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Uw partner in restauratie en renovatie
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REYNCHEMIE NV/SA

FIBERGLASS RODS

FIBERGLASS RODS FOR THE POLYWOOD-EPOXY-SYSTEM

Wood, concrete and natural stone restoration

ADVANTAGES OF FIBERGLASS RODS

- ✓ Completely inert
- ✓ Non-corrosive
- ✓ Non-conductive
- ✓ Only one quarter of the weight of a steel rod
- ✓ Sand-coated to improve adhesion

Description

Fibreglass rods **are used in both new construction and restoration works**. They are fully inert, non-corrosive, non-conductive, and weigh only one quarter of the weight of a comparable steel rod. In terms of elasticity modulus, expansion and shrinkage, fibreglass rods are more compatible with wood than steel. The rods feature a spiral wrap and are sand-coated to enhance adhesion with epoxy, wood or concrete.

Application area

Used to create load-bearing connections and to reinforce timber (and concrete) elements or anchor natural stone. Typical applications include inserting reinforcements or connectors in beams, purlins, rafters, trusses, span elements, sills, thresholds, columns, window frames and other timber structures.

They are particularly suitable for beam-end restoration and the creation of timber prostheses (and can likewise be anchored in concrete). Natural stone can be reinforced by inserting the rods into drilled holes.

Fibreglass reinforcement rods are bonded using epoxy adhesives (such as RC 850) or cementitious grouts.

Application instructions

Cut the fibreglass rods to the required length using a cutting disc (according to the structural engineer's calculations). Keep the rods dry, clean and free from oils. Drill the number of holes and diameters as specified by the structural engineer. Avoid drilling holes within 4 cm of any surface cracks. Discuss the exact position of the holes with the structural engineer. Blow all dust from the drilled holes and bond using RC 850 or RC POLYHOUT-EPOXY resin (components A and B).

Technical properties

Service life	100 years	
Voluminous mass	2 ± 0,10 g/cm3	
Glass fibre content	80% (±5%)	
Average glass transition temperature (TG)	≥ 100 °C	EN ISO 11357-2
Water absorption (24h)	<0,25% @ 50°C	ASTM D570, subsection 7.4
Curing ratio	≥ -10 °C	
Alkali resistance	≥ 80%	
Fire classification	E	UNI EN 13501-1:2019
Elasticity modulus (E)	≥ 46 GPa	ISO 1046-1 subsection 6

Physical properties

Nominal rod diameter	mm	6	10	12.5	16	20
Measured diameter	mm	± 7.25	± 11.50	± 13.30	± 16.80	± 21.50
Nominal area	mm^2	28	78	113	201	314
Tensile strength (F_{ft})	Mpa	≥ 1000	≥ 1000	≥ 850	≥ 850	≥ 850
Ultimate strain (ε_{ft})	%	≥ 2.1	≥ 2.1	≥ 1.8	≥ 1.8	≥ 1.8
Ultimate tensile load	kN	28	≥ 78	≥ 96	≥ 170	≥ 266
Ultimate tensile strength of bent rods (f_{ub})	MPa	≥ 176	≥ 176	≥ 176	≥ 176	≥ 238
Ultimate tensile load of bent rods	kN	4.9	≥ 13.7	≥ 19.8	≥ 35.3	≥ 74.7
Ultimate transverse shear strength (τ_s)	MPa	-	≥ 140	≥ 140	≥ 140	≥ 140
Ultimate transverse shear load	kN	-	≥ 10.9	≥ 15.8	≥ 28.1	≥ 43.9
Bond strength in concrete C20/25	MPa	≥ 10	≥ 5	≥ 5	≥ 5	≥ 5
Minimum bending radius (r_i)	Mm	50	50	75	75	110

* Andere diktes en formaten op aanvraag.

Dimensions

Fibreglass rods are available in standard lengths of 3 metres.

We stock 6 mm, 10 mm, 12.5 mm and 20 mm diameters. Other diameters can be manufactured on request, subject to longer lead times.

Photos