



Issuing ETAs, developing EADs: a TAB perspective on challenges and opportunities

Thomas Bruun, CEO, ETA-Danmark A/S



ETA-Danmark A/S

- Issues national approvals and technical assessments for construction products for the Danish and European markets
- Issues European Technical Assessments and prepares European Assessment documents in accordance with the Construction Products Regulation
- Member of EOTA since 1991
- Subsidiary of Danish Standards.



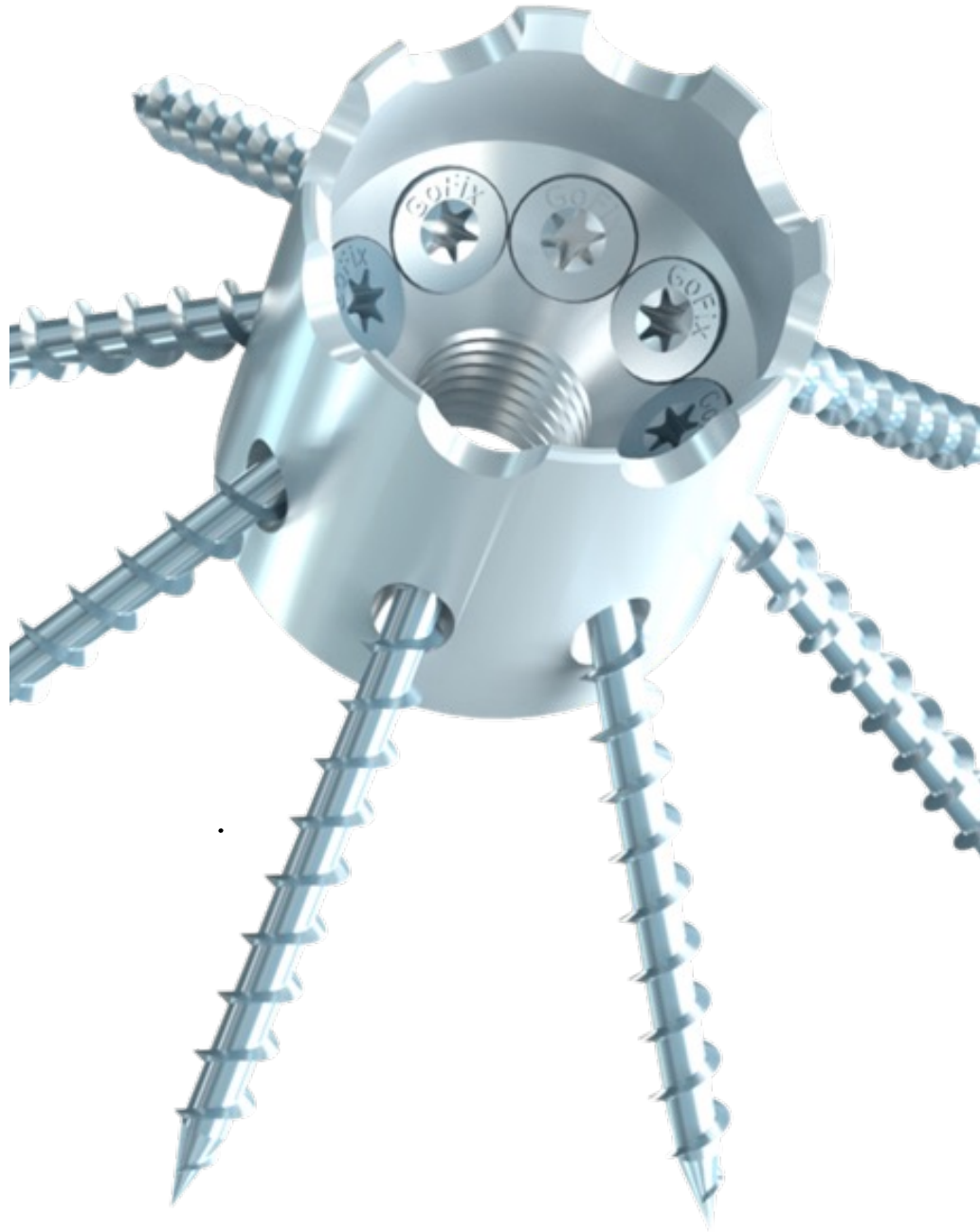
The ETA route to CE marking

1. Innovative or other non-standard product
2. Manufacturer chooses and contracts a TAB
3. EAD developed by EOTA network
4. TAB issues ETA
5. Manufacturer draws up a declaration of performance and affixes CE marking to his product



Products not covered by harmonized standards

- Innovative construction products, e.g.,
 - New materials, new solutions, new uses
 - The product itself is not mature for standardization
 - There is only one manufacturer
- Products undergoing rapid technological development
- Building systems



CE-mark with an ETA

Manufacturer driven

ETA is a voluntary scheme that applies to all areas, products and constructions for which there is no harmonized standard.



