KREMEX

YOUR FOREIGN TRADE EXPERT

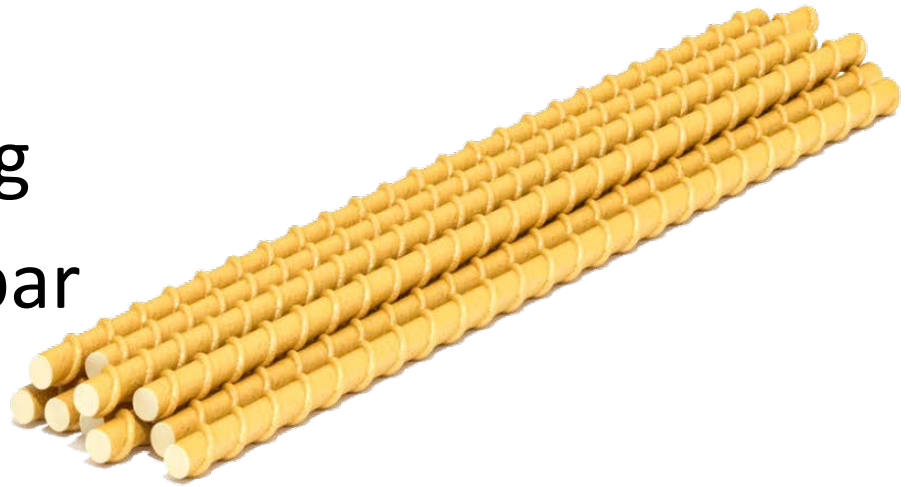
End-to-End Solution for Fibre-Reinforced Polymer Rebar

Manufacturing equipment

Raw materials

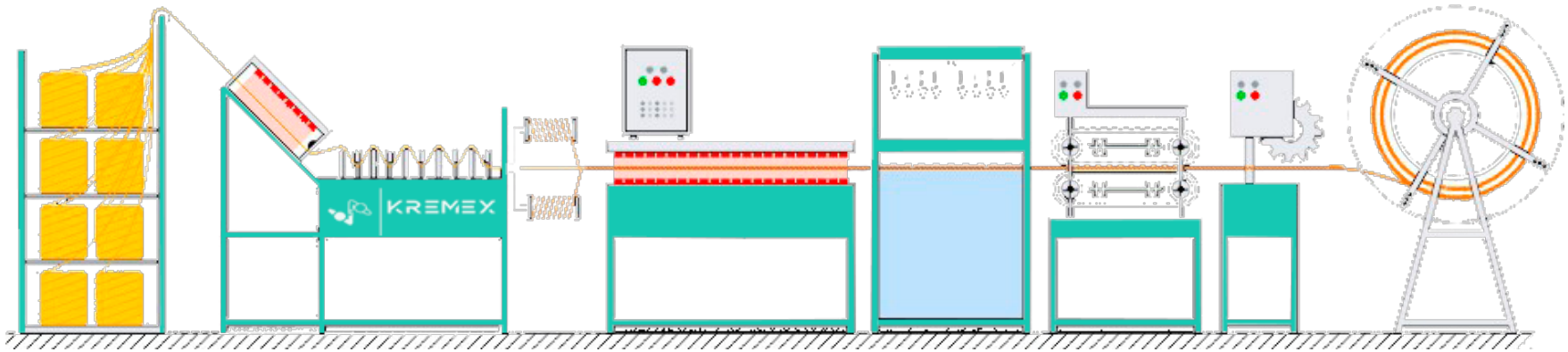
End product testing

Design with FRP Rebar



Fibre-Reinforced Polymmer Rebar Production Line KCR 2.0

The **KCR 2.0 line** is designed for serial production of composite rods and reinforcement with a rib surface (periodic profile). This machine allows you to produce fibre reinforced polymer reinforcement (rods) with diameters from 4 to 25 mm.



List of blocks and assemblies of KCR 2.0

No	Components, blocks and assemblies	QTY
1	Creel for 48-bobbins with internal unwinding	1
2	Device for roving thread (fibers) moisture level optimization	1
3	Bath for separate impregnation of fibers	1
4	Periodic profile forming device	1
5	Polymerization furnace (9 meters)	1
6	Bath for water cooling of the rebar	1
7	Belt-type pulling device (max profile cross-section 25 mm).	1
8	Automatic cutting mechanism with electronic measuring device.	1
9	Control cabinet	1
10	Unit for winding of bobbins for profile forming device	1
11	Mechanical coiler of rebar (with 4 winding diameters: 720 mm, 880 mm, 1110 mm, 1160 mm.).	1

