

Approval body for construction products  
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and  
Laender Governments



## European Technical Assessment

**ETA-20/0619**  
**of 14 September 2022**

English translation prepared by DIBt - Original version in German language

### General Part

Technical Assessment Body issuing the  
European Technical Assessment:

Deutsches Institut für Bautechnik

Trade name of the construction product

Vente Verbund-BSH (V-BSH)

Product family  
to which the construction product belongs

Special block glued glulam

Manufacturer

Vente-Holz GmbH  
Zum Sägewerk 2  
57413 Finnentrop  
DEUTSCHLAND

Manufacturing plant

Vente-Holz GmbH  
Zum Sägewerk 2  
57413 Finnentrop

This European Technical Assessment  
contains

7 pages including 2 annexes which form an integral part  
of this assessment

This European Technical Assessment is  
issued in accordance with Regulation (EU)  
No 305/2011, on the basis of

EAD 130647-00-0304 – SPECIAL BLOCK GLUED  
GLULAM

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## Specific part

### 1 Technical description of the product

Vente Verbund-BSH (V-BSH) is glued laminated timber made of spruce in accordance with EN 14080<sup>1</sup> that is block glued with an adhesive of type I as given in EN 15425<sup>2</sup>. The block glue line between the glulam components is maximum 0.3 mm thick. The glulam components of V-BSH glulam are homogeneous or combined glulam in accordance with EN 14080. The ETA also covers V-BSH made of re-sawn glulam components.

In terms of geometry V-BSH is widely in accordance with EN 14080. V-BSH is special block glued glulam with a solid rectangular cross section with a depth H from 100 mm up to 280 mm, a width B from 76 mm up to 1000 mm and a geometry as given in Annex 1.

The length of the V-BSH is up to 18 m.

The width of the glulam components is  $38 \text{ mm} \leq b_{i,i} \leq 200 \text{ mm}$  and the lamination thickness of the glulam components is  $6 \text{ mm} \leq t_{i,i} \leq 45 \text{ mm}$ .

If V-BSH is made of homogeneous glulam the thickness of the glulam laminations of the components may vary as given in Annex 1.

If V-BSH is made of combined glulam the thickness of all glulam laminations of the components is the same as given in Annex 1.

The laminations of the glulam components may have finger joints lengthwise in accordance with EN 14080.

The adhesive used to produce the V-BSH is the 1K-PUR-adhesive Jowapur 681.15, which is an adhesives of type EN 15425 I 70 GP 0.3 w.

The ETA does not cover V-BSH made of:

- softwood preservative treated against biological attack,
- softwood treated with flame retardants,
- recycled softwood.

### 2 Specification of the intended use in accordance with the applicable European Assessment Document

V-BSH is used in load-bearing timber structures in service classes 1 and 2 in accordance with EN 1995-1-1<sup>3</sup>, clause 2.3.1.3.

The performances given in Section 3 are only valid if the V-BSH is used in compliance with the specifications and conditions given in Annex 2.

The verifications and assessment methods on which this European Technical Assessment is based lead to the assumption of a working life of the V-BSH of at least 50 years. The indications given on the working life cannot be interpreted as a guarantee given by the producer, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

|   |   |   |
|---|---|---|
| 1 | EN 14080:2013                               | Timber structures – Glued laminated timber and glued solid timber – Requirements  |
| 2 | EN 15425:2017                               | Adhesives – One component polyurethane for load bearing timber structures – Classification and performance requirements |
| 3 | EN 1995-1-1:2004/AC:2006<br>A1:2008+A2:2014 | Eurocode 5: Design of timber structures – Part 1-1: General – Common rules and rules for buildings                      |

### 3 Performance of the product and references to the methods used for its assessment

#### 3.1 Mechanical resistance and stability (BWR 1)

| Essential characteristic   | Performance  |
|--|--|
| Strength, stiffness and density properties of the special block glued glulam               | Equal to the strength classes of the V-BSH glulam components |
| Shear strength of the special block glued glulam, laminations loaded flatwise              | $f_{v,k,flat} = 3.5 \text{ N/mm}^2$                          |
| Shear strength of the special block glued glulam, laminations loaded edgewise <sup>4</sup> | $f_{v,k,edge} = 2.5 \text{ N/mm}^2$                          |

#### 3.2 Safety in case of fire (BWR 2)

| Essential characteristic | Performance  |
|--------------------------|--|
| Reaction to fire         | D-s2, d0<br>in accordance with the Delegated Regulation (EU) 2017/1227 |
| Charring rate            | $\beta_0 = 0.65 \text{ mm/min}$<br>$\beta_n = 0.70 \text{ mm/min}$     |

#### 3.3 Hygiene, health and the environment (BWR 3)

| Essential characteristic | Performance  |
|--------------------------|--|
| Formaldehyde emission    | Class E1<br>in accordance with EN 14080<br>A formaldehyde-free adhesive is used. |

#### 3.4 Other essential characteristics

| Essential characteristic                              | Performance  |
|---|--|
| Durability of bonding strength of the block glue line | fulfilled<br>The 95 % quantile of the block glue line thickness is 0.24 mm.  |
| Durability against biological attack                  | The natural durability against biological attack of Spruce heartwood is in accordance with EN 350 <sup>5</sup> : <ul style="list-style-type: none"> <li>– DC 4 against fungi</li> <li>– DC S against beetles</li> <li>– DC S against termites</li> <li>– DC S against marine borer</li> </ul> Spruce sapwood is regarded as not durable. |

<sup>4</sup> The shear strength of the special block glued glulam, laminations loaded edgewise, applies to a crack factor  $k_{cr} = 1.0$ .

