



## WOODEN I-JOIST FOR CONSTRUCTION

PROFITSYSTEM produces high-quality wooden **I-joists**, a modern construction material which is used as load-supporting units of floorings, rafter structures and framed wall elements for the construction of low-rise residential and public buildings.

**PS-Joists** are manufactured using world-class technology and can be applied for houses made of bricks, lightweight concrete block, timber, in frame houses and effectively replace the floorings made of reinforced concrete slabs, timber, boards, steel beams.



## ADVANTAGES

### ✓ **PRECISE and STABLE GEOMETRY**

No bending moments and structure deformation allow to install long spans up to 10 m without intermediate supports, repeated measurements are not necessary.



*The pictures are illustrative.*

### ✓ **RESISTANCE and DURABILITY**

Resistance to natural, chemical and mechanical influences – makes it possible for year-round use in building.



*The pictures are illustrative.*

✓ **VERSATILITY**

Excellent basis for constructions of roofs, ceilings, walls, floors | Suitable for various types of construction, repair, reconstruction | Combined with various materials: brick, concrete, wood, metal.



The pictures are illustrative.

✓ **INTERNAL LAYING OF UTILITIES**

Due to the thin OSB web additional space appears which can easily be filled with thermal insulation material. Pre-applied "plugs" free from the need to drill so you can easily and quickly pull pipes, wires, etc.



The pictures are illustrative.

✓ **FAST INSTALLATION and EASY EXPLOITATION**

without special skills, equipment and machinery – an ordinary joist can be lifted and carried by one person (5-10 times faster than for reinforced concrete monolith, hollow core slabs and boards)



The pictures are illustrative.

✓ **PROFITABILITY**

Due to their low weight the I-joists are easily transported, assembled and processed which minimizes transfer prices, ensures minimal labor and working time.



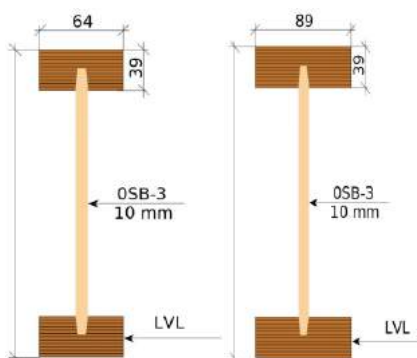
The pictures are illustrative.

## PRODUCTION TECHNOLOGY

**PS-Joists** are designed and manufactured at our own production facility in Belarus. Our products comply with European quality requirements and have a CE certificate (EU reg. n.305/2011 based on ETAG 011, ETA 18/0659).



**PS-Joists** are manufactured using the latest technology and are equipped with high quality LVL flanges and OSB-3 web.



**Wood:** pine, spruce

**Type:** M / L

**Structure:** flanges in LVL 64x39 / 89x39 mm connected by web 9-10 mm in OSB-3

**Connection:** tongue and groove, waterproof polyurethane adhesive (PU glue)

**High:** 200 / 220 / 240 / 300 / 360 / 400 / 450 mm

**Length:** up to 13 m

I-joists are about 30-40% lighter than traditional logs (5-7 kg / m). At the same time, they have the stiffness and same capacity as solid wood beam. Flanges are mainly responsible for flexural strength and stiffness.

### PS-Joist M

can be used for residential and commercial construction, due to their wide flanges this model has larger area for nailing and high strength.

### PS-Joist L

it's for buildings with extremely high load or large spaces, is used mainly in the construction of commercial projects and are ideal for use as rafters.



## APPLICATION

I-joint is used in the so-called "dry finishing" system, which includes everything that does not have a drying time and therefore can be delivered and installed quickly: sheet material, profiles, floor elements, beams, etc.

I-joists will last for many years without cracking or deforming over time. **PS-Joists** are an excellent alternative to heavy and difficult-to-work metal and reinforced concrete floors, the installation of which is associated with the need to perform "wet" works, additional involvement of reinforcement workers, concrete workers. Retaining technical properties and stability, they allow the safe operation of the structure.



The pictures are illustrative.

## INTERMEDIATE FLOORING

in frame and brick houses, as well as in houses made of blocks and beams.

Thanks to the use of I-joists the wooden floor in the house does not undergo shrinkage and deformation for a long time, provides savings in labor and materials during the construction of the house and can be operated in any climatic zone and under any temperature conditions.