Technical characteristics of KCR 2.0

Parameter	Value
Air consumption	200 l/h
Water consumption	400 - 450 l/week (at 24 hours operation)
Electricity consumption	6.5 kWh
Type of supply current	Variable three-phase
Current frequency	50 Hz
Voltage	380 V
Capacity of the line for the production of rebar	12 m/min (for 8 mm)
The maximum value of the profile to be pulled	4-25 mm
The weight of one meter of reinforcement	0.045-1.006 kgs
The length of the finished reinforcement	Set by the operator
Overall dimensions of the line	23000 x 2000 x 1000 мм
Required area for line installation	30000 mm x 3000 mm

Production capacity of KCR 2.0

Parameter				Consumption of raw materials per 1 running meter			
Product	**Diameter, mm**	**Weight of 1 rm, kg**	**Production, running meters per minute**	**Roving, kg**	**Epoxy resin, kg**	**MTHPA, kg**	**Accelerator AKC 1.0, kg**
Russian GOST 31938-2022							
GFRP Rebar	6	0.058	11.11	0.0459	0.0066	0.0052	0.0003
GFRP Rebar	8	0.103	11.11	0.0815	0.0118	0.0092	0.0005
GFRP Rebar	10	0.162	10.42	0.1282	0.0185	0.0144	0.0008

Raw materials for FRP Rebar made with KCR 2.0

Description of material	Material function	Proportion in total raw material
Roving (glass fibre or basalt fibre) (Owens Corning, Jushi ,at al.)	Highly tensile strength , non-magnetic, non-conductive, transparent to electromagnetic radiation reinforcing fibers  	0.796
Epoxy resin (Kumho, Sinopec, at al.)	Thermoset polymer matrix 	0.115
Metliyltetrahydrophthalic anhydride (MTHPA)	Curing agent for epoxy resins	0.083
Polymerization accelerator (modified)	Accelerator of epoxy resin polymerization AKC 1.0 	0.006

Cost of equipment and works

Price

For actual price of KCR 2.0 please, refer to Mrs. Ekaterina Kremer (info@kremer.expert, Whatsapp: +7 9085849741)

The cost of installation and commissioning is included in the cost of equipment.

The set of accompanying documentation for the equipment includes a passport and an operating manual. We recommend having at least two production lines in your production plant. The ventilation system is not included!

Machine production time (1 set)

The production time of the equipment is 25 working days from the date of receipt of the pre-payment to the seller's current account for 1 machine.

Payment terms

- 70% - prepayment
- 30% - when the equipment is ready for shipment

Delivery EXW, FOB**,** CIF, Incoterms 2010

Warranty

Kremex LLC guarantees trouble-free operation of the equipment for 12 months from the date of commissioning, provided that the Customer complies with the rules of operation and maintenance.

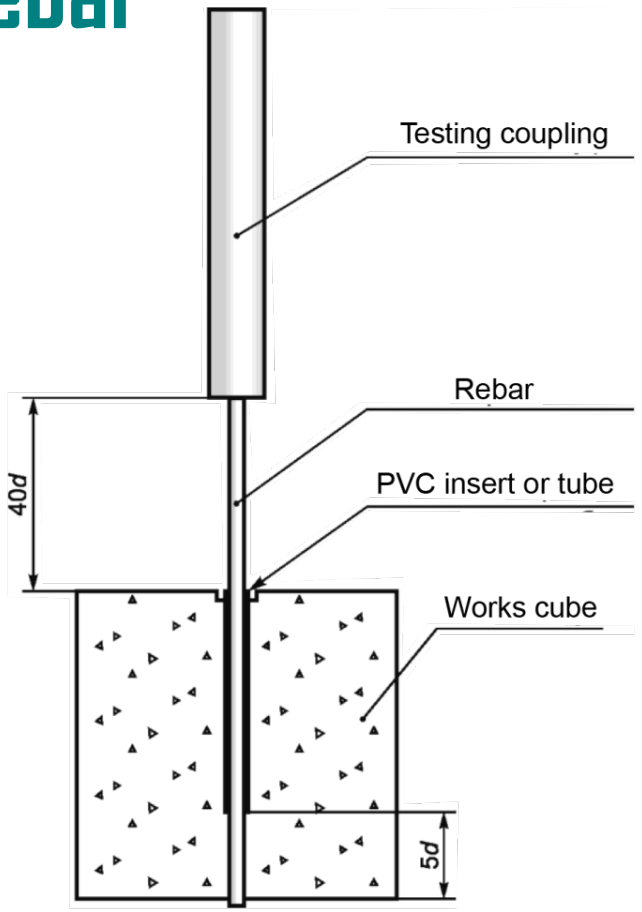
Components of KCR 2.0

The equipment is designed and manufactured only from high-quality parts and components of imported and Russian production, which allows it to be operated continuously 24 hours a day, with one technological break (no more than 2 hours).