<sup>5</sup> EN 350:2016 Durability of wood and wood-based products – Testing and classification of the durability to biological agents of wood and wood-based materials

English translation prepared by DIBt

**4 Assessment and verification of constancy of performance (AVCP) system applied, with reference to its legal base**

In accordance with EAD No. 130647-00-0304 the applicable European legal act is: Decision 97/176/EC as amended by Decision 2001/596/EC.

The system is: 1

**5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD**

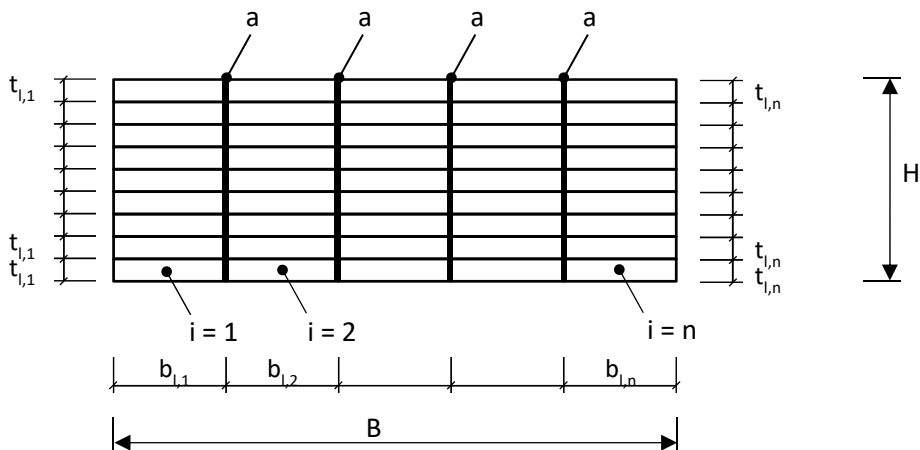
Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited with Deutsches Institut für Bautechnik.

Issued in Berlin on 14 September 2022 by Deutsches Institut für Bautechnik

Anja Dewitt  
Head of Section

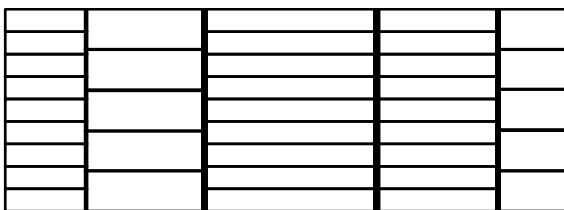
*beglaubigt:*  
Blümel

### Geometry and lay-up of the V-BSH

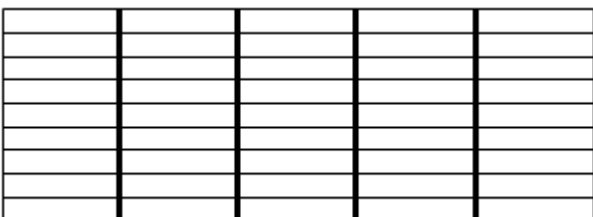


- a block glue line between the glulam components
- $b_{l,i}$  width of the glulam component  $i$
- $t_{l,i}$  lamination thickness of the glulam component  $i$
- $i$  glulam component  $i$  (run variable)
- $n$  glulam component  $n$  (total number)
- $B$  width of the V-BSH
- $H$  height of the V-BSH

#### V-BSH made of homogeneous glulam (components with the same or varying thickness of the laminations)



#### V-BSH made of combined or homogeneous glulam (only components with the same thickness of the laminations)



Vente Verbund-BSH (V-BSH)

Basic structure of the V-BSH

Annex 1

## Annex 2 Specifications of intended use

### A.2.1 Use of V-BSH only:

- for static and quasi-static (non-fatigue) loads.

### A.2.2 Manufacturing provisions

V-BSH is produced in accordance with the minimum production provisions given in EN 14080, Annex I.7, unless otherwise specified in the following and in the provisions deposited at DIBt dated 18 May 2022.

Bonding surfaces shall be planed. The planing shall be carried out not earlier than 24 h prior to bonding.

The temperature in the production facilities shall be at least 20 °C.

### A.2.3 Installation provisions

EN 1995-1-1 applies for the installation.

|                                |         |
|--------------------------------|---------|
| Vente Verbund-BSH (V-BSH)      | Annex 2 |
| Specifications of intended use |         |