

Arplastik LLC

PSRN of IE 1101841001613 426063, Udmurtia, Izhevsk, Udmurtskaya Str, 255B, Block 16, Letter Ш.

tel. 912-622, 912-623, arplastik18@yandex.ru

[www.arplastik.ru](http://www.arplastik.ru)

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### COMMERCIAL PROPOSAL.

Arplastik, Izhevsk Composite Technology Plant, is ready to supply equipment for producing composite bent elements, hereinafter GKE.

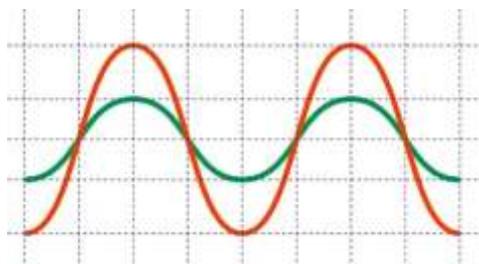
Concrete perfectly withstands compression and is capable to carry enormous loads. As for stretching, its characteristics are moderate due to relative frangibility.

GKE are for wall footings, base slabs, floor slabs, piles, columns and other structures requiring the increased durability, load distribution or reduction in total weight of a product.

Welding of composite reinforcement is impossible as it is dielectric, therefore to form corners when reinforcing it is necessary to tie separate direct rods or use ready GKE. Application of GKE allows to distribute better stretching and deformation loads, thus doing a framework integral, and, therefore, stronger. It positively results in durability of concrete structures.

How can fiberglass reinforcement be bent? It is impossible to bend rods of such reinforcement at building site. Manifold possibilities during the production process of materials different in shapes result in a wide range of composite materials that can be produced with our equipment. Reinforcing corners with  $\Gamma$ - and  $\Pi$ - and sinusoidal- shaped elements. When pouring monolithic structures, reinforcing rods are placed in a frame with a certain step and tied with tying wire or with ordinary plastic ties of desired length.

It is possible to produce  $\Pi$ -shaped flexible ties, in a shape of a rod with small bends on the both ends of the rod.



Composite bent details are manufactured as  $\Gamma$ -shaped,  $\Pi$ -shaped and sinusoidal elements of standard form and sizes.

Production line KGE – 1500 (max distance between sinusoidal peaks 1500 mm.) is intended for producing KGE made of glass and basalt roving.

### Advantages of our equipment:

The equipment is unique as:

- It is intended for producing:
  - Composite bent details as  $\Gamma$ -shaped,  $\Pi$ -shaped with element width max 1500 mm, depth 1000 mm with max turning-circle radius 100 mm and sinusoidal with max distance between sinusoidal peaks 1500 mm, depth from the peak to the lowest point 1000 mm.
- It is possible to form rods with diameter from 2 up to 16 mm, produce KGE in 3-D plane. Rods are produced and cut both in automatic and manual mode.
- Production rate is up to 2000 meters per minute according to mesh rod diameter.
- Operating personnel 1-2 people.

Parameters:

Line length 14 m.  
Width 1.5 m.  
Height 1,5 m.  
Installed power from 15 kW/h.  
Water consumption 15 – l/day  
Air consumption 90 – l/h.

Production rate depends only on rod diameter of the produced KGE.

### Special characteristics of the line:

for producing KGE:

- ✓ Four-channel curing oven, foreign-made thermocontrollers provide for stage heating. Due to PID control oven is operated in optimal mode. Oven working temperature is up to 400 degrees Centigrade. Due to stainless steel tubular heating elements service life is increased considerably and power consumption is reduced. The line is insulated with heat-insulating material. Thus the oven deformation is avoided. The oven surface is heated up to 50 degrees Centigrade.
- ✓ Due to epoxy polymer binder preheating system ready-made mixture lifetime is increased.
- ✓ Roving filament pretensioning assembly is equipped with an automatic warning system and pull unit shutoff system operating when beads appear.
- ✓ The line has got roving preheating system.
- ✓ Rollers and guides contacting with a reinforcement rod during manufacture process are made of steel St45.
- ✓ There is deformed section pitch setting on the operator's board.
- ✓ Epoxy resin bath capacity is 8 litres.
- ✓ It is possible to replace a bath for epoxy polymer binder quickly.
- ✓ The line has got a water cooling system with a circulating pump.
- ✓ Product pulling speed is adjusted at the operator's board.
- ✓ High-accuracy pulse counter is used to count the length of the manufactured product in meters.

The equipment cost:

Line KGE-1000 46 600.00 USD

List of the component parts is given in the product data sheet.

Commissioning, installation and training are included in the cost of the equipment!

Ready equipment is delivered at the Customer's expense!!! Payment: 60% - preliminary payment, 30% - when the equipment is ready, 10% within 5 bank working days – after commissioning and installation works and training.

Warranty 1 year.

The equipment assemblies are warranted. Expendable materials such as heating lamps, tubular heating elements, automatic elements, belts and magnetic starters are not covered under warranty, troubleshooting is at the Buyer's expense.

Warranty is valid as long as the line proper operation and periodic maintenance is provided in accordance with Maintenance Regulations.

ATTENTION!!! In case of the equipment price reduction at the Customer's request, the warranty period is to be shortened!!!

### List of the equipment supplied:

N	Description	Quantity	Unit of measure	Price, rubles	Total, rubles.VAT included rubles.	Delivery time, workdays
Production line KSP – 2000 consisting of						
1	Control board	1	Pc			60
2	Shelf stand for roving	1	Pc			60
3	Impregnating bath with tensioning device	1	pc			60
4	Automated spiral binding assembly	1	pc			60
5	Composite rod lay-out assembly	1	pc			60
6	Polymerization chamber	1	Pc			60
8	Pull unit- transporter	1	Pc			60
9	Cutting assembly	1	Pc			60
10	Delivery table	1	Pc			60
11	Roving winding device	1	Pc			60
12	Equipment certificate	1	Pc			60
13	Manual	1	Pc			60

### Materials used:

1. Glass roving 2400/4800 tex;
2. Epoxy resin (type ED-20);
3. Hardener IMTHPhA (isomethyltetrahydrophthalic anhydride);
4. Accelerator UPR A.01
5. Lavsan thread 45LL (plastic bobbin)
6. Quartz sand

Malfunctions can occur in case of using analogs!!!