



Formwork girder H20

About the company

PFK-Service is a trading Holding of a Group of companies, which includes Russian manufacturers of ecological finishing and construction materials made of natural wood.

The PFK-Service trade network includes construction networks of the Russian Federation, export directions and wholesale and retail sales from the manufacturer.





Manufacturing

The process of managing, measuring and continuous monitoring at every production process guarantees safety and reliability products.

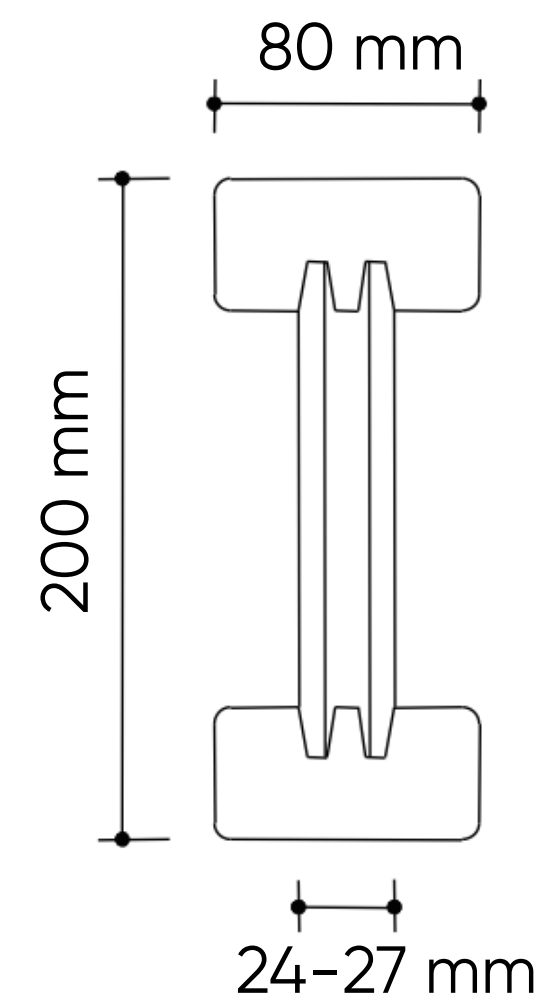
Qualified personnel and modern industrial equipment allow us to ensure a constant quality level.

Products

■ Formwork girder H20

The girder is an I-beam with flanges made of solid or spliced wooden bar and posts (walls) made of FSF or FK plywood (wall thickness 24-27mm) installed with a toothed spike in the grooves of the shelves on glue.

Glued wooden girder are designed for load bearing as an element of formwork slab and wall and column formwork in the period of preparation and manufacture of monolithic reinforced concrete structures of interstorey floors, walls and columns of residential, administrative, public and industrial buildings. It is allowed use of beams as floor beams, elements of wooden roofs (rafters, purlins, struts and underpinnings) for low-rise construction.



Technical specifications

■ Main parameters

Product	Glued wood Formwork girder
Wood type	Softwood according to GOST 8486-86 not lower than II grade
Rack	Plywood of FSF or FC grade according to GOST 3916.1-2018 (GOST 3916.1-96), compliance with European standard EN636-3
Moisture	12% +/- 2%
Glue	ProtoCollD4 - one-component PVA complies with TU 20.52.10-002-19299941-2018, European standards DIN EN 204 and DIN EN 14257 (Watt91)
Coating for formwork girders	Water-based coating of yellow color Tech. conditions 2316-046-43659241-08

Length, mm	up 1450 to 6000
Height, mm	200
Shelf width, mm	80
Shelf thickness, mm	40
Rack thickness, mm	24-27
Plywood tooth incerted depth, mm	13

■ The product complies with the requirements of technical conditions specifications, control samples-etalons and manufactured in compliance with GOST 4981, GOST 20850, SP 64.13330.2011 according to engineering documentation and technological regulations approved in the established order in accordance with the established procedure.

■ The girder is manufactured in climatic version (UHL, XL) of placement category 1 according to GOST 15150/GOST 15543.1, and it is used on condition of fulfillment of rules of operation of the girder at ambient temperature from minus 20°C to plus 35°C, maximum surface heating temperature 40°C, and relative humidity up to 70%.

■ It is allowed to use similar materials and products of domestic and foreign production, which are not inferior in quality to those listed above and meet the requirements of current regulatory and technical documents.

