

# Fiber Dowels Fiberglass rebars/ tie-bars

## Technical description



**Fiber Dowels rebars / tie-bars** are made of epoxy in comparison with fiberglass. Rebars (short for reinforcing bar), is a fiber glass bar with fiber glass wires on top of it. Concrete is a material that is very strong in compression, but relatively weak in tension. To compensate for this imbalance in concrete's behavior, rebar is cast into it to carry the tensile loads.

## Usage

Fiberglass rebars are placed in longitudinal joints. What's important to remember is that the design of the structure is based on having the fiberglass bars in the right place. Incorrect reinforcing placement can lead to serious concrete structural failures.

## Scope

Tie bars are typically placed after PCC placement either by hand or using a tie bar inserter attachment. On slipform pavers, tie bars are inserted on slab edges that will become longitudinal joints and, if two lanes at once are being paved, pushed into a mid-slab area (similar to dowel bar insertion) that will later be cut as a longitudinal joint.

## Benefits

- Less weight than steel
- CO<sub>2</sub> friendly, fiber glass can be re-used directly after breaking up concrete
- Higher tensile strength
- Corrosion isn't possible so longer life span of the concrete

## Product description

Fiberglass rebars are on demand available in all sizes. The standard sizes in Europe are diameter 16 or 20. With the lengths 600mm or 800mm. Other sizes are available on demand.

## Technical details fiberglass rebars

Shear strength	1000 MPa
E-Modulus	50 – 55 GPa
Metal free	100 %
Diameter tolerance	0,1 mm +/-
Density	1900 - 2000 kg/m <sup>3</sup>
fiber volume	70% fiber
Components	70% ECR fiberglass with 30% resin
Corrosion resistant	Yes
Weight kg/m <sup>3</sup>	1900
Higher tensile strength	600-1600 N/mm <sup>2</sup>
Chloride resistant	Yes
Conducts radio waves	No
Thermal conductivity	0,25%
Diamagnetic	yes
Color	beige

## Storage

Can easily be stored outside because the dowels are not sensitive to corrosion.

## Test results

Rebars are completely tested and researched. Results can be sent on demand.

## Safety

This rebar is safe in use when used properly and placed 100% horizontally.

