



Possible uses in wood construction with the esb (elka strong board)

Information brochure for the wood trade, wooden house builders, carpenters, roofers & other processors



Can now also be used as a sarking board N+F according to ZVDH/Cologne















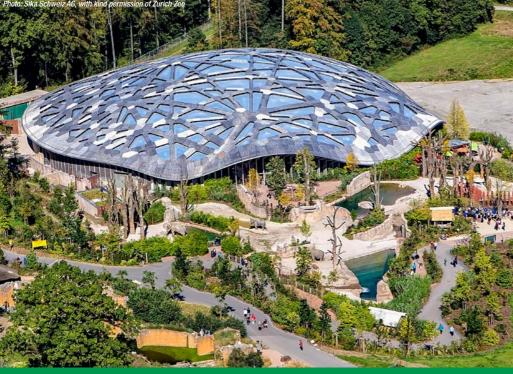








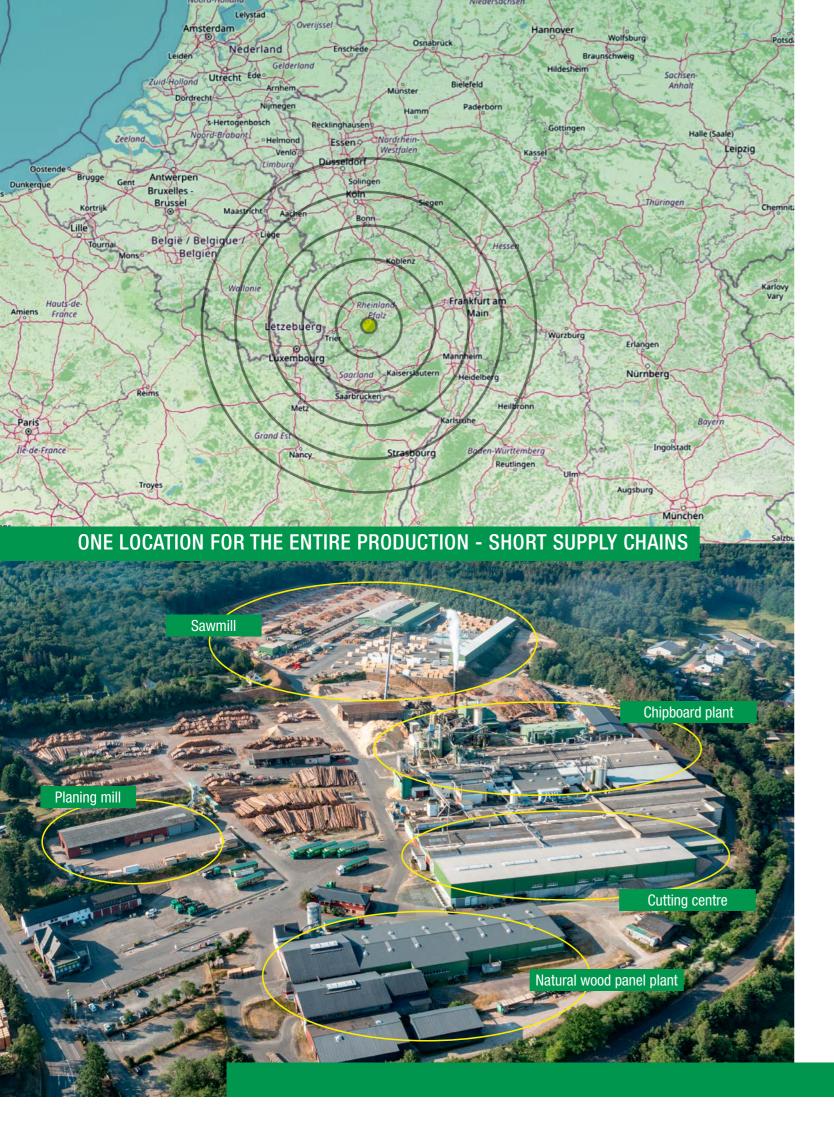




In the elephant house at Zurich Zoo, where the roof shell extends freely over around 6,000 m $^{\rm 2}$ and spans of up to 85 m are bridged, esb panels from elka were installed.