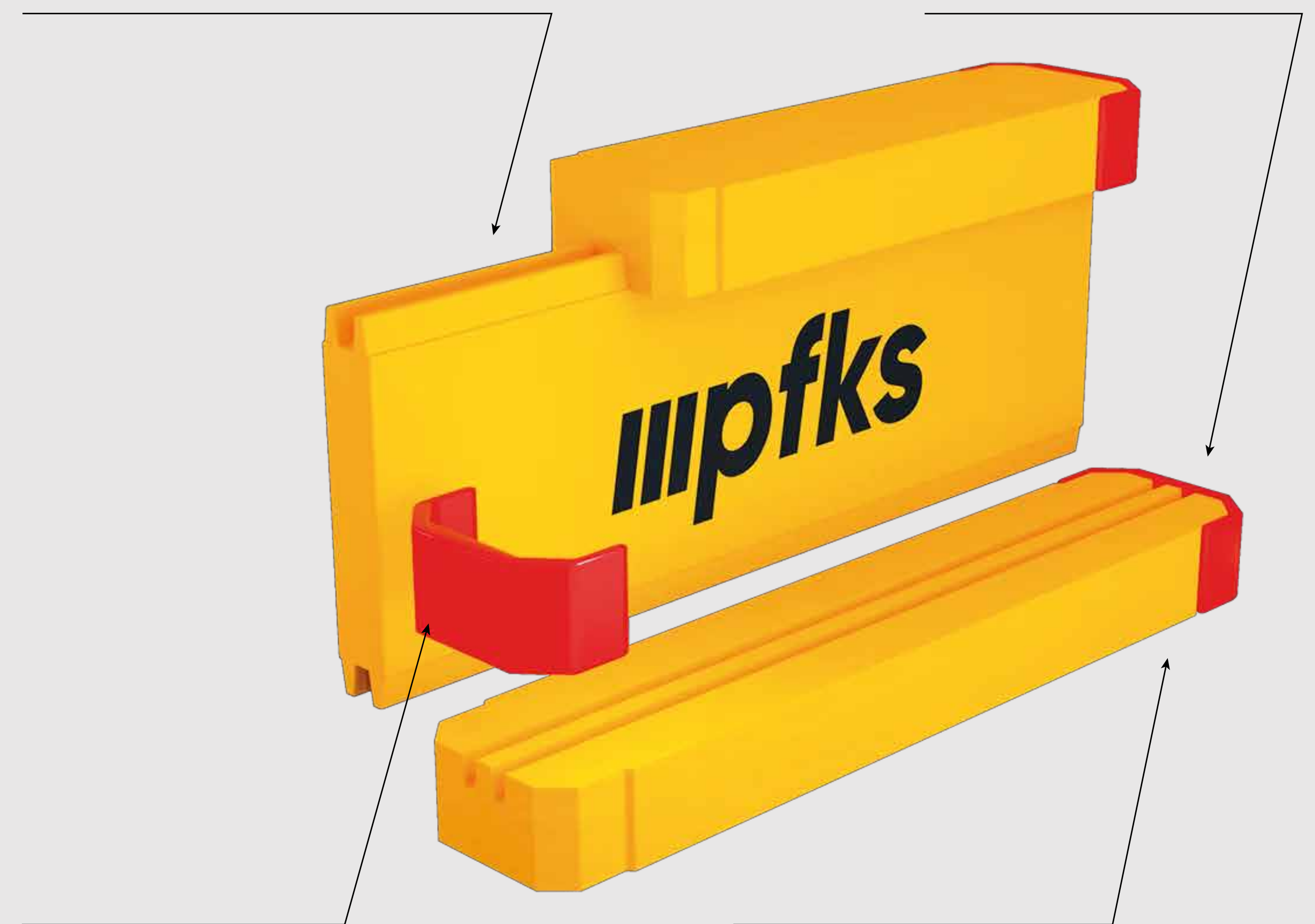
■ Features

1. The girder is made by gluing the shelf to the rack.
2. Humidity of wood of girders during manufacturing within **12% +/- 2%**.
3. Girder ends, upon agreement with the customer, can be protected by plugs made of polymeric materials.
4. Destructive bending moment during testing for all girder grades for static bending at a test span of 3.6 m not less than **9.5 kNm (950 kgm)**.
5. Modulus of elasticity for girders not less than: – for girders with plywood wall with wall thickness 21–34 mm – **E=6000 MPa, (60000 kgf/cm²)**.
6. Permissible load on compression of the girder by vertical force at the point of support for all grades girders not less than **2,0 MPa (20 kgf/cm²)**.
7. Tensile strength of adhesive joints between shelves and wall tensile strength (across the flange fibers) for all girder grades is not less than **0.8 MPa (8 kgf/cm²)**.
8. Strength of toothed glue joints of wooden flanges in static bending not less than **27 MPa**.
9. Strength of glue joints of shelves with the wall of the shear strength of the glue joints of the flanges with the beam wall is not less than **20 kN**.
10. Permissible transverse force, lateral force – **Q = 11,0 kN**.
11. Permissible bending moment – **M = 5,0 kNm**.
12. Finishing of girders is made by weather-resistant paint compositions. Skips of finishing coating are not allowed.
13. Durability of the coating is not less than the warranty period of storage and initial operation of the beams.



