BauBuche Beech laminated veneer lumber

Wood preservation and surface treatment

09

Pollmeier

Water on BauBuche after hydrophobing coating

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Photo: Koch und Schulte GmbH

9.1 Protection against moisture during transport and installation

BauBuche shrinks and swells more than standard softwood. In particular, exposure of end-grain surfaces (ends of beams, step joints, incisions, drill holes, etc.) to moisture can result in significant expansion of the cross-section. Moisture can also leave behind spots on the material.

To prevent damage during transport and installation, we recommend treating the BauBuche elements with a protective coating that minimises moisture absorption. For suitable coating products, see appendix A.

9.2 Protection against UV light

UV radiation breaks down the lignin contained in the beech lumber, so that the timber surface becomes dull and grey over time. A UV protection coating prevents the decomposition of lignin and helps retain the natural warm beech colour of BauBuche.

9.3 Wood preservation according to DIN 68800

Wood preservation aims at retaining the stability and serviceability of timber construction elements. The wood preservation standards (DIN 68800-1 and DIN 68800-2) must therefore always be taken into account when dimensioning a construction. The regulations below apply to buildings in Germany. For other countries, please refer to the regulations that apply there.

Use classes

DIN 68800-1 classifies timber construction elements in use classes (abbreviation UC). These classes are based on the potential risk of damage after installation, caused by moisture, fungi and other micro-organisms. The hazards posed by wood-destroying insects and fungi, rot and aqueous wood-destroying organisms as well as damage caused by leaching. The use class of a construction material can be influenced by construction measures.

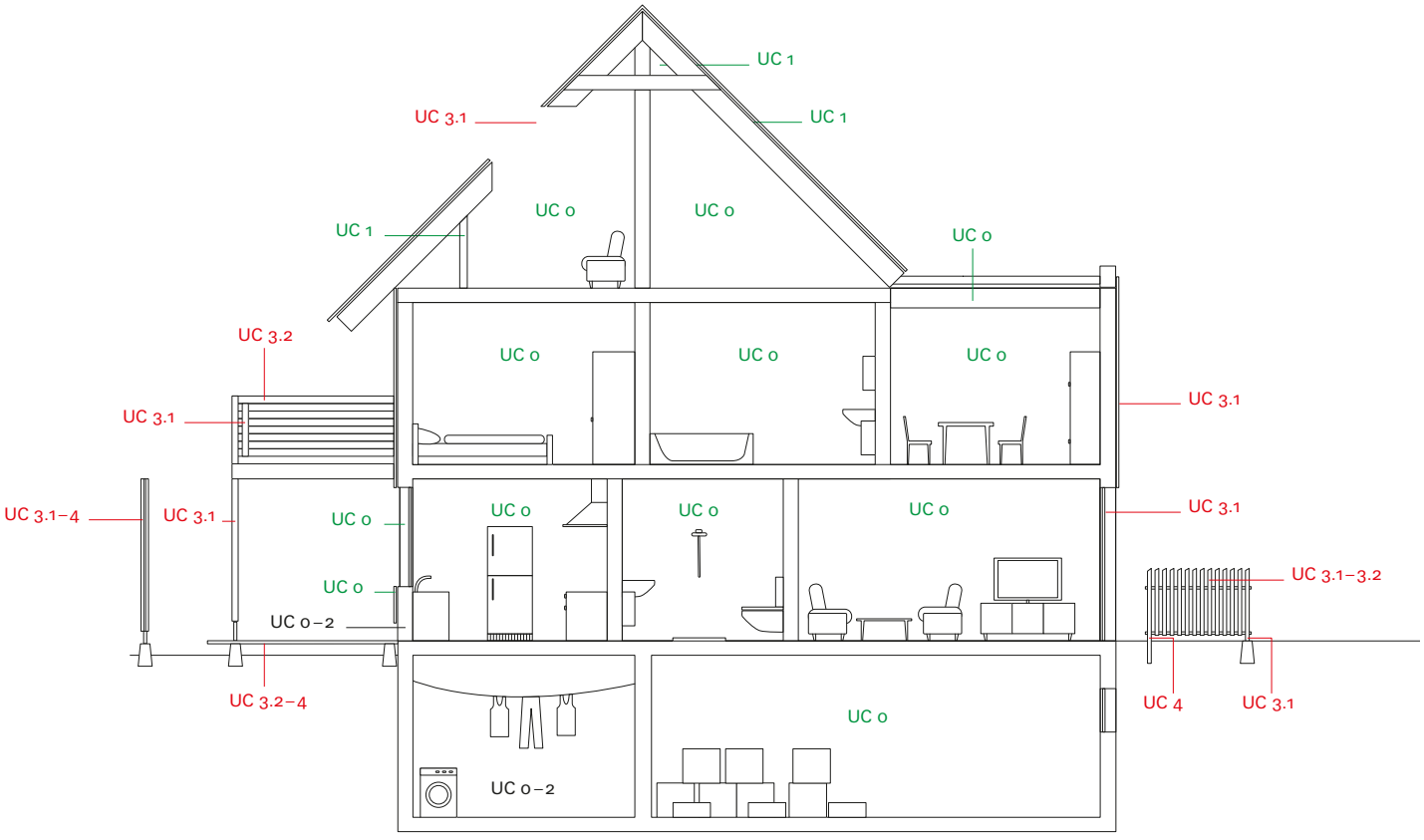
Definition of use classes and service classes

For reasons of static strength, BauBuche is only approved for use in service classes 1 and 2 according to DIN EN 1995-1-1. Service class 1 covers indoor areas, while service class 2 refers to use under a roof without direct exposure to the elements. The strength and stiffness of a constructive timber product depend on its moisture content along its cross-section and the load duration. That is why the average moisture content in the cross-section is the key factor for classification in a service class.