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1. elka-Holzwerke – our philosophy

Wood is our passion

Wood and elka: A tradition

We love wood and believe in the raw material. After all, we have been working with it for more than 116 years - now already in the 4th generation. This is how the concept of manufacturing chipboard, sawn timber and natural wood panels at our integrated site in Hunsrück came about in 2014. This is unique in the industry.

Wood and elka: Innovations

In close cooperation with the wood trade, our customers and suppliers, we are constantly developing our products and finding new and sophisticated solutions. Above all, the intensive cooperation with renowned research institutes enables us to push innovations further. This is how we became known as an innovative company with our "chipboards". We are proud to call ourselves the raw chipboard specialist from the Hunsrück region.

Wood and elka: Sustainable wood products

Always in view: outstanding technical properties and orientation towards ecological principles. Sustainable, low-emission wood-based materials are an absolute priority for us. The certifications of the "Sentinel Haus Institut" or the "Blue Angel" as well as the certification of the DIBt (Deutsches Institut für Bautechnik) from 2019 confirm us, to continue on this path.

Wood and elka: Service orientation and high quality

Planning reliability is important for a long-term business relationship. The entire logistics is designed with the customer in mind, because reliable adherence to delivery dates or short-term deliveries from our stock programme save our customers time. Our quality management guarantees high quality for all product lines. Leading purchasing cooperatives of the wood trade and companies at home and abroad appreciate our reliability and, of course, our product variety.

Wood and elka: Employees

We rely on the power of togetherness - 220 employees take care of smooth processing every day. Short decision-making channels enable efficient and thus customer-oriented work. At the same time, you will find personal and familiar structures with us. We make fair decisions based on partnership and keep an eye on the most diverse needs - both externally and internally.

2. esb – elka strong board



Our raw materials

Sawmill residue, mainly spruce, from sustainably managed forestry from our own sawmill as well as from surrounding sawmills. PEFC or FSC certified on request.

Our glue

Recyclable and moisture-resistant MUF resin (melamine-urea-formaldehyde resin), with a specially developed process to reduce formaldehyde emissions.

Our specially developed esb board (elka strong board) is a structural wood-based panel according to DIN EN 312:2010. It has excellent technical values and is suitable for use in damp rooms P5. It is ideally suited for structural timber construction. The synthetic resin-bonded chipboard has a single-layer board structure with a combination of fresh sawmill residues.

The esb board is listed as a wood-based material for use in construction in Building Rules List B Part 1 under 1.3.2.1 and is thus approved by the building authorities.

esb Plus awards





esb product information

esb Plus: Specially suitable for RALcertified, structural timber construction and prefabricated house construction with a formaldehyde content of ≤ 0.03 ppm.



esb Standard: Formaldehyde content of ≤ 0.05 ppm (E1E05) complies with DIBt expert opinion on health protection G-160-18-0004. This panel is also available as an esb traverse.



Distribution

esb Standard

Plate is marketed via the specialised trade

esb Plus

Plate is marketed via specialist retailers and leading dealers in the D/A/CH region and Belgium

3. Product advantages

The solution for healthy **Building & Living**

Low emissions of formaldehyde and VOC'S

Low emissions are confirmed by various quality certificates. Our esb panels are free of waste wood and the sawmill residues come from sustainable forestry. In addition, our esb panels are low in VOCs due to the use of spruce waste wood (VOC = Volatile Organic Compounds).

Our esb Plus is provided with the following certificates:

	Measuring days:	3. Day	28. Day				
THER EX	Formaldehyd level	-	$\leq 0.08 \text{ mg/m}^3$				
	TVOC (C ₆ -C ₁₈)	$\leq 3 \text{ mg/m}^3$	$\leq 0.8 \text{ mg/m}^3$				
	TSVOC (C ₁₆ -C ₂₂)	-	\leq 0,1 mg/m ³				
MMWELTEGO	carcinogenic substances		≤ 1 µg/m³				
www.blauer-engel.de/uz76 DER BLAUE ENGEL (low-emission)	Summe aller VOC ohne NIK	≤ 10 µg/m³ (total)	≤ 0,1 mg/m³ (per single value)				
RAL UZ-76-2016	R-value	-	≤ 1				
	Sentinel House Building Directory						
1	OGNB - German Sustainable Building Cour	ncil					
Quality Association Wood-Based Panels - Premium							
70% PEFC / FSC on request							
EP	EPD - Institute for Construction and Environment						

Technical values that convince

- Good static values (according to DIN EN 12369 part 1/DIN 20000-1)
 CE certified and technical values (according to DIN EN 13986 or EN 312)
- Higher transverse tensile strength than OSB 3 (approx. 40% higher)
- Flexural strength and modulus of elasticity the same in both directions
- Lower swelling than OSB 3

 Listed in the Building Rules List B Part 1 under 1.3.2.1. and thus approved by the building authorities.

