

GLUED STEEL FIBER



PRODUCT INTRODUCTION

Glued steel fiber is a type of fiber made by drawing high-tensile-strength steel wire, which is then bonded with water-soluble adhesive to form a row of fibers.

PRODUCT FEATURES:

- **High-Purity Material:** To ensure the strength and ductility of steel fibers, high-quality low-carbon steel wire rods are used, with purity exceeding 99.5%.
- **High Strength:** Steel fibers are specially designed to match various concrete strengths and applications.
- **Superior Tensile Strength:** The tensile strength of steel fibers ranges from 1000 to 2300 MPa, which is 2-5 times that of ordinary steel bars.
- **High Aspect Ratio:** Ensures stable performance indicators of the steel fibers, with customized lengths and aspect ratios to meet specific requirements.
- **High-Quality Adhesive :** Guarantees uniform dispersion of steel fibers, lowers usage costs, and does not negatively affect concrete strength or performance.
- **Excellent Dispersibility :** During the concrete mixing process, the steel fibers are evenly distributed in a single step, resistant to cutting or breaking, without fiber adhesion issues.

APPLICATION FIELDS

- **Construction Engineering :** Residential buildings, prefabricated components, frame joints, roof waterproofing, underground waterproofing, etc.
- **Industrial Flooring :** Abrasion-resistant floors, seamless floors, pile-slab floors, vehicle slabs, composite floor slabs, school slabs, factory roads, pavement, etc.
- **Pipeline Engineering :** Precast pipes for pipe piles, vibration piles, pump pipes, and pressure-resistant steel fiber pipes.
- **Highway and Bridge Engineering :** Highway and railway bridge caps, piers, bridge decks, and structural reinforcements.
- **Road Surfaces and Airport Hardening Projects :** Road surfaces, base layers, municipal pavements, and airport runways.
- **Underground Engineering :** Tunnels, mines, underground garages, culverts, underground cable ducts, etc.
- **Hydraulic and Hydropower Engineering :** Hydropower dam foundations, gates, energy dissipation pools, dam impermeable walls, etc.
- **Ports and Wharf Engineering :** Freeze-resistant and impact-resistant wharves, crane foundations, embankment reinforcements, and wave-absorbing structures.
- **Other Fields:** Industrial areas and parking lots, maintenance and repair projects, underground cables, manholes, and sewer pipes.



TECHNICAL INFORMATION

TECHNICAL SPECIFICATION

Model	Equivalent Diameter (mm)	Fiber Length (mm)	Aspect Ratio	Tensile Strength (MPa)
CCI-65/60	0.92	60	65	>1100
CCI-80/60	0.75	60	80	>1100
CCI-65/50	0.77	50	65	>1100
CCI-45/35	0.77	35	45	>1100
CCI-55/30	0.54	30	55	>1100
CCI-55/30	0.5	30	55	>1100

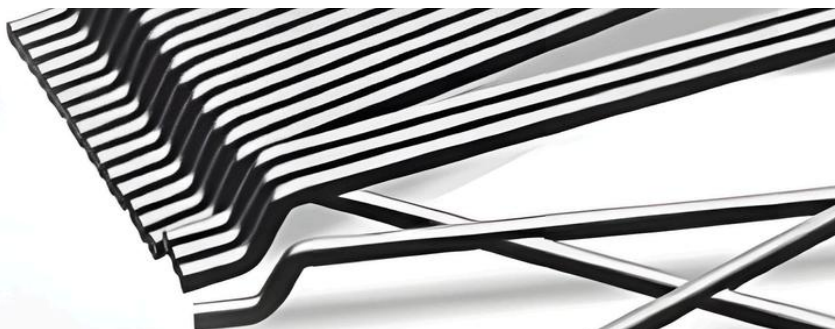
CONSTRUCTION TECHNICAL REQUIREMENTS

- The cement must be Portland cement no less than 42.5 grade. The water-to-cement ratio should not exceed 0.5.
- The maximum particle size of coarse aggregate should not exceed 2/3 of the fiber length.
- The volume content of steel fibers in concrete should be 0.5%–3%, with a recommended range of 1.5%–2.5%. The amount added per cubic meter of concrete typically ranges between 5–30 kg, with a recommendation of 15–25 kg.
- When mixing steel fibers with concrete, avoid using salt water or materials containing chloride ions.
- Apart from the above specifications, steel fiber-reinforced concrete should also adhere to the standards and requirements outlined for reinforced concrete.
- The amount of steel fiber used should be determined based on structural requirements and the expected mechanical properties of the concrete. Its compressive strength should be comparable to standard concrete of the same grade.
- For structural applications, ensure the thickness of the concrete protective layer over the steel fiber does not fall below 130 mm. For ground applications, the thickness of the added layer should not be less than the thickness of the base layer. Steel fiber-reinforced concrete surfaces must meet the rebound number test criteria of 0.75, with a minimum thickness of 50 mm.

MIXING REQUIREMENTS

Mix the steel fibers with coarse aggregate:

- **Step 1:** Stir for 30 seconds.
- **Step 2:** Add sand and cement, then mix with water.
- **Step 3:** Stir for an additional 30 seconds.
- **Step 4:** Add water and mix for another 3 minutes.



TECHNICAL INFORMATION

COMPACTION:

- Mix the steel fibers with coarse aggregate: Step 1: Stir for 30 seconds. Step 2: Add sand and cement, then mix with water. Step 3: Stir for an additional 30 seconds. Step 4: Add water and mix for another 3 minutes.
- After surface finishing, steel fiber-reinforced concrete should exhibit uniform fiber distribution and a flat surface free of fiber protrusions. Use manual or mechanical troweling to prevent fibers from being exposed. After 24 hours, standard curing practices should be followed, such as covering the surface with wet burlap in summer or maintaining appropriate temperature measures in winter.

PACKAGING AND STORAGE:

- **Packaging:** Paper boxes or composite bags of 20 kg each, or bulk packaging of 1500–2000 kg per pallet. Custom packaging options are available based on user requirements.

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