

The KVH logo consists of the letters 'KVH' in a white, bold, sans-serif font, followed by a registered trademark symbol (®). To the right of the text is a white zigzag line graphic on a green background.

KVH®

Überwachungsgemeinschaft KVH  
[www.kvh.eu](http://www.kvh.eu)

The image shows the interior of a modern timber house. The walls, ceiling, and staircase are made of light-colored wood. A kitchen area with dark cabinetry is visible in the background. A dining table with chairs is in the foreground. Large windows on the left side offer a view of the outdoors.

High-performance  
building materials for  
timber construction

Structural finger jointed timber  
KVH® solid structural timber

Glued solid timber  
Duobalken® / Triobalken®

# OUTLINE

1

Advantages  
of wood

2

KVH<sup>®</sup> solid  
structural timber

Areas of application  
Technical guidelines  
Agreement  
Preferred dimensions  
Declaration  
of performance  
Marking

3

Duobalken<sup>®</sup> /  
Triobalken<sup>®</sup>

Areas of application  
Technical specifications  
Agreement  
Preferred dimensions  
Declaration  
of performance  
Marking

4

Species

Wood drying  
Strength grading  
Strength classes  
Other properties  
Adhesives and  
Surface bonding  
Finger jointing  
Monitoring

High-performance building materials  
for timber construction



Überwachungsgemeinschaft KVH  
[www.kvh.eu](http://www.kvh.eu)



# 1 ADVANTAGES OF WOOD

# Wood

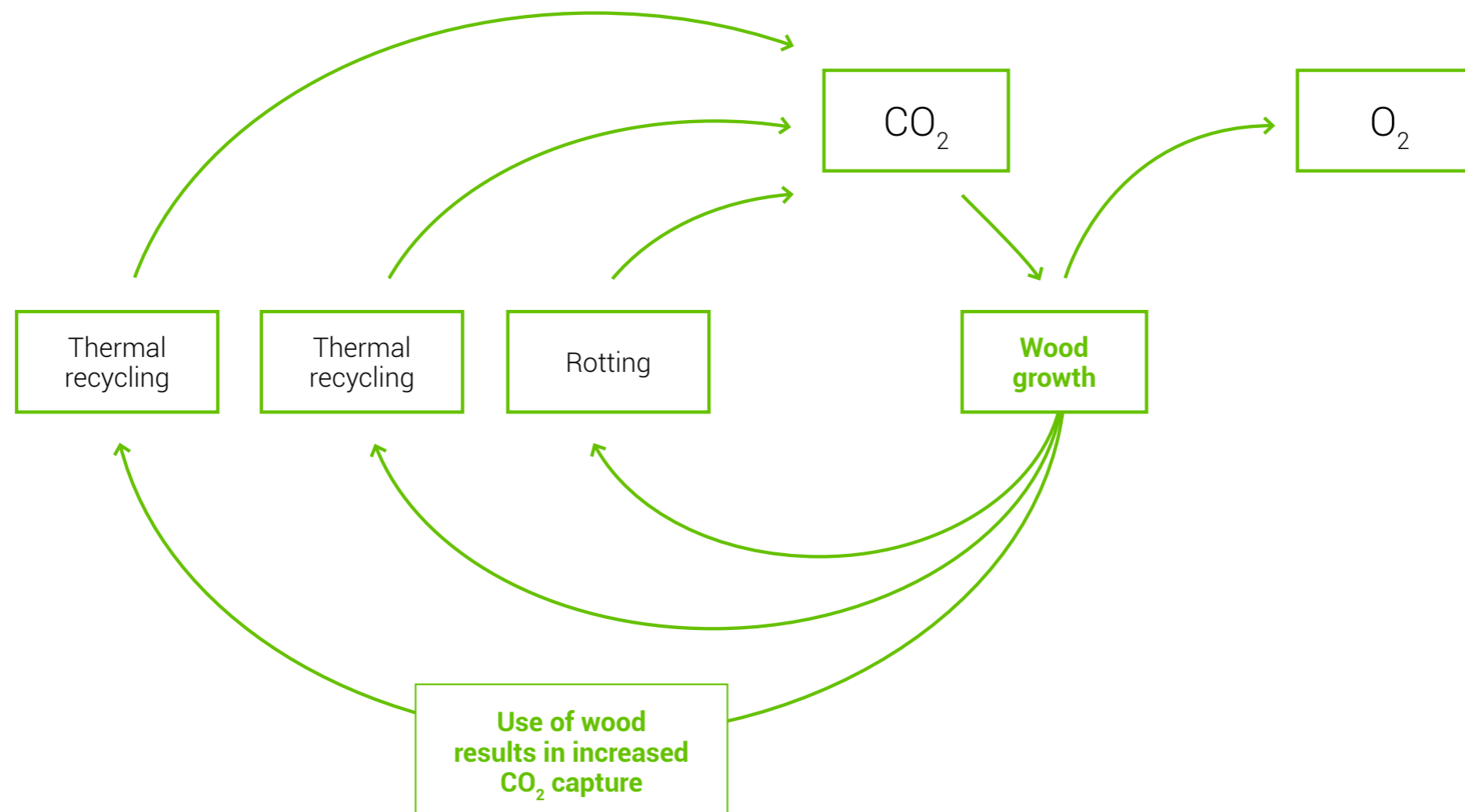
---

- is a renewable resource
- comes from sustainably managed, local forests
- timber harvesting rejuvenates the forest, which strengthens its ecosystem
- short transport routes for the raw material
- can be used as a material and later as a source of energy



