood and masonry. They are characterized by high mechanical strength, reduced thickness and weight, speed and ease of installation even in emergency work, reduced invasiveness and good reversibility, great workability and ductility, excellent resistance to stray currents, solvents, acids. Kimitech BS ST 400 is part of Kimitech BS ST 400 SYSTEM which got the CVT n. 207.

USES

Kimitech BS ST 400 is used for structural and non-structural consolidations of r.c. elements and masonry. It is particularly suitable for reinforcing bent elements, improving shear resistance of beams, pillars and walls or create connection between masonry elements.

WORKS

- Structural reinforcement with FRCM system using basalt fiber mesh Kimitech BS ST 400 and NHL-based mortar Basic MALTA M15/F. (SA125)

APPLICATION

Please refer to the technical sheets of the materials to be used.

Once the surface has been prepared, the fabric will be incorporated in the chosen mortar for the FRCM reinforcement.

PACKAGING

Rolls: Width 160 cm, length 25 m.

STORAGE

Fabrics fear humidity. Store in a dry place, no direct light.

Basalt characteristics	Value
Density ρ_{fib} [g/cm ³]	2,67
Tensile elastic modulus E_{fib} [GPa]	≥ 87
Characteristic tensile strength of the yarn f_{fib} [MPa]	≥ 3000

Mesh characteristics	Value
Total weight [g/mq]	445
Pre-impregnation weight [g/mq]	58
Weaving	Bidirectional
Mesh size	20 x 20 mm
Mesh thickness [mm]	1,15
t_f^* [mm]	0,065
Resistant area* [mmq/m]	65
Tensile elastic modulus E_{fib} [GPa]	92700
Characteristic tensile strength of the mesh [MPa]	1469
Characteristic tensile strength of FRCM system [MPa]	1535
Tensile load in weft direction [KN/m]	95,49
Tensile load in warp direction [KN/m]	95,49
bf [mm]	1000

* Referred to each weaving direction

WARNING

Product intended for professional use.

The product is an item according to the definitions of Regulation (EC) n. 1907/2006 and therefore does not require a Safety Data Sheet.

The marking obligations are not related to the intrinsic nature of a given product, but to the use of the specific material: before placing the orders, it will be the customer's responsibility to submit all the available documentation to the construction supervision in order to explain the suitability of the materials (in terms of certifications and performance) in relation to the use to which they are intended.

The information and requirements indicated in this Technical Data Sheet are based on our current knowledge and experience and are to be considered, in any case, purely indicative. They cannot guarantee the final result of the applied product and they have to be confirmed by exhaustive practical applications; therefore the user must test the

suitability of the product for the intended application and its purpose. Users must always refer to the latest version of the local technical data sheet related to the product.

TECHNICAL SPECIFICATIONS

SK125 - Structural reinforcement with FRCM system using basalt fiber mesh Kimitech BS ST 400 and NHL-based mortar Basic MALTA M15/F.

Demolition of existing plaster and loose parts and scarification of joints. Washing and wetting of the surface till SSD conditions are obtained. Possible reconstruction of missing or particularly damaged masonry parts.

On a SSD masonry surface, apply a first coat of a lime-based mortar like Basic M15/F produced by Kimia S.p.A. or a similar product.

Installation of Kimitech BS ST 400 mesh, (to cut the mesh at the openings use shears and/or construction cutters or angle grinder), partially incorporating it into the fresh mortar of the first coat applied before, overlapping the mesh strips for about 15 - 20 cm in order to guarantee mechanical continuity.

The basalt fiber mesh will be applied and prepared accordingly to information reported in the correlated TDS issued by the producer, furthermore this composite mesh shall ensure technical characteristics as following: Weight: 445 g/m²; Load capacity in warp direction [KN/m]: 95,49; Load capacity in weft direction [KN/m]: 95,49; Tensile elastic modul [Gpa]: 92700; Mesh size [mm]: 20 x 20.

Application of a second coat of a lime-based mortar like Basic M15/F produced by Kimia S.p.A. or a similar product, for a total thickness of 1 cm for the FRCM system (initial rough coat to prepare the surface is not included).