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to Article 29 of the Regulation (EU)
No 305/2011 of the European
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European Technical Assessment ETA-11/0478 of 2018/06/12

I General Part

Technical Assessment Body issuing the ETA and designated according to Article 29 of the Regulation (EU) No 305/2011: ETA-Danmark A/S

Trade name of the construction product:

Arras Construction Furniture Joist Hangers

Product family to which the above construction product belongs:

Three-dimensional nailing plate (Joist hanger for wood to wood connections and wood to concrete or steel connections)

Manufacturer:

Arras Construction Furniture OÜ
Veerne 23
EE-11625 Tallinn
Tel. + 372 670 6000
Fax + 372 670 6405
Internet www.arrascf.eu

Arras Construction Furniture OÜ
Veerne 23
EE-11625 Tallinn

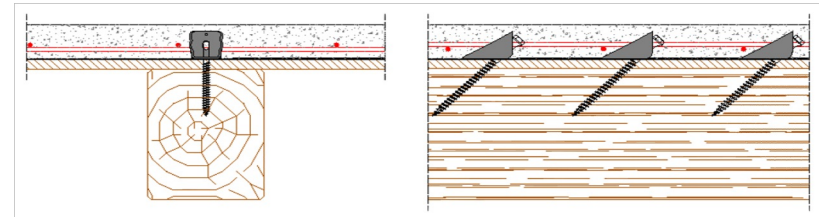
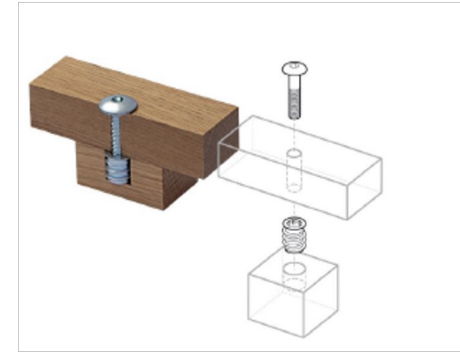
35 pages including 3 annexes which form an integral part of the document

Guideline for European Technical Approval (ETAG) No. 015 Three Dimensional Nailing Plates, April 2013, used as European Assessment Document (EAD).

The ETA with the same number issued on 2016-08-09



Examples of products with an ETA



TIMBER: Connectors for loadbearing timber structures



Basis

- EAD 130186-00-0603
- Three dimensional connectors
- Design for disassembly

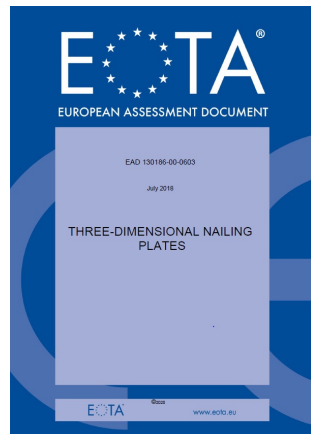
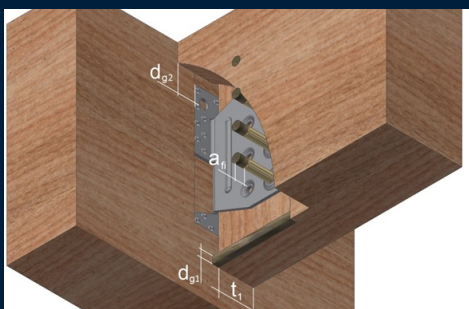
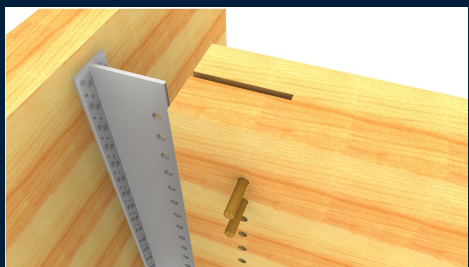
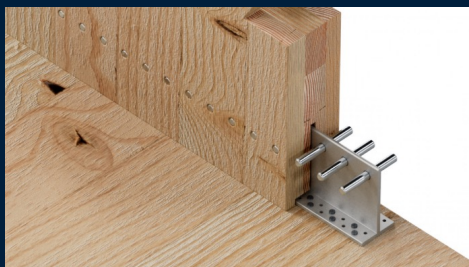


Table 1 Essential characteristics of the product and methods and criteria for assessing the performance of the product in relation to those essential characteristics