# Wood

– is CO<sub>2</sub> neutral and reduces greenhouse gases



# Wood

- can be processed with low energy consumption
- has high strength, low weight, and good heat insulation
- replaces non-regenerative materials which are produced with high energy expenditures
- can be glued to reliable and cost-effective load-bearing building materials with large cross-section and length



# Timber structures

- have a low transport weight
- contribute only minor loads to buildings
- are healthy to live in
- create a positive living and working environment
- are installed in wooden structures with very high durability



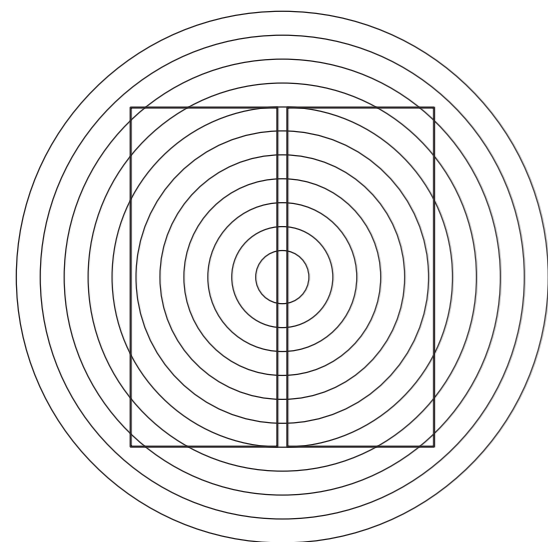
## 2 KVH<sup>®</sup> SOLID STRUCTURAL TIMBER





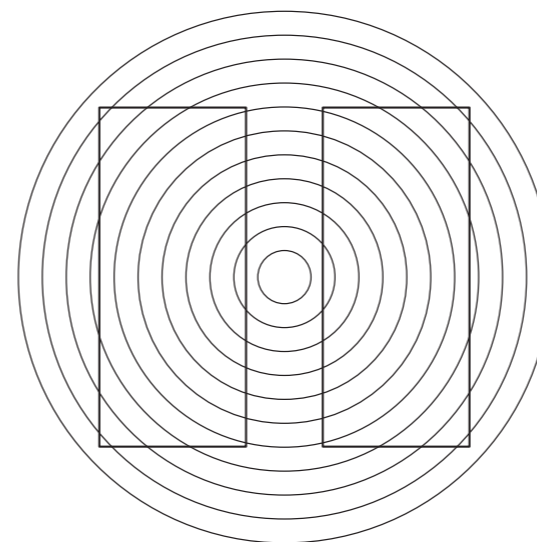
## KVH® solid structural timber

- is a glued structural solid wood product
- is used the same as solid wood
- is cut in such a way that cracking is minimized



**"Split-heart" in accordance  
with the agreement on KVH®**

Cutting in such a way that the pith of an ideally grown log is cut through in two strands.



**"Heart-free" in accordance  
with the agreement on KVH®**

On request: A heart plank  
with  $d \geq 40$  mm is removed.



## KVH® solid structural timber

- consists of spruce, pine, larch, pine or Douglas fir wood
- is kiln-dried to  $15 \pm 3 \%$  <sup>1)</sup>
- is visually or mechanically strength graded
- is generally finger-jointed
- is planed or calibrated (levelled) <sup>2)</sup>
- is available in two surface classes <sup>3)</sup>
- is available in standard cross-sections
- is available with a length of 13 m or more
- is subject to an additional quality control by independent test institutes

<sup>1)</sup> Kiln dried at a temperature of at least 55 °C for a time of at least 48 hours

<sup>2)</sup> In the case of the levelling, only the surface is processed by a plane. As a result, parts of the surface remain rough.

<sup>3)</sup> KVH®Si for visible applications, KVH®Nsi for non-visible applications.