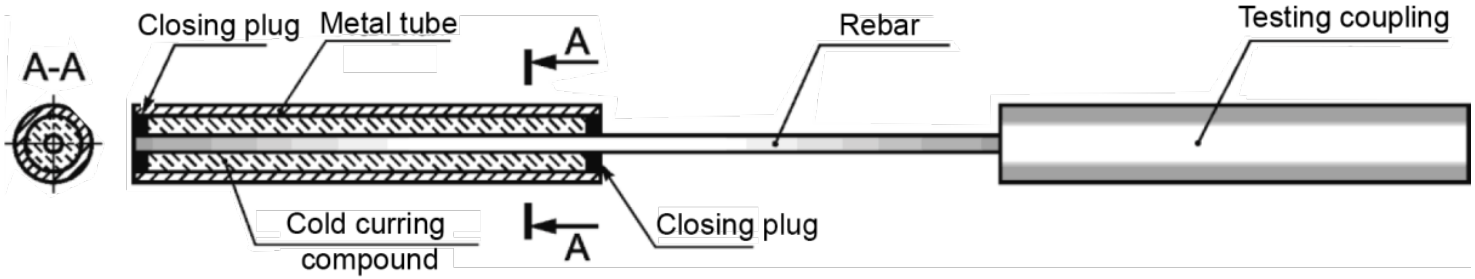
The manufacturing line is painted with polymer powder paint.

Testing of FRP Rebar

Development of test methodology and test programs for FRP Rebar, as well as guiding of testing in accordance with the Russian GOST standard, American standard ASTM, ACI guidelines, European guidelines.



Scheme for installing rebar in a works cube



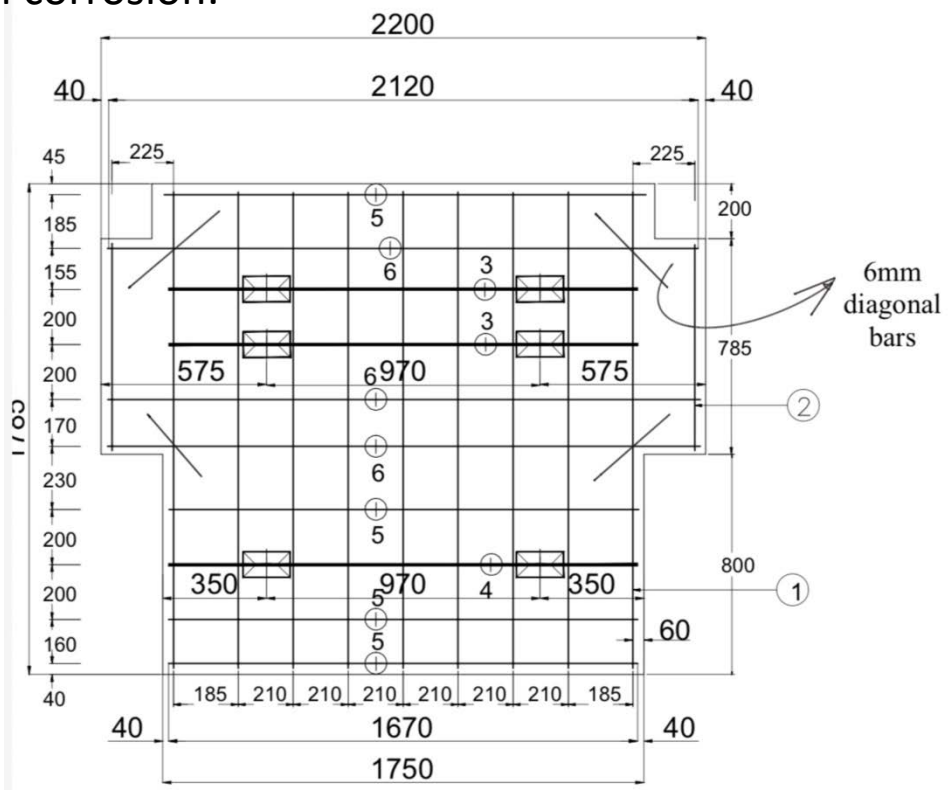
Typical test sample view

Design with FRP Rebar

Design principles well established through extensive research and field practice, and experience gained on viability of construction management practices.

FRP Rebar is best for any concrete member susceptible to corrosion of steel reinforcement by chloride ion or chemical corrosion:

- Concrete exposed to de-icing salts: Bridge decks, Median barriers, Approach slabs, Parking structures, Railroad crossing, Salt storage facilities
- Concrete exposed to marine salts: Seawalls, buildings and structures near waterfronts, Aquaculture operations, Artificial reefs and water breaks, Floating marine docks
- Tunnelling and Mining Applications: Soft-eye openings for tunnel boring machine (TBM's) and temporary works, Rock nails, Electrolytic and ore extraction tanks



TOP PANEL (6X) REINFORCEMENT DETAIL

Gfrp Rebars Young's Modulus 50 Gpa
1100 Tensile strength

Please, contact us for any questions!

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