

H-Block®

VS SIP



H-Block®

Our products, both H-Block® and H-Block®_{plus}, are types of SIPs. These sandwich panels with a **polyurethane insulating core and OSB facing**, reinforced with the **web structure made of either OSB or plywood**, were invented in Poland and patented by us. Both of these panels combine the idea of a traditional SIP with the carrying capacity of beams, square tubes and boxes.

The traditional and well-known **SIP panel** (Structural Insulated Panel) was invented in the US in the 1930s. It is the sandwich panel with polystyrene insulating core and OSB facing, designed to quickly assemble residential and commercial buildings.

DRAWBACKS? A traditional SIP is used mainly as a wall panel - rarely for roofs and very rarely for floors. SIP for walls is a cover element that requires a structural wood connection between the panels. Such a use of SIPs, similar to that of a timber frame, creates thermal bridges. An alternative SIP tongue-and-groove connection eliminates the thermal bridge, but requires an additional internal structure.

H-Block®

H-BLOCK®

H-BLOCK® PLUS



H-Block®



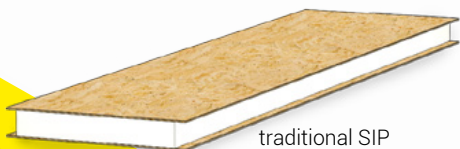
H-Block®_{plus}

WHAT INSPIRED US...

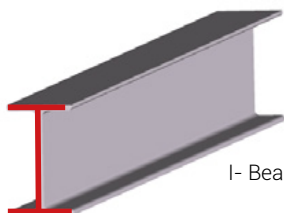
to create H-Block® was the need to eliminate the use of wood, where it is not essential in the building structure. This thought encouraged us to look at the SIP panel as if it was the I-Beam, where the OSB works as the flange and the rigid polyurethane foam as the web. Our next thought was the question...

Are we able to strengthen the web so that it could be used for construction purposes?

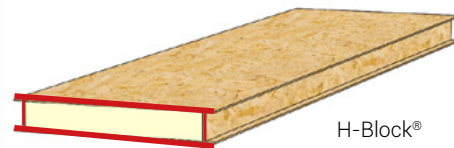
The answer to this question led to the creation of a hybrid web: OSB-PUR foam-OSB. Such a web, located between the flanges of OSB, created the concept of an **I-beam H-Block® panel**.



traditional SIP



I- Beam



H-Block®

The advantages of H-Block® panel...

- + high insulation and energy efficiency
- + bearing capacity
- + very fast assembly
- + air-tightness
- + small thickness
- + and much more...



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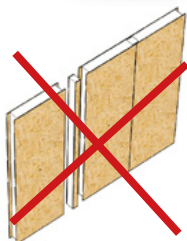
H-BLOCK® FOR WALLS

It is a SIP that **eliminates the wooden structure, both internally and externally.** It is the LHB joint that is used instead, creating the square tube construction every 1.25 m (standard OSB width) which structurally strengthens the walls and eliminates thermal bridges. The wood is therefore only needed as a ground beam, a corner and a top plate. A traditional SIP for roof or wall is only filling a wooden structure, with all the disadvantages of this solution – thermal (thermal bridge) and economic (higher investment cost).

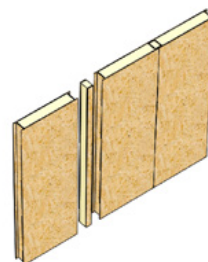
- provides savings in wasted material
- provides savings in labour
- provides savings in operations



square tube



SIP panel



H-Block®



SIP section



H-Block® section

H-BLOCK® PLUS

It is a SIP **intended for the roofs and ceilings assembly.** In this type of the reinforced SIP panel, the hybrid web consists of plywood-PUR foam-plywood. The flange, as in the case of H-Block® panels, is OSB. Such an I-beam with a narrowed web and an extended LHB_{plus} joint, when compared to H-Block®, when joined on the ceiling or on the roof, forms a box-supporting structure with a repeating schedule of webs and a double layer of OSB on LHB_{plus} joints known from the construction of bridges.

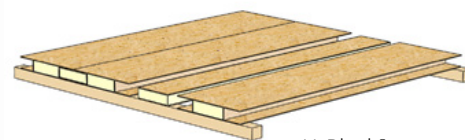
- insulation function
- eliminates the traditional load-bearing ceiling structure and the roof truss
- provides savings in waste material, workmanship and operation



box profile



SIP panel



H-Block®_{plus}



SIP section



H-Block®_{plus} section

DID YOU KNOW...

H-Block® gives you a chance for even more creative applications. Due to its light weight, very good bearing parameters and insulation at the same time, customers used it, e.g. to build houses on the water or mobile homes.



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