Technical properties 1)

Thickness [mm]	12	15	12 / 15	18	22 / 25	18-25	30
Туре	esb	P5	OSB 3	est	P5	0SB 3	esb P5
Transverse tensile strength [N/mm²]	>0,45	>0,45	>0,32	>0,45	>0,40	>0,30	>0,35
Flexural strength longitudinal [N/mm²]	>18	>16	>20	>16	>14	>18	>12
Flexural strength transverse [N/mm²]	>18	>16	>10	>16	>14	>9	>12
24h swelling [%]	<11	<10	<15	<10	<10	<15	<10

¹⁾ Technical properties for esb according to DIN EN 312; for OSB according to DIN 300, the actual values of esb boards are significantly better. Thermal conductivity $\lambda = 0.10$ W/mK, Water vapour diffusion resistance number (μ -value) tro./damp = 80/40 according to DIN EN 1398

3. Product advantages

Excellent tongue and groove profile

We guarantee a high fitting accuracy due to our partially conical elka tongue and groove profile.





Largely open to diffusion

- Water vapour diffusion resistance number (μ-value) dry/moist = 80/40 according to DIN EN 13986
- Similar to the way heat always moves from the warm to the cold side, a balance also takes place between areas of different humidity. To ensure that this works perfectly, vapour retarders and our largely diffusion-open esb boards can be intelligently combined with each other if necessary. The combination prevents the formation of condensation and thus moisture-related structural damage. The esb board is a largely diffusion-open wood material that compensates for climate fluctuations in the house. The esb board has also proven itself on exterior walls, e.g. as a support for ventilated formwork or in combination with diffusion-open thermal insulation.
- The esb panel thus ensures moisture transport across the wall cross-section. If necessary, an
 additional foil can be installed on the warmer side as a vapour barrier for a diffusion-sealed
 construction. This technology, proven over decades, is used in the prefabricated house industry.

Bright and polished surface and therefore:

- Application of adhesives, paints and varnishes possible
- almost closed surface
- high fitting accuracy
- decorative and natural wood character due to light surface (spruce wood)

More advantages

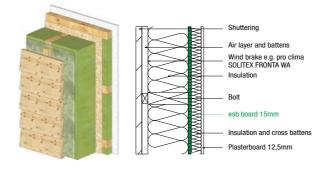
- Can be used as a sarking board N+F according to ZVDH/Cologne
- complies with IPPC standard ISPM No. 15 for wooden packaging
- Building physics calculations are possible via the WUFI database and Ubakus.de

4. Areas of application in timber construction¹⁾

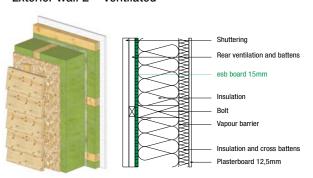
esb in the wall

EXTERIOR WALL

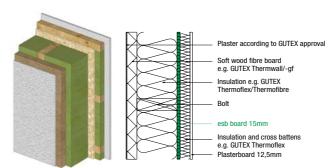
Exterior wall 1 - ventilated



Exterior wall 2 - ventilated

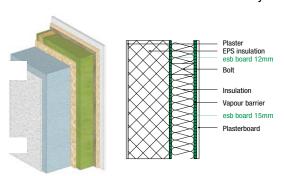


Exterior wall 3 – with composite thermal insulation system wood fibre



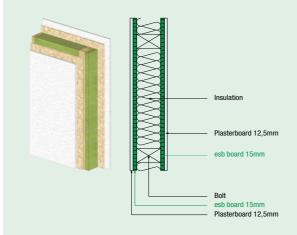
e.g. according to the General Building Approval of Gutex Z-33.47-660

Exterior wall 4 - with EPS thermal insulation system



e.g. in accordance with General Building Approval No. Z-33.47-811 (STO or No. Z-33.47-859 () (simplified representation).