High-performance building materials  
for timber construction



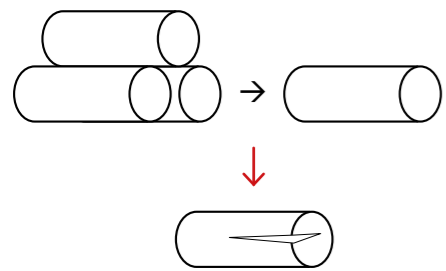
Überwachungsgemeinschaft KVH  
[www.kvh.eu](http://www.kvh.eu)

Production of KVH<sup>®</sup> solid  
structural timber

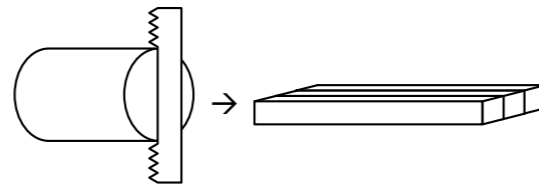


## Production of KVH® solid structural timber

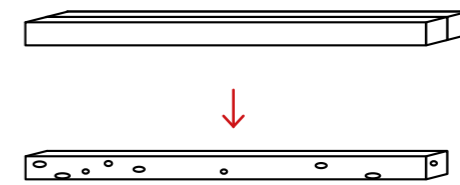
### 1 Grade and classify log



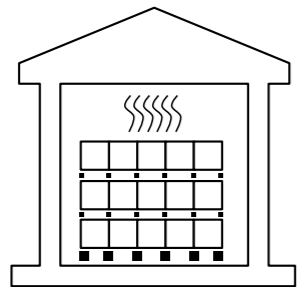
### 2 Cut



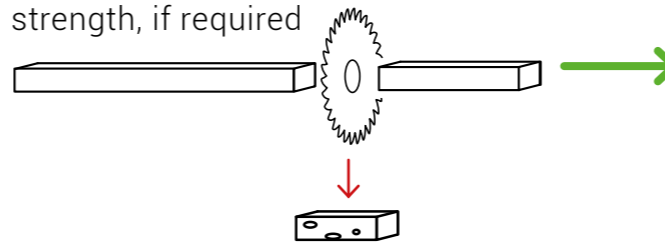
### 3 Pre-grading of lumber



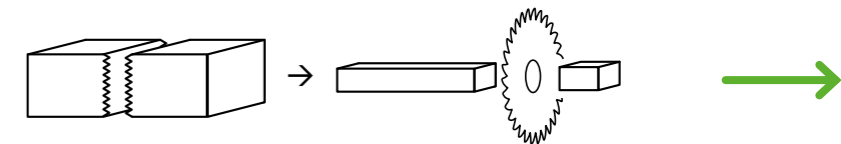
### 4 Technical kiln drying to $u_m = 15\% \pm 3\%$



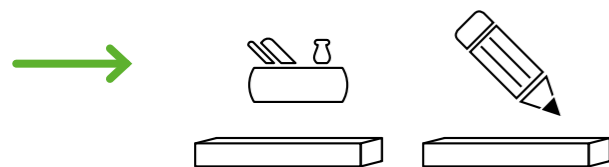
- ### 5
- Strength grading and grading according to KVH® criteria
  - Trimming of any areas that could reduce strength, if required



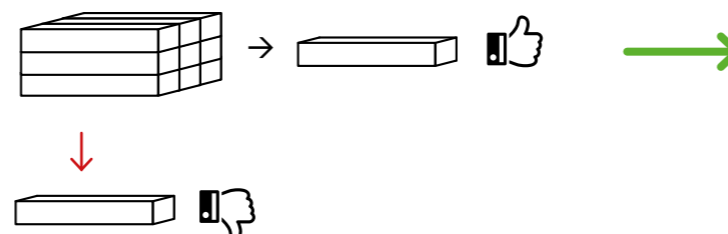
- ### 6
- Finger jointing as per EN 15497, if required
  - Trimming



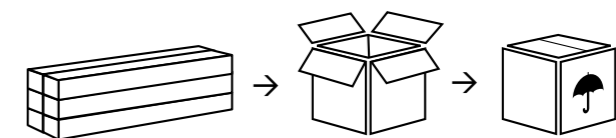
- ### 7
- Planing and chamfering or levelling
  - Marking



### 8 Check and discard where necessary



### 9 Packaging to protect against dirt and moisture



## Production of KVH® solid structural timber

- KVH® is solid timber in the sense of EN 1995-1-1:2010, Section 3.2
- finger joints in KVH® meet requirements of EN 15497, which has replaced EN 385
- KVH® is measured as solid timber
- finger-jointed KVH® is used in the service classes (SC) 1 and 2; non-finger-jointed KVH® made of adequately durable wood is also used in SC 3
- finger-jointed KVH® is used in structures which are subject to permanent or quasi-permanent loads
- KVH® is technically dried and, depending on national regulations may be used without preservative treatment



# Technical rules for the production

---

## Non-finger-jointed KVH® 1)

EN 14081-1: 2011

Timber structures – Strength-graded structural timber for load-bearing applications with rectangular cross-section – Part 1: General requirements

---

## Finger-jointed KVH® 1), 2)

EN 15497: 2014

Finger-jointed solid timber for load-bearing purposes – Performance requirements and minimum requirements for production

---

- 1) Users of the KVH® abbreviation must be members of the Überwachungsgemeinschaft KVH e. V. and are subject to supplementary audits according to the regulations for the monitoring mark KVH®
- 2) The strength grading of the timber takes place before the finger jointing in accordance with EN 14081-1.

