



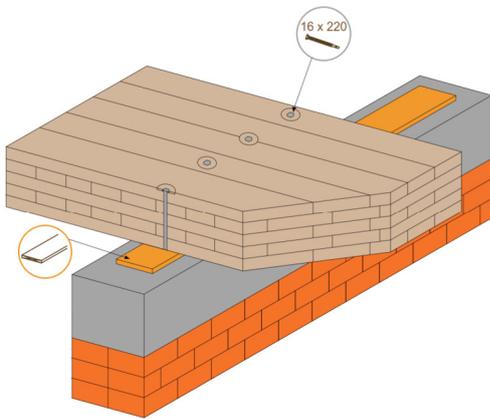
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# binderholz for **FLAT ROOFS**

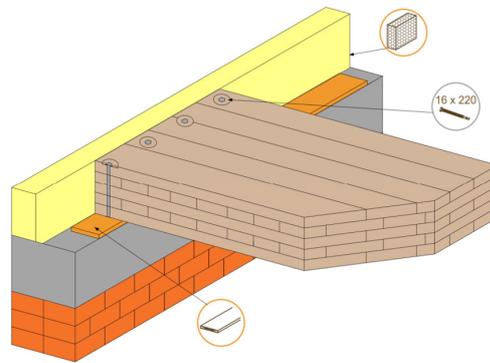
binderholz CLT BBS is ideal for every shape of roof. Cantilevers or openings can be constructed with ease, thanks to the millimetre-precise CNC-cut and dual-axis load-bearing effect of the elements. Rain-tight buildings and finished visible surfaces indoors can be quickly produced with ease. BBS roof constructions reliably and soundly meet all static, fire resistance and air-borne sound insulation requirements. As BBS provides good thermal insulation and simultaneously outstanding thermal storage, it helps to provide a cosily warm room temperature in winter, as well as ideally helping to prevent the building from overheating in summer (summer thermal insulation).



CLT BBS is a completely solid, multi-ply board made of wood. Bonding longitudinal and transverse layers together reduces the „movement“ of the wood, that is its swelling or shrinkage, to a negligible degree. The solid finished element can bear heavy loads, is fire-proof, can quickly be fitted dry and has sound and thermal damping properties. Execution using BBS provides structural benefits, such as self-supporting and dry construction methods, horizontal and vertical load transferring effect, dimensionally stable elements, and adequate fire resistance and acoustic insulation, as well as finished visible surfaces and a high degree of living comfort from the positive effect of the large area of timber on the indoor climate.



BBS element on a mineral-based wall with cantilever  
(refer also to binderholz CLT BBS processing guideline  
[www.binderholz.com/en-us](http://www.binderholz.com/en-us))

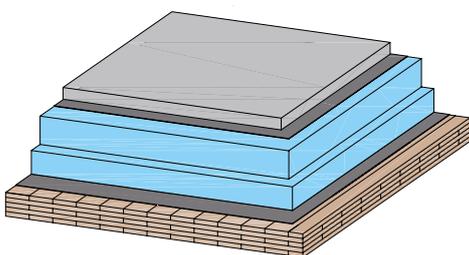


BBS element on a mineral-based wall without cantilever

The Solid Timber Manual 2.0 includes over 50 tested roof structures, the structural properties of which have been tested and rated with environmental performance figures. All ratings, construction details, as well as other roof structures, can be found at [www.massivholzhandbuch.com/en](http://www.massivholzhandbuch.com/en).

## FLAT ROOF CONSTRUCTION

- Not back-ventilated
- No installation layer



### STRUCTURAL AND ENVIRONMENTAL RATING

<b>Fire resistance</b>	REI	30
max. span width $l = 4 \text{ m}$ max. load ( $q_{in, \text{d}}$ ) = 7.92 [kN/m <sup>2</sup> ]; IBS classification		
<b>Thermal insulation</b>	U[W/m <sup>2</sup> K]	0,14
	Diffusion behaviour	suitable
	$m_{e,sa}$ [kg/m <sup>2</sup> ]	38,6
HFA calculation		
<b>Noise insulation</b>	$R_w$	57
	$L_{w,sa}$	-
<b>Environmental rating</b>		
O13 <sub>en</sub>		47,6
IBO calculation		

## BENEFITS OF SOLID WOOD ROOFS

- rain-tight after only a few hours | fast installation | dry construction
- low construction height
- usual flat roof structures created by monolithic BBS elements
- good fire resistance and air-borne sound insulation
- cantilevers can be directly used as porch roofs
- finished system parts: shorter construction periods | high degree of prefabrication | simple detailing
- large thermal storage mass | thermal storage in winter | insulator in summer
- BBS visible surfaces on the inside are factory-produced: pleasant warm wooden surfaces | comfortable living climate

## COMFORT AND AIR QUALITY | SUMMER THERMAL INSULATION

Solid wood is synonymous with well-being and living comfort, as guaranteed by its multifaceted architectural design possibilities alone. The visible surfaces of diverse species of wood, such as spruce, stone pine, white fir or BBS Antique, can be combined in the interior of the building and further individualised using coloured glazes and planed or brushed finishes. When coupled with the outstanding properties of timber as a store of heat and humidity, the warm timber surfaces guarantee a balanced living environment and a high level of comfort.

The use of BBS visible quality elements also means that no subsequent work is needed in the interior.



## LEAN AND LIGHTWEIGHT CONSTRUCTION WITH A HIGH DEGREE OF PREFABRICATION

binderholz construction solutions provide for a very high degree of prefabrication, thereby significantly shortening construction times and guaranteeing a high level of quality. A major benefit is their outstanding load-bearing strength based on the dimensions of binderholz CLT BBS. The BBS elements win over on account of the structural possibilities they offer for bridging large span widths with slim element thicknesses.



Assembly of a BBS flat roof element



BBS flat roof during construction



BBS roof elements



BBS elements resting on a steel structure

## SERVICES

As a binderholz customer, you benefit from comprehensive advice and in-depth knowledge provided by the experts in our high-performance technical department: our degree-qualified engineers, civil engineers and technical draughtsmen will expertly provide support on all questions relating to statics and construction, structural physics and fire resistance. We can offer you effective support based on the many years of binderholz' experience in solid wood construction and professional assistance with the development of building concepts, framework designs and detailed solutions.

**binderholz** ■

**Binderholz Bausysteme GmbH · CLT BBS**

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