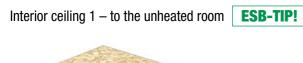
INTERIOR WALL



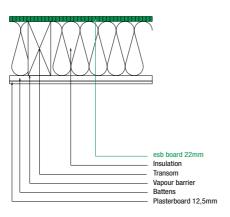
The exemplary superstructures shown in walls, ceilings and roofs are illustrative. They do not replace the building physics calculation in the individual case, taking into account all local conditions. The listed examples represent information without guarantee of properties.

4. Areas of application in timber construction¹⁾

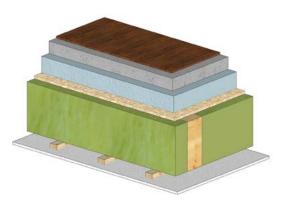
esb in the ceiling

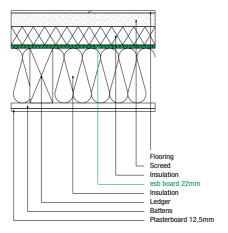




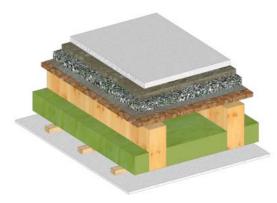


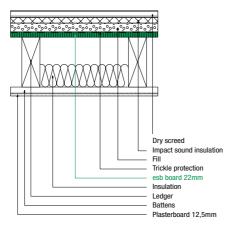
Interior ceiling 2 – to the heated room





Innendecke 3 – to the heated room





4. Areas of application in timber construction¹⁾



Comparison of esb and OSB boards, top floor ceiling

...If one evaluates the load-distributing layer itself, it also becomes apparent here that the OSB board has a significantly higher water content and, in contrast to the esb board, wood-destroying fungi can also grow on it in the worst case. From a building physics point of view, the variant with esb board is therefore more fault-tolerant in the long term and accordingly preferable to OSB board.

Dipl.-Ing. Frank-Stefan Meyer, GEWG Bauphysik GmbH, Trier www.elka-holzwerke.de/downloads/esb-vs-osb

JJ

esb in the flat roof²⁾

Advantages and disadvantages of ventilated and non-ventilated constructions, planning and implementation instructions

FLAT ROOFS AND LOW-PITCHED ROOFS: Flat roofs are roof constructions without or with a low roof pitch, which have an impermeable layer over the entire roof surface, according to DIN 68800-2 2012-02.

Advantages and disadvantages of ventilated and non-ventilated constructions

VENTILATED CONSTRUCTIONS

Ventilated flat roofs are two-shell or multi-shell constructions consisting of an inner, space-enclosing shell, an outer shell with waterproofing and a ventilation cavity with insulation level in between.

NON-VENTILATED CONSTRUCTIONS

Non-ventilated flat roofs are single-skin constructions (formerly called warm roofs) in which the roof structure rests directly on the substructure.

ADVANTAGES	DISADVANTAGES
Moisture protection (diffusion-open construction) Summer Heat protection More individual use of the roof area	 High component structures More component layers High expenditure on Connections; ventilation level must not be interrupted. Supply and exhaust air openings must "see each other". Higher costs

ADVANTAGES	DISADVANTAGES
 Compact design and high degree of prefabrication More effective component utilisation Simple connection details 	 Sophisticated moisture management Change of roof use may require a new hygrothermal calculation. More sensitive to deformation

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f 8

²⁾ Text contents Source: Informationsdienst Holz, Flat roofs in timber construction (IHD Special 10/2008)

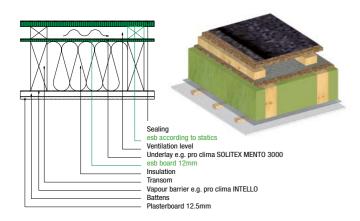
4. Areas of application in timber construction¹⁾

esb in the flat roof

Ventilated flat roofs

A distinction is made between constructions with ventilation at the level of the supporting structure or the insulation (formerly called cold roof, see Figure 1) and fully insulated constructions with an under-ventilated roof cladding. of the insulation (formerly called cold roof, see figure 1) and fully insulated constructions with ventilated roof cladding (see figure 2), where the roof waterproofing is applied to an additional substructure. In both cases, the absence of damage depends to a large extent on the functional efficiency of the ventilation.