## Other technical rules for the production

---

### Finger-jointed and non-finger-jointed KVH®

Agreement on KVH	Solid structural timber of spruce, fir, pine, larch and Douglas fir (September 2015 version) between Holzbau Deutschland (BDZ) and the Überwachungsgemeinschaft Konstruktionsvollholz e. V.
DIN 4074-1: 2012 <sup>1)</sup>	Grading of softwood based on load-bearing capacity, coniferous sawn timber
EN 338: 2016	Structural timber – Strength classes
EN 1912: 2013	Structural timber – Strength classes – Assignment of visual grading classes and species
EN 336: 2003	Structural timber – Dimensions, permitted deviations

<sup>1)</sup> Applicable grading standard in Germany.

EN 1912 assigns the national grading classes to European strength classes as per EN 338.

## Agreement on solid structural timber KVH®

Grading property	Requirement Si	Requirement NSi	Comments
Technical regulation	EN 15497:2014	EN 15497:2014	
Strength class according to EN 338	At least C24	At least C24	Strength, stiffness and density properties for dimensioning according to EN 338
Grading standard for visual grading	DIN 4074-1	DIN 4074-1	
Moisture content	15 % ± 3 % Kiln dried: Wood that is dried in a suitable technical facility, process-controlled, at a temperature of $T \geq 55 \text{ °C}$ for a minimum of 48 h to a moisture content of $u \leq 20 \text{ %}$		



## Agreement on solid structural timber KVH®

Grading property	Requirement Si	Requirement NSi	Comments
<b>Cut type</b>	<p>Cutting in such a way that the pith of an ideally grown log is cut through in two strands.</p> <p>By request: A heart plank with <math>d \geq 40</math> mm is removed</p>	<p>Cutting in such a way that the pith of an ideally grown log is cut through in two strands.</p>	
<b>Wane</b>	Not admissible	$\leq 10$ % of smaller cross-section side	Wane according to DIN 4074-1 measured diagonally
<b>Cross sectional tolerances</b>	<p>EN 336, Dimensional stability class 2 <math>b \leq 100</math> mm = <math>\pm 1</math> mm; <math>b &gt; 100</math> mm = <math>\pm 1.5</math> mm</p>	<p>EN 336, Dimensional stability class 2 <math>b \leq 100</math> mm = <math>\pm 1</math> mm; <math>b &gt; 100</math> mm = <math>\pm 1.5</math> mm</p>	The purchaser and the supplier agree upon the dimensional stability for the length dimensions.
<b>Knot condition</b>	<p>Loose knots and dead knots not admissible. Occasional faulty knots or parts of knots up to a maximum diameter of 20 mm are permitted.</p>	<p>in accordance with DIN 4074-1 grading class S10</p>	Replacement by softwood dowel allowed.

## Agreement on solid structural timber KVH®

Grading property	Requirement Si	Requirement NSi	Comments
<b>Knotiness</b>	S10: $A \leq 2/5$ not over 70 mm	S10: $A \leq 2/5$ not over 70 mm	The knotiness A is determined according to DIN 4074-1. For machine grading, the following applies: - The knot sizes are not taken into account for KVH® NSi - $\leq 2/5$ applies to KVH® Si
<b>Ingrown bark</b>	Not admissible	DIN 4074-1	
<b>Cracks, radial shrinkage cracks (dry cracks)</b>	Crack width $w \leq 3\%$ of the relevant side of the cross-section	DIN 4074-1	Increased requirements for Si vis-a-vis grade S10 according to DIN 4074-1
<b>Pitch pockets</b>	Width $w \leq 5$ mm	without limit	Additional criterion
<b>Discolouration</b>	Not admissible	DIN 4074-1	Increased requirements for Si with respect to grade S10 according to DIN 4074-1
<b>Insect infestation</b>	Not admissible	DIN 4074-1	Increased requirements for Si with respect to grade S10 according to DIN 4074-1
<b>Twisting</b>	DIN 4074-1	DIN 4074-1	The permitted degree of twisting is not defined more precisely because no intolerable twisting is to be expected if all other criteria are met.

