

ECA HE Steel Fiber

HIGH PERFORMANCE STEEL FIBERS WITH HOOKED ENDS FOR REINFORCEMENT OF CONCRETE AND MORTAR

DESCRIPTION

ECA HE Steel Fiber is a type of steel wire filament with hooked ends. These steel fibers are specifically designed to be used in various concrete mixes to improve the mechanical properties and mitigate plastic shrinkage cracking. The fiber's hooked ends provide enhanced bonding and interlocking within the concrete matrix.

USES

ECA HE Steel Fiber is suitable for:

- Tunnel segments
- Foundation slabs
- Pre-cast concrete
- Industrial flooring
- Composite decks
- Pavements
- Shotcrete
- Slabs on piles
- Shear reinforcement in prestressed elements

ADVANTAGES

- Enhanced ability to support heavier loads
- Strengthened resistance to bending forces
- Improved durability against fatigue and wear
- Achieves a fire rating of 1-2 hours
- Better protection against impacts and dynamic pressures
- Cost-effective benefits including thinner sections and faster construction
- Minimized occurrence of shrinkage cracks through comprehensive reinforcement distribution

STANDARDS

ECA HE Steel Fiber complies with the requirements of ASTM A820, Type I and EN 14889-1.

TYPICAL PROPERTIES

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Geometry	
Length (l)	White Colour
Diameter (d)	virgin copolymer/polypropylene
Aspect ratio (l/d)	Monofilament Fiber
Tensile strength	1.115 N/mm ²
Young's Modulus	± 200.000 N/mm ²

Diameter (± 0.20 mm)	Length (± 2 mm)	Aspect Ratio (L/D)	Tensile Strength (MPa)	Type
0.38 - 1.20	30 - 60	37 - 92	1100 - 2900	B/L

MIXING

For proper integration, it is important to follow specific guidelines when using ECA HE Steel Fiber in concrete or mortar mixes.

To ensure a uniform distribution of the fibers, it should not be added as the first component of the mix. Instead, ECA HE Steel Fiber should be added during or after the batching of the concrete mix.

It is recommended to continue mixing the concrete for a minimum of 5 minutes to ensure proper dispersion and even distribution of the steel fibers throughout the mix.

PACKAGING

ECA HE Steel Fiber is supplied in 20 kg bags.

STORAGE

ECA HE Steel Fiber should be stored under cover and away from heat sources.

HEALTH AND SAFETY

For more information, please check the Material Safety Data Sheet.

CONTACT

Al-Faiha for Engineering Products is the exclusive licensee manufacturer for ECA.

For more information, please contact us at techsupport@alfaihaengineering.com.

DISCLAIMER

ECA aims to ensure the accuracy of information and recommendations in the product literature. However, due to variations in materials, substrates, and site conditions, and without control over product application, storage, weather, and usage conditions, ECA cannot be held liable for any resulting issues.