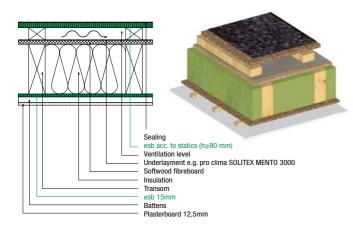
Figure 1 – Flat roof with ventilated roof cladding



KEY FEATURES:

- + Slope formation through supporting structure
- + Computationally condensation-free component
- + Due to ventilation, there is usually no heat accumulation in summer
- High component structure due to ventilation level
- Accumulation of secondary dew water at the roof formwork possible
- Insulation partially air-permeated
- Heat dissipation through ventilation
- Sound immissions in ventilation level
- Influence of heat-storing cover layers on the roof cladding must be taken into account – Construction is to be classified in GK 2

Figure 2 – Full insulation with ventilated roof cladding



KEY FEATURES:

- + Ventilation height and, if necessary, slope is produced by counter-battening
- + Supporting shell can be prefabricated as a closed timber panel element
- + Support structure GK 0 according to DIN 68 800-2
- + diffusion-open, airtight construction
- Due to ventilation, there is usually no heat accumulation in summer
- High component structure due to ventilation level
- Accumulation of secondary dew water at the roof formwork possible
- The influence of heat-storing cover layers on the roof cladding must be taken into account.

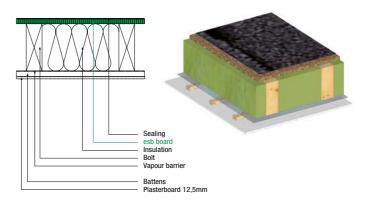
4. Areas of application in timber construction¹⁾

esb in the flat roof

Non-ventilated flat roofs

In timber construction, a distinction is made between constructions with insulation at the level of the load-bearing structure (see Figure 3) and building components predominantly with insulation above the load-bearing structure (see Figure 4). The latter are characterised by the fact that the load-bearing timber construction is completely in the dry indoor climate.

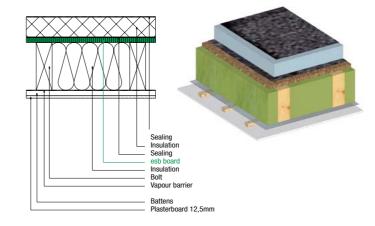
Figure 3 – Non-ventilated flat roof with full insulation in the load-bearing level



KEY FEATURES:

- + Effective cross-section utilisation through insulation in the plane of the dissolved supporting structure
- + Can be prefabricated as a wooden panel element
- + Simple connection details, as no aeration and ventilation openings
- with hygrothermal verification according to DIN EN 15026, variable moisture vapour control layers must have building authority approval (DIBt)
- Classification in GK 0 according to DIN 68 800-2
- Heat-retaining top layers reduce re-drying capacity
- Leaks in the external sealing can lead to moisture penetration into the insulation level.

Figure 4 – Non-ventilated flat roof with additional insulation above the supporting structure

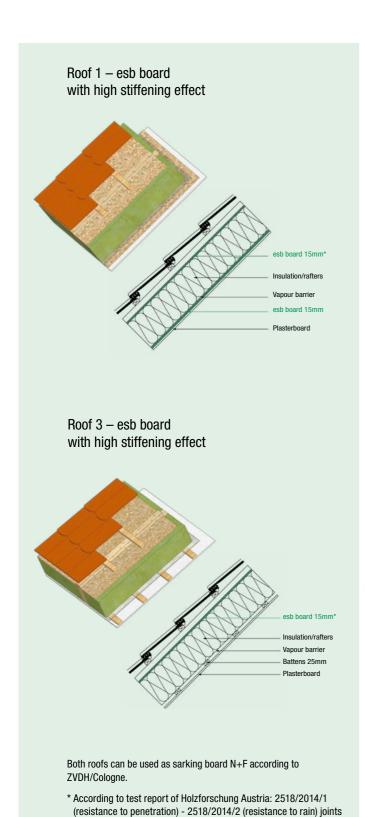


KEY FEATURES:

- + Wooden components not at risk of condensation
- + Roof soffits can be manufactured in the factory
- + Roof overhang can be created by stitch rafters
- + High heat storage masses due to the use of solid wood components
- Double sealing above the esb Board protects insulation from moisture penetration from the outside
- Greater component thicknesses due to layering of insulation and load-bearing system
- Pressure-resistant insulation materials required
- Accumulation of secondary dew water at the roof formwork possible
- Particular attention must be paid to the course of the airtightness level in the connection area.

