



# ALUBEAM100

Aluminium profile for the base anchoring of timber wall structures



SYSTEM COMPONENTS	MATERIAL
Extruded aluminium profile	Aluminium EN AW-6060-T5
Adhesive rubber for the correct pose of the timber walls and for airtightness	EDPM Rubber

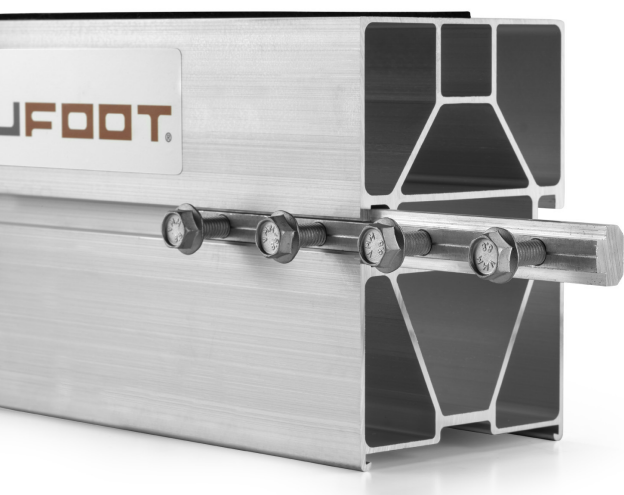
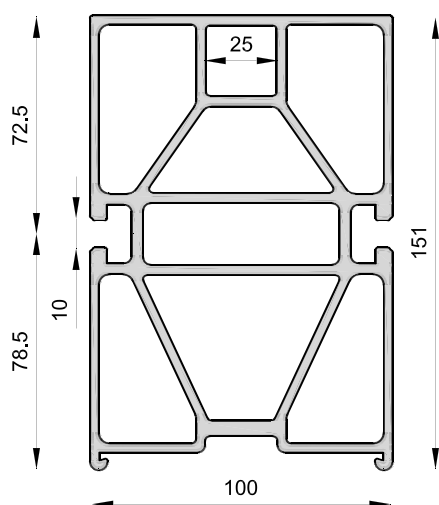
#### Application fields

- ▶ CLT
- ▶ Platform Frame
- ▶ Blockbau
- ▶ Existing wall consolidation for base degradation

Use in service class 1 and 2

Supply conditions:

- ▶ Sold in linear meter; max length of bars: 6 m
- ▶ Cut and drilled at measure according to design project



## COMPLEMENTARY PRODUCTS

ALUFIX	M16x400 mm steel threaded bar, to ensure the Alubeam foundation anchoring
ALUCORNER+	device for planar and height regulation of the profile during construction
MORTAR	or RESIN to create the bed
ALUJOINT	aluminium bars for linear jointing between pieces

## ASSEMBLING TOOLS

- Wooden tables to create the formwork for mortar/resin bed
- Meter and level for planar and height regulation control



### Durability and healthiness

AluBeam solves the main problems of base anchoring for timber structures, preventing humidity to rise to the timber walls, saving wood from rot.



### Lightness

AluBeam was designed in order to be manageable; each 6 meters rod weights around 45 kg.



### Efficiency

AluBeam makes it easy the construction of the structur, speeding up the building phases and reducing the costs.



### Mechanical performance

AluBeam ensure a good behaviour of the structures in terms of mechanical performance, with particular reference to seismic actions.



### Thermic behaviour

The building solution using Alubeam maintains the values of linear energetic transmittancy comparable to the typical solutions with concrete or wooden beams.



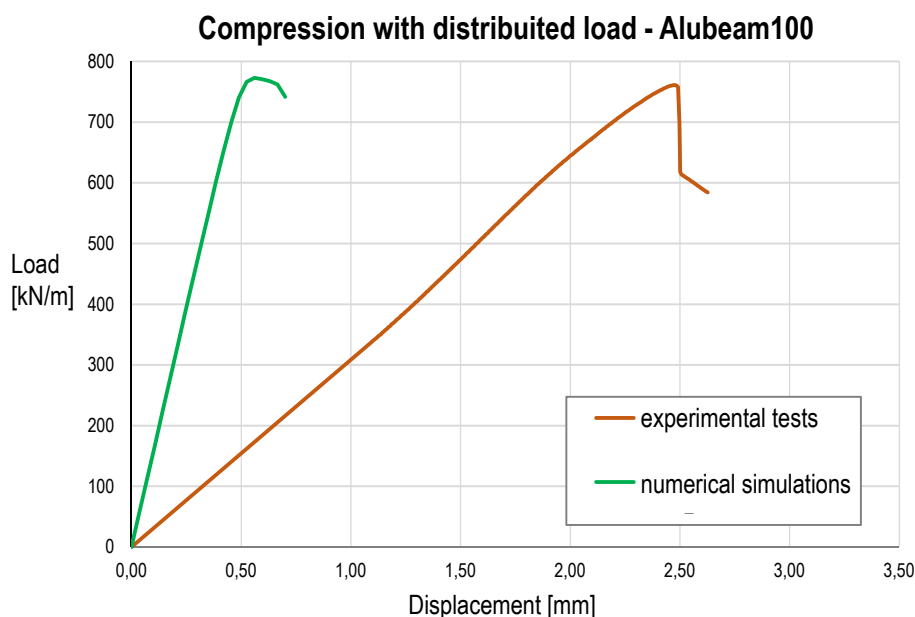
## MECHANICAL PROPERTIES

### LOAD BEARING CAPACITY

In order to verify the load bearing capacity of ALUBEAM100, a test campaign has been performed at the University of Padova, Department ICEA, including numerical models with FEM softwares and experimental tests.

### DISTRIBUTED LOAD (CROSS-LAM)

The tests and the numerical simulations had the aim to evaluate the load bearing capacity of the aluminium beam subjected to a distributed load (that represents the typical load case of a cross-lam wall).



	Ultimate value $R_{ult,m}$	Characteristic value $R_k^*$	Design value $R_d^{**}$
Load bearing capacity	761	533	485

\* For the characteristic value evaluation, a corrective coefficient  $k_{corr}=0,7$  has been used.

\*\* For the design value evaluation, it has been assumed a safety factor  $\gamma_{M1}=1,10$  according EN 1999.1.1:2007.

### DESIGN RESISTANCE OF BOLTS

The design resistance of bolts has been evaluated according to §8.5.5 EN 1999.1.1:2007, considering the 4 mm thickness of the Alubeam lower portion.

	Characteristic value $F_b, R_k$	Design value $F_b, R_d^{***}$
Resistance of bolts [kN]	32,0	25,6

\*\*\* For the design value evaluation, it has been assumed a partial safety factor  $\gamma_{M2}=1,25$  according EN 1999.1.1:2007.