For the protection of the wood and the classification of an individual construction component in a particular use class, the local moisture content and/or surface exposure to moisture are the relevant parameters. It is therefore not possible to align use classes according to DIN EN 1995-1-1 with service classes according to DIN 68800-1.

According to DIN 68800-1, BauBuche is a kiln-dried timber product.
Damage from insects is therefore highly unlikely. The risk of destruction by fungi (rot) can be eliminated by taking suitable "preventive constructional measures in buildings" as outlined in DIN-68800-2. These measures are constructive in nature and aim at a classification of the timber in use classes 0 or 1. When using BauBuche in use classes 0 and 1, there is thus no need for chemical wood preservation against rot. Using BauBuche in use class 2 is not recommended, and the material is not permitted in use classes 3–5.

Sample building, showing classification of timber construction elements in use classes according to DIN 68800-1, Annex D



BauBuche
UC 0–1 recommended
UC 0–2 permitted
UC 3–5 not permitted

APPENDIX A – manufacturer

Koch und Schulte GmbH & Co.KG
Products for protection during transport and installation, UV protection

Primer	**LIGNOPRO 879 BauBuche-Primer plus**
	Slightly hydrophobic, low-viscosity acrylate-based primer with high solids content. Provides a uniform base coat for the application of BauBuche varnish products. Ideal for components with slots or boreholes.
System	1 + 2
Use	approx. 80 ml/m²
Hydrophobicity	★★☆☆
UV protection	★☆☆☆
Surface	satin-gloss
Colour shades	KS 1000 Natur (leaves BauBuche with an untreated look) KS 0000 Colourless (highlights the wood grain)

Coating	**LIGNOPRO 880 BauBuche-Varnish**	**LIGNOPRO 881 BauBuche-Varnish UV**	**LIGNOPRO 882 BauBuche-Varnish HydroX**	**LIGNOPRO 883 BauBuche-Varnish HydroX UV**
	Biocide-free special coating on basis of acrylate with high solids content for a hydrophobic and dirt-repellent BauBuche surface. Does not create a diffusion barrier.			
System	1	1	2	2
Hydrophobicity	★★☆☆	★★☆☆	★★★★	★★★★
UV protection	★★☆☆	★★★★	★★☆☆	★★★★
Surface	satin-gloss			
Use	approx. 120 ml/m²			
Available quantities	20 l / 1000 l			
Colour shades	KS0000 Colourless KS1000 Natur Standard colour shades (please see sheet 6) Sonderfarbtöne auf Anfrage möglich			
Repaintable	yes		after mechanical treatment	

System 1: Temporary protection against moisture during transport and installation (minor weathering up to 4 weeks). Lasting UV protection (after application of LIGNOPRO 881 BauBuche-Varnish UV) for use class (GK) 0 – 1.

- Priming with LIGNOPRO 879 BauBuche-Primer plus
- Drying time 1 – 2 hours
- Application of LIGNOPRO 880 BauBuche Varnish or LIGNOPRO 881 BauBuche Varnish UV
- 2 – 3 extra coats of LIGNOPRO 880 BauBuche Varnish or LIGNOPRO 881 BauBuche Varnish UV on end-grain faces
- Alternatively: No priming, application of 2 coats of LIGNOPRO 880 BauBuche Varnish. Total consumption for 2 coats: approx. 0.20 l/m^2

System 2: Temporary protection against moisture during transport and installation (normal weathering up to 12 weeks). Lasting UV protection (after application of LIGNOPRO 883 BauBuche-Varnish HydroX UV) for use class (GK) 0 – 1.

- Priming with LIGNOPRO 879 BauBuche-Primer plus
- Drying time 1 – 2 hours
- Application of LIGNOPRO 882 BauBuche-Varnish Hydrox or LIGNOPRO 883 BauBuche-Varnish Hydrox UV
- 2 – 3 extra coats of LIGNOPRO 882 BauBuche-Varnish Hydrox or LIGNOPRO 883 BauBuche-Varnish Hydrox UV on end-grain faces, **wet-on-wet** application

For more information on the application and safety of the products, refer to the technical documents published by the manufacturer (www.kochundschulte.de).

BauBuche optimum protection (short video)
www.youtube.com/watch?v=HvfI4hk37bQ

9.4 APPENDIX B – colour charts

With these colour charts we would like to give you an overview of standard colour shades that are possible when treating BauBuche with different coloured varnishes. The samples were treated as follows:

Primer	LIGNOPRO® 879 BauBuche-Primer plus (pigmented with mentioned colour number).
Coating	LIGNOPRO® 883 BauBuche-Varnish Hydro X UV (KS 0000 colourless).

BauBuche natural

KS 1000

KS 0332-50

KS 0332-100

KS 0332-200

KS 7920

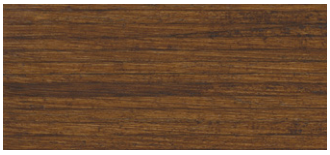
KS 0131

KS 0052

KS 0232

KS 0330

KS 0230



KS 0191

KS 7970

KS 0271

The final colour shade depends, among other factors, on the way of application, the applied quantity and the coating structure. Colour deviations may be possible due to differences in printing inks.
Please note that slight deviations from the real colour shade can be caused on screen when using different devices.