## Agreement on solid structural timber KVH®

Grading property	Requirement Si	Requirement NSi	Comments
<b>Longitudinal warping</b>	For split-heart cut ≤ 8 mm / 2 m for heart-free cut ≤ 4 mm / 2 m	for split-heart cut ≤ 8 mm / 2 m	As a comparison: as per DIN 4074-1 S10: ≤ 8 mm / 2 m
<b>Finishing of the ends</b>	Trimmed perpendicularly	Trimmed perpendicularly	
<b>Surface condition</b>	Planed and chamfered	Levelled and chamfered	

## Preferred dimensions KVH®

---

- spruce / fir
- surface classes NSi
- strength class C24
- standard lengths up to 13 m

### **On request:**

- other species
- surface class Si
- strength class C30
- other cross-sections and lengths

## Preferred dimensions KVH® Spruce / fir, C24 / C24 M, NSi M

	Height	100	120	140	160	180	200	220	240
Width									
60			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
80			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
100		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
120			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
140				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1) Other species, strength classes and surface classes on request.

## Example of marking for KVH® without finger jointing according to EN 14081-1

Species:  
Spruce / graded visually  
according to the German  
grading standard

<b>CE</b> 1234	
<b>Fa.Muster, Anschrift</b>  <b>14</b> <b>Nr xyz</b>	
EN 14081-1:2011 Structural strength graded solid timber with rectangular cross section	
Modulus of elasticity	Dry graded
Bending strength	Spruce (PCAB)
Compressive strength	Graded as per DIN 4074-1
Tensile strength	Assigned as per EN 1912
Shear strength	C24 (S10)
Reaction to fire	D-S2, d0
Natural durability	Durability class against fungi: 5 against wood-destroying fungi

CE mark according to Directive 93/68/EEC  
Number of the notified body

Name or mark of the manufacturer:  
Note: The address of the manufacturer may be added  
The last two numbers of the year of the first inspection  
Number of declaration of performance

Standard number with year of publication  
Description of the product and area of application

Mandated properties

Example of a CE mark for KVH®  
without finger jointing according to EN 14081-1

# Example of marking for KVH® with finger jointing according to EN 15497

Species:  
Spruce / graded visually

*CE mark as per Directive 93/68/EEC  
Number of the notified body*

*Name or mark of the manufacturer  
The address of the manufacturer may be expanded*

*Last two digits of the year of the first inspection  
Number of the declaration of performance*

*Standard number with year of publication  
Description of the product and the area of application*

*Mandated properties*

<b>CE</b> 1234	
Example Company, Address	
14 Nr xyz	
EN 15497:2014 Structural finger jointed solid timber for use in buildings and bridges	
Mechanical properties and fire resistance as	
Geometric data (mm)	60 x 120 x 12000
Strength class and characteristic density	C 24
Species	Spruce (Picea abies)
Bonding strength as	
Finger joint strength	24 N/mm <sup>2</sup>
Durability of bonding strength as	
Species	Spruce (Picea abies)
Glue for finger joints	PUR, I
Durability of other properties as	
natural resistant to wood-destroying fungi	5
Reaction to fire	D-s2, d0
Formaldehyde emissions	E1

Example of a CE mark for KVH® with finger-joints according to EN 15497

# 3 GLUED SOLID TIMBER DUOBALKEN® / TRIOBALKEN®





## Glued solid timber (Duobalken® and Triobalken®)

- is a glued structural solid wood product
- is used the same as solid wood
- consists of two to five timber layers of the same cross-section dimension that are glued together
- technically dried to a moisture of  $\leq 15\%$  <sup>1)</sup>
- strength graded, visually or mechanically
- usually contains finger-joints
- is planed or calibrated (levelled) <sup>2)</sup>
- is available in two surface classes
- is available in the strength classes C24 and C30
- is available in standard cross-sections
- is a useful substitute for KVH with large cross-sections
- is available in lengths up to 13 m
- as per EN 14080



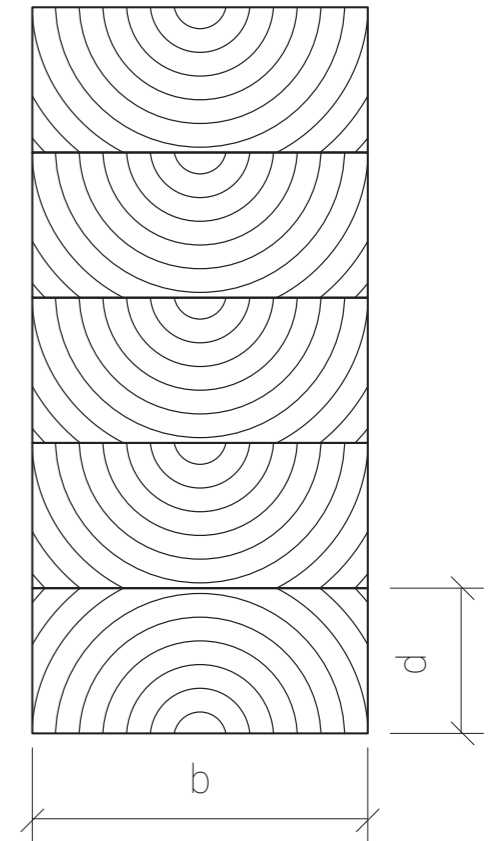
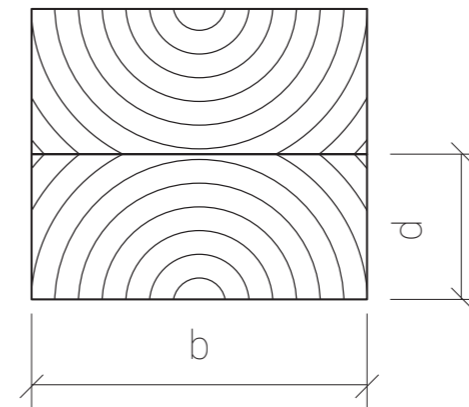
<sup>1)</sup> Dried in a temperature-controlled kiln for more than 48 h at a temperature of at least 55 °C