Girder wall plywood

The girder wall is glued special glue



Protective end with plugs made of polymer materials

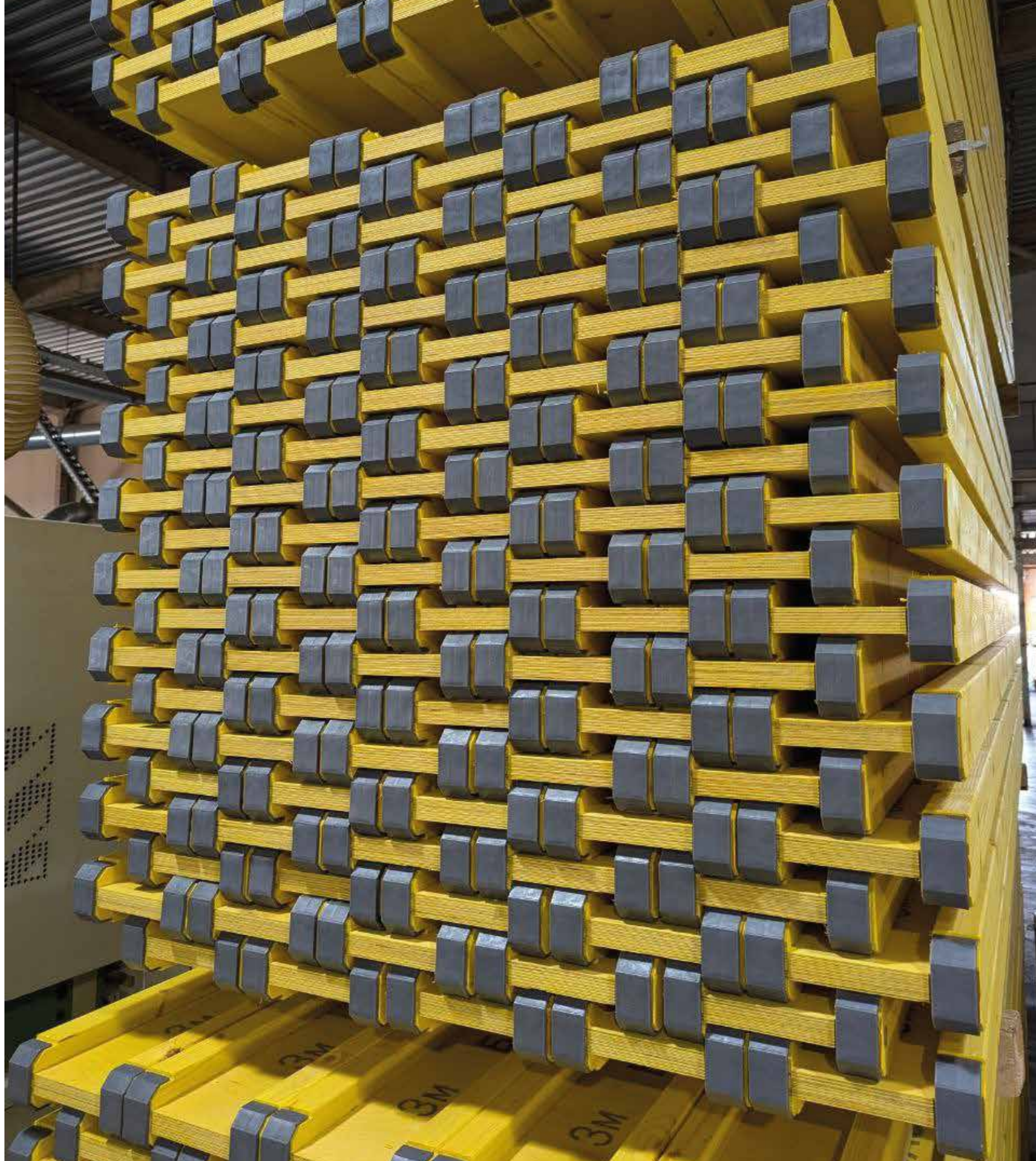
Girder shelf made of softwood with high density of annual rings

