

HFE-tec® ECC 1200 THIXO

High Fracture Energy Technologies ECC – Engineered Cementitious Composites

Description HFE-tec® ECC 1200 THIXO is a special cementbased composition reinforced with polymer fibres **FIB-energy®** with a very high elastic modulus. The deformation capacity of this product is about 500 times more than a standard cementbased product. Once this product is mixed with water, it is very tixotropic.

Components HFE-tec® ECC 1200 THIXO consists of two components:

- Bag of compound in powder form 25 Kg
 - Bag of FIB-energy® fibres 0,6 Kg
- Mixed with this amount of water: Kg 6,5 ÷6,9

Use HFE-tec® ECC 1200 THIXO is used for applications that need to absorb large deformations, without failure:

- Structural elements in seismic areas (pillars and other structural elements).
- Joints (ductile link slabs on bridges and viaducts, ductile walls).
- Repair of structures that have to be able to absorb heavy loads without failure or fracture.
- To make elements suited to measure static or dynamic loads through the monitoring of deformations.
- Continues layer without joints.

Application method Support should be sound, dry, cleaned, dust free, without loose parts, oil or greases, and sufficiently rough.

Environment temperature $\geq 5^{\circ}\text{C}$.

Mixing with horizontal mixer with vertical axes or per single bag in a bucket with high efficiency mixer.

Mix the powder with water for at least 3 minutes and until homogeneous.

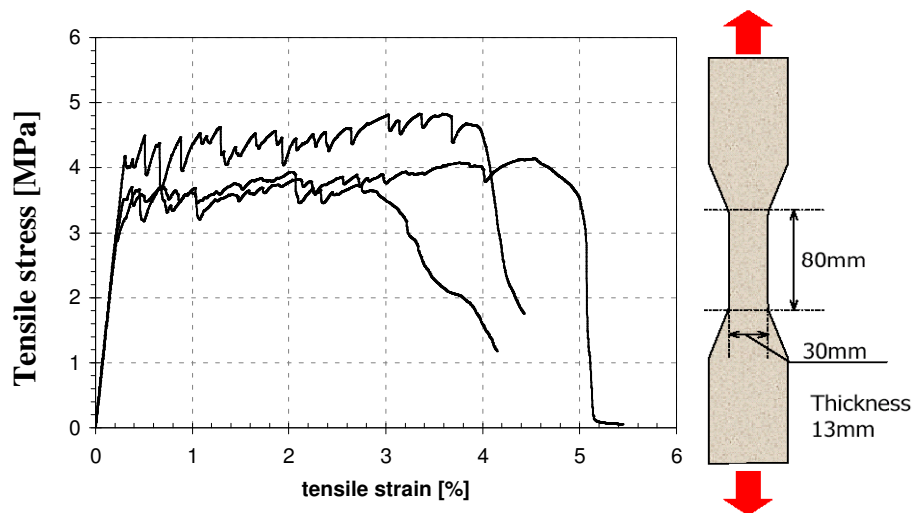
The fibre FIB-energy® needs to be added slowly during the mixing to obtain optimal dispersion and perfectly homogeneous mix.

The application shall be done by casting and levelling by vibrating rule, or by manual application.

Technical characteristics (typical values)

- Maximum aggregate: 0,1 mm
- Working time 20 °C: 50 min.
- Initial setting: 60 min.
- Density mix: 1,65 ÷ 1,80 Kg/lt
- Compression resistance 28 days: 25÷30 MPa
- Flexural strength: 19÷22 MPa
- Elastic modulus 28 days: 9,5 GPa
- Fracture energy (ductility) at 28 days: ~ 200.000 N/m

Deformation capacity under tensile strain directly:



Remarks INFORMATION ACCORDING TO 2003/53/CE.

Storage: 12 months, in original packaging, not opened, stored in dry and protected environment, at temperature between +5 °C and +35 °C. Do not use the product if you notice powder lumps. FIB-energy[®] fibres do not have a limited durability. Follow all warnings and precautions normally used for cement-based products. Read the warnings on the packaging and Material Safety Data Sheet.

The above data are based on our actual and most experienced practical and laboratory knowledge and the results are collected from application of the product in different situations. Tecnochem Italiana does not assume any responsibility regarding inadequate or negative performance as a result of improper use of the product or for defects deriving from factors or elements other than the quality of the product including improper storage. The technical characteristics and performance mentioned in this datasheet are updated periodically. The revision dates and number of revision of the datasheets are listed in the table below. Eventual variations are traceable on our website www.tecnochem.it where the most updated datasheets can be retrieved.