<sup>2)</sup> In the case of the levelling, only the surface is processed by a plane. As a result, parts of the surface remain rough.

# Cross-section construction for timber layer in accordance with EN 14080:2013

## Cross-section limit of individual wood

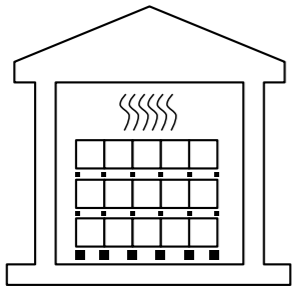
Thickness	$d \leq 85 \text{ mm}$
Width	$b \leq 280 \text{ mm}$
Cross-section limit for the total cross-section	$b \times h \leq 280 \times 280 \text{ mm}$
Number of laminations	2 to 5



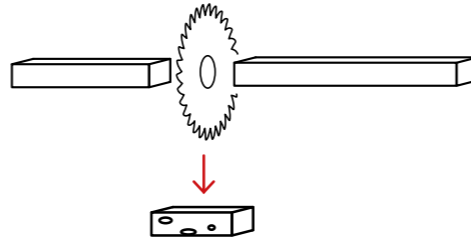
# Production of glued solid timber

## Glued solid timber (Duobalken® and Triobalken®)

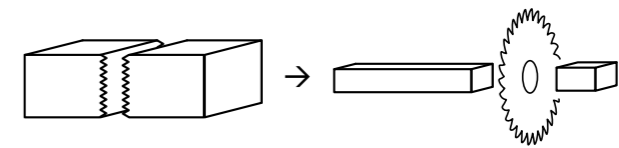
1 Technical kiln drying to  $um = 15\% \pm 3\%$



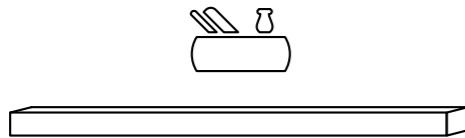
2 • Strength grading and grading according to KVH® criteria  
• Trimming of strength-reducing areas, if required



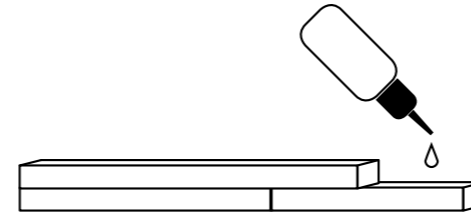
3 • Finger jointing according to EN 14080, if required  
• Trimming



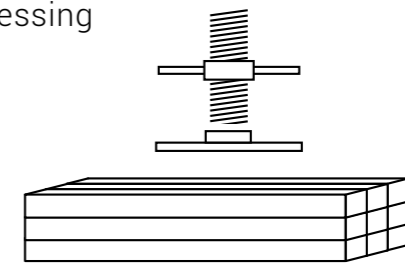
4 Planing and chamfering or levelling



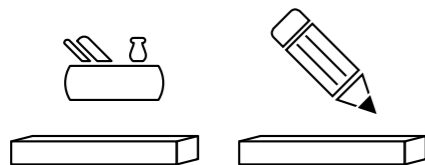
5 Adhesive application



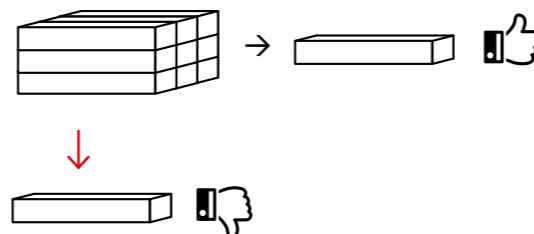
6 Pressing



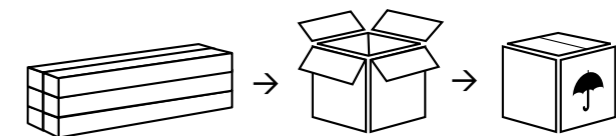
7 • Planing and chamfering or levelling  
• Marking