■ Allowable deviations

Requirements	Parameter
Limit deviations from geometric dimensions and shape shall not exceed: - in length: up to 3 m - over 3 m - ±10 mm; - in height - in shelf width - in shelf thickness ±3 %; - in wall thickness ±3 mm.	±5 mm ±8 mm ±2 mm или 1% ±1-1,5 % ±3 % ±1,5 mm
Limit deviations from flatness (deformation) - with the girder length up to 3,0 m inclusively, - for girders longer than 3,0 m	no more than 3 mm + 1 mm for every meter of length
Winginess, % according to GOST 2140	no more than 0,2
Deviation of the actual product mass from the nominal mass, specified in the working drawings	no more than ±10%
Deviations from the perpendicularity of adjacent surfaces	no more than 2 mm
Offset of the rack position relative to the axis of symmetry of the shelves	no more than 0,5 mm

■ Appearance of girders

Girder coating	Water-dispersion compound of yellow color
Manufacturing of girders	According to working drawings approved in the established order
Types of girder treatment depending on the purpose and operating conditions	Bio-protective compositions; fire-protective compositions
Decorative and protective treatment of beams against moisture, UV rays and bio-damage	To be performed as agreed with the customer and regulated by requirements of working drawings for a particular product (structure)



Limitation of allowable wood defects in girders

Types of defects	All shelf sides	Types of defects	All shelf sides
The knots are healthy and light-colored, including cracks (width of cracks should not exceed 0.5 mm), fused and partially fused	Allowed, up to 35 mm in diameter	Resin pockets	Allowed 1 pc for 1 meter of the length of the girder with length no more than 4 cm width no more than 2 mm
Rib knots healthy edges	Allowed, up to 25 mm in diameter	Bluestain	Not allowed
Dark knots that are jointed and partially jointed	Allowed, up to 15 mm in diameter	Wane	Within the permissible size deviations
Unjointed knots, stapled knots, lapwing knots, rotted, tobacco knots	Not allowed	Insect holes	No more than 1 pc with a diameter no more than 4 mm for 1 m length
Knots fallen out, falling out	Allowed, up to 8 mm in diameter	Planing defect	Within the permissible size deviations
Cracks are not through: Plate cracks up to 10 mm deep	With a total length no more than 300 mm	Flack, chip, scrape, scuff, gouge	Not allowed
End cracks	No more than 1/5 of the width or thickness	Defect of the spike joint	Not allowed
Through cracks	Not allowed		

Note:

- The above-mentioned defects and processing defects are not regulated, provided that their presence does not affect the technical characteristics of the girder (load-bearing capacity).
- Allowable cracks, wormholes, resin pockets must be puttied before painting.

■ Delivery set

- The products delivery set is determined by the terms of the contract (order) for the supply of products.
- Finished products are delivered assembled with final finishing.

■ Labelling

- Each product is labelled by applying ink to the surface of the product with indicating: the trade mark of the company manufacturer's, logo, size of the product, date of manufacture
- Each package is labelled.

■ Packaging

- The beams are packed in packs of 50 or 60 or 100 pieces depending on the type of transport.
The packages are tied in at least two places with metal or propylene tape. To prevent damage to the girders in the packages, plastic corners must be placed under the packing tape during packing.
- Only girders of one grade and one size are packed in the one package. In case of a small volume of girders delivery it is allowed to pack girders of different lengths in a package, but not more than three lengths, with the ends of the girders aligned on one end of the package.
- Packages are formed in accordance with the requirements of GOST 19041. The width of the bundle shall not exceed 1150 mm in width and 1150 mm in height. The weight of the packet should not exceed 2 tonnes.
- Packages shall be covered with polyethylene film on five sides.

■ Transportation and storage

- Products may be transported by all types of transport in covered vehicles in accordance with the rules of cargo carriage, operating on this type of transport.
- When transporting, loading, unloading and storing the products, their safety from damage, contamination and moisture must be ensured. During loading and unloading operations, safety rules must be observed.
- Girders shall be stored sorted by type and size, stacked on wooden pads in such a way as to prevent their sagging.
- Storage shall be carried out in closed ventilated rooms or under a shelter, excluding atmospheric precipitation and direct sunlight.
- Short-term storage of girders in the open air is allowed provided that they are protected from the direct impact of climatic factors.
- To clean the products it is not allowed to use detergents containing abrasive materials.
- The colour of the girders may change during storage.



■ Manufacturer warranty

The manufacturer guarantees conformity of the products to the requirements of technical specifications under observance of installation, operation, transport and storage conditions.

The warranty period of storage and operation of beams is 6 months from the date of manufacture.

The average service life of beams should be not less than 1 year.

The number of usage cycles of the formwork – not less than 20, in compliance with the requirements for storage, transport and operating instructions set out in the specifications.

In case of manufacturing defects related to the product quality during its operation, the buyer has the right to contact the seller, and in cases prescribed by law – to the manufacturer.

Contacts

For more information, please contact us:

- **+7 (495) 165-65-21**
- **info@pfkservice.com**
- **www.pfkservice.com**