### BENEFITS:

- ✓ high bearing capacity of structures;
- ✓ high precision geometry, guaranteeing reliability;
- ✓ absence of deflections and, consequently, vibrations;
- ✓ high specific strength and length of I-joint (up to 13 m) makes it possible to use them in long spans without using intermediate supports;
- ✓ the ability to make a floor screed in a wooden house;
- ✓ thanks to I-joint the weight of the structure is reduced, which helps to reduce the cost of the foundation;
- ✓ a significant increase in the speed of construction of a structure while minimizing costs

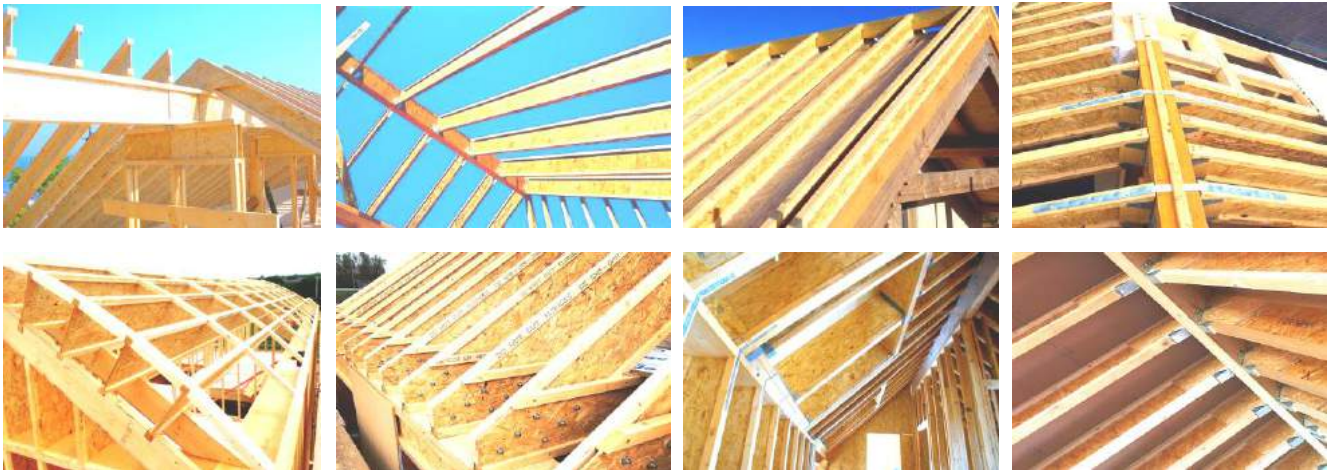


The pictures are illustrative.

## ROOF SYSTEM

single-slope, dual-slope, four-slope, mansard, flat roof

Wooden I-joists are used as rafters in the construction of the roof truss system. This is a modern high-tech material that has no analogues in terms of price-quality ratio with an estimated rafter length of more than 5 meters. Such a roof will serve for many years without deforming or collapsing under the influence of natural factors. Power high-strength rafter systems can be used in houses in any climatic zone.



*The pictures are illustrative.*

## WALL SYSTEM

I-joist is an ideal solution where a high level of insulation and low carbon footprint is a requirement. The variable depth and 10-mm OSB web give the ability to design structures which meet the most demanding thermal insulation requirements. They minimize cold bridging and are easy to work with on-site. I-joists are versatile and can be stick built on-site or incorporated into prefabricated panels as part of the move towards off site construction for faster and more accurate building methods.

When erecting I-joist walls you will need engineering assistance to help with the design, since specific application guidelines and details haven't been developed by the I-joist industry or adopted by any building codes. Tall walls and high-wind or seismic locations will require engineering to ensure the lateral stability of the I-joist flanges, which under normal conditions could be provided by exterior sheathing and interior drywall. Engineered solutions will be required when wall framing exceeds certain heights, too.



*The pictures are illustrative.*

## TIMBER FRAME STRUCTURE | HBS |

It's a construction method in which the load-bearing elements consist of posts and beams, to which slabs are attached on both sides. The voids are then filled with insulating material in accordance with standards. The external facade can be made, for example, of brick or wood cladding. Interior finishing is done with gypsum or fiber cement boards. This type of construction plays an important role in the growing green building industry around the world.



The pictures are illustrative.

## CONCLUSION

Schools, kindergartens, industrial facilities, cowsheds, townhouse villages, house renovations, churches and even an airplane hangar - this is not the entire list of buildings where our products can be applied. Foam block houses, frame houses, brick houses, gas silicate houses, glued beams, logs, monoliths, wood concrete, foam concrete, vulture panels - a huge mass of technologies in which key solutions have already been worked out.

**Why is it more profitable to order I-joists from PROFITSYSTEM? As a manufacturer, we provide the highest quality products that meet all international standards at competitive prices, while guaranteeing order fulfillment in the shortest possible time, convenient and fast delivery and significant discounts for regular purchases.**

We are well aware that this technology is quite new and not known to everyone in many countries and regions of Europe. Therefore, we are ready to share our knowledge and experience with you. You can send us plans and drawings of your construction projects and we will advise on the application of our products.

## WE OFFER:

- ✓ 25 years of experience in the **EU market**
- ✓ **Certified production** (FSC, ETAG, SBP)
- ✓ **Contracts within the EU** via our office in Lithuania
- ✓ **DAP / FCA** deliveries
- ✓ **Convenient terms** of payment
- ✓ Long-term **Cooperation & Partnership**



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