8 Check and discard where necessary



9 Packaging to protect against dirt and moisture



## Areas of application (Duobalken® and Triobalken®)

---

- Duobalken® / Triobalken® are not covered in EN 1995-1-1:2010
- Duobalken® / Triobalken® are used the same as solid wood
- Duobalken® / Triobalken® are used in the service classes (SC) 1 and SC 2
- Duobalken® / Triobalken® are used in structures that are under permanent or quasi-permanent stress
- Duobalken® / Triobalken® enable the avoidance of chemical wood preservatives, when used in compliance with the respective national regulations

---

## Technical regulations for timber (Duobalken® and Triobalken®) in accordance with EN 14080:2013

---

EN 14080:2013-09	Timber structures – Glued laminated timber and glued solid timber – Requirements
DIN 4074-1: 2012-06 <sup>1)</sup>	Grading of softwood based on load-bearing capacity, coniferous sawn timber
DIN EN 336: 2003-09	Structural timber – Dimensions, permitted deviations
For the individual laminates: Agreement on KVH®	Solid structural timber of spruce, fir, pine, larch and Douglas fir (December 2008 version) between BDZ – Holzbau Deutschland and the Überwachungsgemeinschaft Konstruktionsvollholz e. V.

---

1) Applicable grading standard in Germany.

EN 1912 assigns the national grading classes to the European strength classes as per EN 338.

## Preferred dimensions for laminated timber (Duobalken® / Triobalken®)

---

- spruce / fir
- surface classes NSi / Si
- strength class C24
- standard lengths up to 13 m

### On request:

- other species
- strength class C30
- other cross-sections and lengths

## Preferred dimensions for glued solid timber (Duobalken® / Triobalken®) Spruce / fir, C24

	Height	100	120	140	160	180	200	220	240
<b>Width</b>									
60		□	□	□	□	□	□	□	□
80		□	□	□	□ □	□ □	□ □	□	□
100		□	□	□ □	□ □	□ □	□ □	□ □	□ □
120			□ □		□ □	□ □	□ □	□ □	□ □
140				□ □	□ □	□ □	□ □	□ □	□ □
160					□ □		□ □	□ □	□ □
180						□ □	□ □	□ □	□ □
200							□ □	□ □	□ □
240									□

□ = NSi (non-visible area)

■ = SI (visible area)



## Example of marking for strength class according to EN 14080

Species:  
Spruce / graded visually

Example of a CE mark  
for glued solid timber (Duobalken®)  
according to EN 14080

<b>CE</b> 1234	
Example Company, Address	
14 Nr xyz	
EN 14080:2013 Glued laminated timber	
Mechanical properties and fire resistance as	
Geometric data (mm)	160 x 240 x 12000
Strength class and characteristic density	C 24
Species	Spruce (Picea abies)
Bonding strength	
Finger joint strength	24 N/mm <sup>2</sup>
Adhesive integrity test	B
Reaction to fire	D-s2, d0
Formaldehyde emissions	E1
Durability of other properties as	
Species	Spruce (Picea abies)
Adhesive for face glues between layers	MUF, IGP70S
Adhesive for finger joints	PUR, I
Durability of other properties as	
natural resistance to wood-destroying fungi	Durability class against fungi 5

CE marked according to Directive 93/68/EEC  
Number of the notified body

Name or mark of the manufacturer  
Note: The address of the manufacturer may be added

Last two digits of the year of the first inspection  
Number of the declaration of performance

Standard number with year of publication  
Description of the product and the area of application

Mandated properties

# 4 GENERAL INFORMATION



## Species

KVH® and laminated layer is made from spruce wood as a standard. Other species including fir, pine, larch and Douglas fir are available. According to EN 14081-1, EN 15497, EN 14080 and the production of KVH®, other softwoods are permitted, but are not commonly in use.



**Spruce (Picea abies)**

### Colour, grain pattern

Yellowish-white, darkens to yellowish-brown, develops distinctive grain patterns in both the sapwood and the heartwood

**Raw density (kg/m<sup>3</sup>)**  
(330) - **470** - (680)

### Resistance

Moderate shrinkage. Long moisture-change times, generally good resistance after drying

### Special features

most common softwood in Central Europe



**Fir (Abies alba)**

### Colour, grain pattern

Yellowish-white to almost white, develops distinctive grain patterns, without heartwood colouring

**Raw density (kg/m<sup>3</sup>)**  
(350) - **450** - (750)

### Resistance

moderate shrinkage, good resistance

### Special features

Fresh, fir-specific scent, which fades as it dries; wetwood formation



**Pine (*Pinus sylvestris*)**

**Colour, grain pattern**

Develops pronounced dark-coloured heartwood, yellowish-white to reddish-white sapwood, reddish-yellow heartwood, darkening to reddish-brown, decorative

