

Product Description MESOSTRUCT 30 is a high performance synthetic structural mesofiber, engineered to reinforce concrete from its early ages to its life cycle. The roughness in the surface increases the bonding with the concrete paste, creating a composite material, that increases the concrete's mechanical properties, these new properties are known as toughness or residual strength and can be used for structural design purposes.

In the plastic stage of concrete, MESOSTRUCT 30 can substitute microfibers, since the 3D reinforcement prevents sedimentation.

In the hardened stage of concrete, MESOSTRUCT 30 can substitute steel mesh/fibers as a temperature and shrinkage reinforcement, since it increases the flexural and tensile residual strength of the concrete.

In the life cycle of the concrete structure, MESOSTRUCT 30 surpasses the steel mesh/fibers, since it is a durable non corrosive reinforcement, increases the fatigue and impact strength, its multiple fiber-reinforcement reduces the quantity and length of the cracks, providing load transfer between them.

MESOSTRUCT 30 is the future for a sustainable world, it can reduce the CO₂ emissions of a traditional steel-reinforced slab in almost 30 times, since it is manufactured with 100% recycled material.

Applications MESOSTRUCT 30 can be use in almost any type of concrete structure, particularly in precast and flooring with coarse aggregates of 0.5 inches.

Paving, MESOSTRUCT 30 applies for the ACPA's (American Concrete Pavement Association) software Street Pave 12, that uses the residual strength of concrete provided by mesofibers to design optimized pavements.

Flooring, MESOSTRUCT 30 applies for the minimum dosage recommended in ACI 544.4R-18 "Guide to design with fiber-reinforced concrete" in Chapter 5, and for the design's principles and tables in ACI 360-10 "Guide to design slabs-on-ground" in Chapter 11. Mixed with FIBERSTRUCT 44 or e-FIBERSTRUCT 44.

Steel deck, MESOSTRUCT 30 applies for the minimum dosage recommended in the ANSI/Steel Deck Institute C-2017 Section 2.4.B.15.a.3, alone or mixed with FIBERSTRUCT 44 or e-FIBERSTRUCT 44

Shotcrete, MESOSTRUCT 30 can comply with the different toughnesses needed in the ASTM C-1550 round-panel-40mm-deformation, to satisfy the different types of supports and deformations expected mixed with FIBERSTRUCT 60

Packaging MESOSTRUCT 30 is packed in recycled paper bags, in different dosifications depending in the pounds per cubic yard needed per project, contact your FIBERSTRUCT COMPANY agent for exact bags per pallet.

Installation MESOSTRUCT 30 is and easy to mix reinforcement, applicable in the concrete plant or at the ready-mix truck. Normal dosages go from 2 to 8 Lb/yd³ (1.2 to 4.8 Kg/m³), depending on the application. For example, 2 Lb/yd³ (1.2 Kg/m³) applies for sidewalks with a steel ratio of 0.04% and 8 Lb/yd³ (4.8 Kg/m³) will apply for a severe dynamic loading floor with a steel ratio of 0.18%.

Contact your FIBERSTRUCT COMPANY agent for structural designs and dosage recommendation.

Physical Properties MESOSTRUCT 30 is a 1.2 inches embossed-surface synthetic mesofiber.

Complies with ASTM C-1116 4.1.3 Type III Synthetic Fiber Reinforced Concrete, since its raw material is a polyolefin with a 0.905 g/cm³ density and it is resistant to alkali presented in the cement paste and the substances presented in admixtures.

Surpasses with the minimums needed to be considered a structural synthetic fiber, detailed in ACI 544.4R-18 3.1.2, such as: equivalent diameter, tensile strength and Young's modulus, contact your FIBERSTRUCT COMPANY agent for detailed information.

Certifications MESOSTRUCT 30 has been tested in various residual strength and toughness methods for fiber reinforced concrete, such as: ASTM, ACI, EN, and NMX (ASTM C-1609, ASTM-C1550 and so). Contact your FIBERSTRUCT COMPANY agent for more values and designs.

Warranty MESOSTRUCT 30 is manufactured in accordance with the requirements of the standard ISO-9001:2015, in the "manufacture of concrete structural mesofiber" and therefore guarantees a consistently high quality.

FIBERSTRUCT COMPANY does not have any control over production processes using MESOSTRUCT 30. Therefore, FIBERSTRUCT COMPANY declines any liability for the associated end products.

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