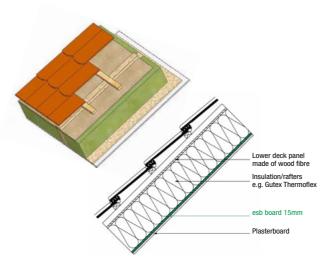
4. Areas of application in timber construction¹⁾

esb in the roof

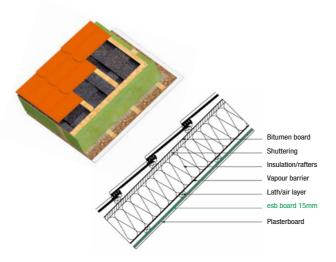


are to be executed with adhesive tape according to approval.

Roof 2 – Lower deck panel made of wood fibre without stiffening effect



Roof 4 – for renovations



The exemplary superstructures shown in walls, ceilings and roofs are illustrative. They do not replace the building physics calculation in the individual case, taking into account all local conditions. The listed examples represent information without guarantee of properties.

5. Technical properties

esb Standard Declaration of Performance

Indicator 1)	P5 esb S 6-10	P5 esb S 10-13	P5 esb S 13-20	P5 esb S 20-25	P5 esb S 25-32
Thickness	>6 to 10 mm	>10 to 13 mm	13 to 20 mm	>20 to 25 mm	>25 to 32 mm
Flexural strength	18,0 N/mm ²	18,0 N/mm²	16,0 N/mm ²	14,0 N/mm ²	12,0 N/mm ²
Bending stiffness (modulus of elasticity)	2550 N/mm ²	2550 N/mm²	2400 N/mm ²	2150 N/mm ²	1900 N/mm²
Quality of bonding			NPD (2)		
Transverse tensile strength	0,45 N/mm ²	0,45 N/mm ²	0,45 N/mm ²	0,40 N/mm ²	0,35 N/mm ²
Durability (thickness swelling)	13 %	11 %	10 %	10 %	10 %
Durability (moisture resistance option 2)	0,15 N/mm²	0,15 N/mm²	0,14 N/mm²	0,12 N/mm²	0,11 N/mm²
Formaldehyde emission			E1E05		
Fire behaviour			D-s2,d0 (1)		
Water vapour permeability µ			Dry / Damp = 80/4	10	
Airborne sound insulation	NPD (2)				
Sound absorption coefficient	0,10 / 0,25	0,10 / 0,25	0,10 / 0,25	0,10 / 0,25	0,10 / 0,25
Thermal conductivity λ	0,12 W/(mk)				
Strength (thickness) 2)	> 6 bis 13 mm	> 6 bis 13 mm	> 13 bis 20 mm	> 20 bis 25 mm	> 25 bis 32 mm
- Bend	15,0 N/mm ²	15,0 N/mm²	13,3 N/mm ²	11,7 N/mm²	10,0 N/mm ²
- Tension	9,4 N/mm ²	9,4 N/mm ²	8,5 N/mm ²	7,4 N/mm²	6,6 N/mm ²
- Compression	12,7 N/mm ²	12,7 N/mm²	11,8 N/mm ²	10,3 N/mm²	9,8 N/mm ²
- Thrust transverse to the panel plane	7,0 N/mm ²	7,0 N/mm ²	6,5 N/mm ²	5,9 N/mm²	5,2 N/mm ²
- Thrust in panel plane	1,9 N/mm ²	1,9 N/mm ²	1,7 N/mm ²	1,5 N/mm²	1,3 N/mm ²
Stiffness (mean value) 2)					
Bend	3500 N/mm ²	3500 N/mm ²	3300 N/mm ²	3000 N/mm ²	2600 N/mm ²
Tension and compression	2000 N/mm ²	2000 N/mm ²	1900 N/mm ²	1800 N/mm ²	1500 N/mm ²
Transverse thrust	960 N/mm ²	960 N/mm ²	930 N/mm ²	860 N/mm ²	750 N/mm ²
Thickness independent pro	operties				
Mechanical durability, deformation coefficient (NKL 1)			kdef = 2,25		
Mechanical durability, deformation coefficient (NKL 2)			kdef = 3,00		
Load effect					
Mechanical durability, creep factor, (NKL 1), all thicknesses		permanent: kmod = 0,30	long: kmod = 0,45	medium: kmod = 0,65	short: kmod = 0,8
Mechanical durability, creep factor, (NKL 2), all thicknesses		permanent: kmod = 0,20	long: kmod = 0,30	medium: kmod = 0,45	short: kmod = 0,6
PCP content			≤ 5 ppm		