**Raw density (kg/m<sup>3</sup>)**

(330) - **520** - (890)

**Resistance**

Low shrinkage,  
good resistance

**Special features**

High risk of sap stain, easy to impregnate sapwood, high resin content makes processing and surface treatment more difficult



**Larch (*Larix decidus*)**

**Colour, grain pattern**

Develops pronounced dark-coloured heartwood, light-yellow to reddish-yellow sapwood, ruddy-red heartwood, darkening to intensive reddish-brown, decorative

**Raw density (kg/m<sup>3</sup>)**

(440) - **590** - (850)

**Resistance**

Moderate shrinkage, generally good resistance, propensity for cracking

**Special features**

Relatively resistant to acid



**Douglas fir (*Pseudotsuga menziesii*)**

**Colour, grain pattern**

Develops pronounced dark-coloured heartwood, white to yellowish-grey, light-yellowish-brown to reddish-brown heartwood, pronounced darkening in the light, decorative

**Raw density (kg/m<sup>3</sup>)**

(500) - **650** - (700)

**Resistance**

Good resistance,  
low shrinkage

**Special features**

Hard, rather brittle softwood

## Strength grading of KVH<sup>®</sup> and individual wood elements in glued solid timber (Duobalken<sup>®</sup> / Triobalken<sup>®</sup>)

- Visual or mechanical grading that meets the criteria of EN 14081-1
- Visual grading of softwood (spruce / fir / pine / larch / Douglas fir)
- Generally, visual grading as per DIN 4074-1 or ÖNORM 4074-1 or mechanical strength grading in accordance with EN 14081-1
- Typical visual class S10-TS or S10-K-TS <sup>1), 2)</sup> ≡ C 24
- Typical machine class C 24 M<sup>3</sup>
- Classes S13-TS / S13-K-TS and C 30 unusual
- The measurement reference humidity for the grading criteria  $u = 15 \%$ .
- The requirements for KVH<sup>®</sup>, which exceed those of DIN 4074, must be observed due to unavoidable grading errors and moisture fluctuations within the individual cross-sections for 95 % of the delivered pieces of wood.
- Agreed requirements for the grading characteristics can be seen in connection with the standard cross-section.

1) "K" for grading as squared timbers or boards & beams subject to edge-wise bending stress

2) "TS" for grading after drying to  $u \leq 20 \%$  (dry grading)

3) "M" for mechanical grading

## Strength classes according to EN 338 KVH<sup>®</sup> as per EN 14081-1 or EN 15497 and glued solid timber according to EN 14080

Strength class		C24	C30
<b>Strength values in N/mm<sup>2</sup></b>			
Bending	$f_{m,k}$	24	30
Tensile strength, parallel	$f_{t,0,k}$	14	18
Tensile strength, perpendicular	$f_{t,90,k}$	0,4	0,4
Compressive strength, parallel	$f_{c,0,k}$	21	23
Compressive strength, perpendicular	$f_{c,90,k}$	2,5	2,7
Shear and torsion	$f_{v,k}$	4,0	4,0
Rolling shear strength	$f_{R,k}$	1,0	1,0
<b>Stiffness values in N/mm<sup>2</sup></b>			
Modulus of elasticity <sup>1)</sup> parallel	$E_{0,mean}$	11.000 (11.600)	12.000
Modulus of elasticity <sup>1)</sup> perpendicular	$E_{90,mean}$	370	400
Shear modulus	$G_{mean}$	690	750
Rolling shear modulus	$G_{r,mean}$	69	75
<b>Raw density values in kg/m<sup>3</sup></b>			
Raw density	$\rho_k$	350	380

<sup>1)</sup> 5 % quantile values = 2/3 mean

## Adhesive types and bonding

For the application in KVH® different adhesives are applicable in principal.

Usually three adhesive types (**PUR, MUF, EP**) are used for bonding. The advantages of these adhesive systems are quick hardening and transparent glue lines.

The glue lines are very thin (approximately 0,1–03 mm), the adhesives are insensitive against most chemicals.

Manufacturers of KVH® usually only use one adhesive type.



## Finger jointing and quality control



### Quality-control according to agreement on solid structural timber KVH®

- Quality-control according to agreement on solid structural timber KVH®
- Criteria of the agreement on solid structural timber KVH® are subject of factory production control
- Half yearly, unannounced third party controls of the criteria of the agreement on solid structural timber KVH® by certified bodies

### Process:

- Trimming of any area that could reduce strength, if required and structural jointing of the ends of the timber

### Advantages:

- Effective optimization of member properties
- Effective utilization of timber preserving natural resources
- Production of large member length
- Finger joints in structural finger jointed timber shall fulfill the requirements according to EN 15497:2014, those for glued solid timber the requirements according to EN 14080:2013
- The applicability of the adhesive used for the intended application shall be verified