Marking for identification of the construction product according to Article 11 Para. 4 2) acc. to DIN EN 12369-1:2001 Applicable is the current declaration of performance on the website www.elka-holzwerke.de - Status: 07.01.2016

5. Technical properties

Load table

THICKNESS: 12, 15, 18, 22, 25, 30 mm

esb P5 on beam ceiling, uniform load TYPE:

Dead weight + Floor covering					0,20			
Load capa	city in kN/m²	1,00	2,00	3,00	3,50	4,00	4,50	5,00
Centre distance L of the beams in mm		Load ty	pe:	<u> </u>	P	>− >		
6 field	400	12	12	12	15	15	15	15
6 field	450	12	12	15	15	18	18	18
5 field	500	12	15	18	18	18	18	18
4 field	550	15	15	18	18	22	22	22
4 field	600	15	18	22	22	22	22	25
4 field	650	15	18	22	22	25	25	25
3 field	700	18	22	25	25	25	30	30
3 field	750	18	22	25	30	30	30	30
3 field	800	22	25	30	30	30	-	-
3 field	850	22	25	30	30	-	-	-
2 field	900	22	25	30	30	-	-	-
2 field	950	22	25	30	-	-	-	-
2 field	1000	25	30	-	-	-	-	-
1 field	675	22	25	30	30	-	-	-

Calculation basis

w Q inst \leq L/300 with load as design values!

w fin \leq L/200 $k \mod = 0.45$; NKL 2; KLED: medium

 σ md/f md \leq 1 k def = 3,0; coefficient Ψ 2= 0,3 acc. to EN 1995-1 E mean according to EN 312-5

and EN 312-5 $E^*I = (E \text{ mean } / \delta \text{ M})^* (1,00 \text{ m} * d^3)/12; d = Plate thickness; \delta M = 1,3$

This table serves as a non-binding preliminary dimensioning of the slab thickness of esb P5 slabs for the specified load. It does not replace the static calculation in the individual case, taking into account all local conditions.

6. Recommendations for use

1. Air seal



MOLL bauökologische Produkte GmbH Rheintalstraße 35 – 43 | 68723 Schwetzingen Phone: +49 (0) 62 02 - 27 82 - 0 | www.proclima.de

A recommended product from pro clima is the INTELLO vapour control and airtightness membrane INTELLO.

For topics related to building physics - WISSEN wiki from pro clima (www.wissenwiki.de)

2. Insulation boards and thermal insulation composite systems



GUTEX Holzfaserplattenwerk | H. Henselmann GmbH + Co KG

Gutenburg 5 | 79761 Waldshut-Tiengen

Phone: +49 (0) 77 41 60 99 - 125 | www.gutex.de

A recommended product from GUTEX is the Thermoflex insulation.



StoSE & Co. KGaA

Ehrenbachstraße 1 | 79780 Stühlingen Phone: +49 (0) 77 44 57 - 0 | www.sto.de

Sample product from Sto in exterior wall 4, page 6.



For jute and hemp fibre insulation Thermo-Natur GmbH & Co. KG Industriestraße 2 | 86720 Nördlingen

Phone: +49 (0) 9 081 80 500 - 65 | www.thermo-natur.de

resinated

3. Fastener



ITW Befestigungssysteme GmbH Carl-Zeiss-Str. 19 | 30966 Hemmingen Phone: +49 (0) 5 11 42 04 - 265 www.itw-haubold.de

Steel wire- clip	Stapler PN 755	Stapler PM 765	
Туре	KG 745, CNK, geharzt "Z"		
Standard	d DIN 1052-10		
Size	ze 45 mm		

4. Ecological paints and clay products



Keimfarben GmbH

Keimstraße 16 | 86420 Diedorf

Phone: +49 (0) 8 21 - 48 02 - 0 | www.keim.com



Clay products:

Thermo-Natur GmbH & Co. KG Industriestraße 2 | 86720 Nördlingen

Phone: +49 (0) 9 081 80 500 - 65 | www.thermo-natur.de

6. Recommendations for use

5. Surface coating



Remmers GmbH

Bernhard-Remmers-Str. 13 | 49624 Löningen

Phone: +49 (0) 54 32 83-0 / Department Remmers Technischer Service (RTS)

www.remmers.de

Interior (wall/ceiling)	Interior (floor)	Exterior glazing	Exterior opaque (white, light shades)	Exterior opaque (medium and dark shades)
Living room glaze	HWS-112	HSL- 30/m Professional Wood Protection Stain	IG-10-Imprägniergrund colourless + 3 x Aqua VL- 66/sm- Venti Lacquer 3in1	IG-10 Impregnating Primer colourless + 2 x Rofalin Acrylic
HWS-112	Parquet lacquer PL 413	HSL-30/m-Professional Wood Protection Stain + Long-Life Stain	IG-10-Impregnating Primer colourless + 2 x Insulating Primer + 1 x Rofalin acrylic	
		HSL-30/m-Professional Wood Protection Stain + Aqua MSL- 45/sm Middle Coat Stain		

6. Adhesive recommendation



SCHÖNOX GmbH

Alfred-Nobel-Str. 6 | 48720 Rosendahl

Phone: +49 (0) 25 47 910 - 325 | www.schoenox.com

Substrate preparation							
Underground	Underground Laying tiles type ELKA esb P5 (Professionally installed according to TKB data sheet 10)						
Installation type	glued &	screwed		floating			
Primers (exemplary)	SCHÖNOX® VD (E	OX® SHP (EC1 PLUS)					
Filling compounds (exemplary) SCHÖNOX AM® (EC1 PLUS) SCHÖNOX ZM® (EC1 PLUS R) SCHÖNOX ZMF® (EC1 PLUS R) SCHÖNOX ZMF® (EC1 PLUS R) SCHÖNOX ZMF® (EC1 PLUS R)			IX® APF (EC1 PLUS)				
Decking bonding							
Coating	PVC / CV*	Linoleum*	Textile Coverings*	Parquet**			
Recommended Adhesive	SCHÖNOX® DUROCOLL Fibre-reinforced one-sided dispersion adhesive (EC 1 PLUS)	SCHÖNOX® LINO XTREME Very low-emission linoleum dispersion adhesive (EC1 PLUS)	SCHÖNOX® TEX OBJEKT® Textile flooring dispersion adhesive (EC 1 PLUS)	SCHÖNOX® MSP CLASSIC Very low-emission, shear-elastic water-free adhesive for parquet (EC 1 PLUS)			
SCHÖNOX® PARKETT 600 SCHÖNOX® EMICLASSIC® Very low-emission, hard, Very low-emission universal dispersion adhesive (EC 1 PLUS) water-free universal SMP adhesive for parquet (EC1 PLUS)							
Applicator	Serration TKB A1	Serration TKB B1		Serration TKB B6 - B15			
Consumption	approx. 250 - 300 g/m ²	approx. 400 g/m ²	approx. 400 g/m ²	approx. 750 - 1250 g/m ²			

7. Delivery programme and service

Tongue and groove format

258 cm x 67,5 cm / cover size 205 cm x 62,5 cm / cover size 1) 258 cm x 125 cm / cover size 1) 120 cm x 50 cm (min. dimension)

esbReno Attic panel



127,5 cm x 49,5 cm / cover size Thickness 15 mm, board weight 6 kg Thickness 22 mm, board weight 9 kg

Format blunt

259,5 cm x 125 cm 1) 280 / 300 cm x 125 cm in 15 mm ²⁾

Large format blunt

520 cm x 206 1) cm in 9/12/15/18/22/25 mm (available from 80 pieces / thickness)

Material thicknesses / Packaging units

12 mm 75 pieces 15 mm 60 pieces 18 mm 49 pieces 40 pieces 22 mm 36 pieces 25 mm 30 mm 30 pieces

1) except 30 mm

2) the wall panel is only available in esb Plus & via esb Plus guide dealers

Special dimensions on request







Our elka service team is ready to answer your questions

The **Elica**-Holzwerke GmbH a company that can look back on a history of more than 116 years history. Professionally qualified employees and modern production modern production techniques guarantee the high quality standard of the **Elica**-brand products.





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