No	Essential characteristic	Assessment method	Type of expression of product performance <i>(level, class, description)</i>
Basic Works Requirement 1: Mechanical resistance and stability			
1	Joint strength	2.2.1	Level
2	Joint stiffness		
3	Joint ductility		
4	Resistance to seismic actions	2.2.2	Level
5	Resistance to corrosion and deterioration	2.2.3	Description
Basic Works Requirement 2: Safety in case of fire			
6	Reaction to fire	2.2.4	Class
7	Resistance to fire	2.2.5	Class



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European Technical Assessment ETA-07/0245 of 15/08/2018

I General Part

Technical Assessment Body issuing the ETA and designated according to Article 29 of the Regulation (EU) No 305/2011: ETA-Danmark A/S

Trade name of the construction product: SIMPSON STRONG-TIE® Joist End connector
SIMPSON STRONG-TIE® concealed beam hangers

Product family to which the above construction product belongs: Three-dimensional nailing plate (connector for wood to wood connections and wood to concrete or steel connections)

SIMPSON STRONG-TIE A/S
Hedegaardsvej 4 – 11, Boulstrup
DK-8300 Odder
Tel. +45 87 81 74 00
Fax +45 87 81 74 09

Manufacturing plant: SIMPSON STRONG-TIE Manufacturing facilities

This European Technical Assessment contains: 123 pages including 4 annexes which form an integral part of the document

This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of: Guideline for European Technical Approval (ETAG) No. 015 Three Dimensional Nailing Plates, April 2013, used as European Assessment Document (EAD).

This version replaces: The ETA with the same number and issued on 2016-08-10

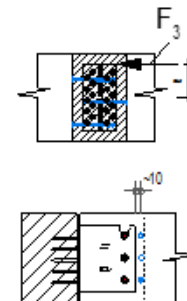
R_{3,k} beam to beam

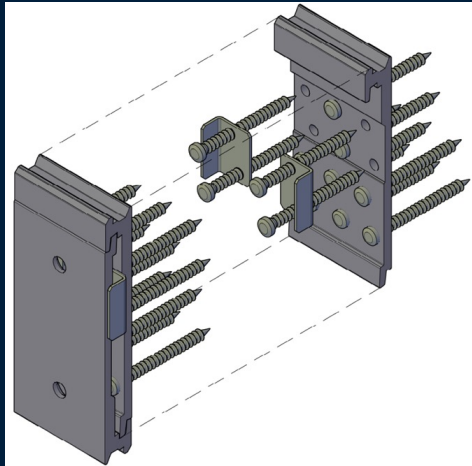
R _{3,k}	CSA 5,0x50		joist min. b / h [mm]	with screws *						table 25
	number of	nails		width of timber [mm]						
Type	SD		60	80	100	120	140	160	180	
90-2	4	8	... / 100	1,9	3,7	4,7	5,8	6,8	7,3	7,3
120-2	3	10	... / 160	2,2	3,1	4,8	6,2	6,2	6,2	6,2
160-2	4	14	... / 200	2,9	4,7	7,3	8,4	8,4	8,4	8,4
200-2	5	18	... / 240	3,5	5,0	8,1	10,6	10,6	10,6	10,6
240-2	6	22	... / 280	4,2	5,4	8,6	12,4	12,9	12,9	12,9
280-2	7	26	... / 320	4,8	6,1	9,1	13,4	15,2	15,2	15,2
320-2	8	30	... / 360	5,5	6,8	9,6	14,4	17,6	17,6	17,6
360-2	9	34	... / 400	6,1	7,6	9,7	14,5	19,3	19,9	19,9
400-2	10	38	... / 440	6,7	8,3	10,3	15,2	20,6	22,2	22,2
440-2	11	42	... / 480	7,3	9,1	11,0	15,2	21,6	24,6	24,6
480-2	12	46	... / 520	7,9	9,8	11,9	16,1	22,2	26,9	26,9
520-2	12	50	... / 560	8,6	10,6	12,8	16,1	23,4	29,2	29,3
560-2	12	54	... / 600	9,2	11,3	13,8	16,9	23,4	30,6	31,6
600-2	12	58	... / 640	9,8	12,1	14,7	17,6	24,2	31,4	34,0
90-4	4	16	... / 100	1,9	3,7	4,7	5,8	6,8	7,8	8,9
120-4	3	20	... / 160	2,2	3,1	4,8	6,6	8,3	10,1	11,9
160-4	4	28	... / 200	2,9	4,7	7,3	9,9	12,5	15,1	17,6
200-4	5	36	... / 240	3,5	5,0	8,1	13,0	16,7	20,2	22,0
240-4	6	44	... / 280	4,2	5,4	8,6	13,7	20,2	23,5	26,4
280-4	7	52	... / 320	4,8	6,1	9,1	13,7	21,1	26,7	30,2
320-4	8	60	... / 360	5,5	6,8	9,6	14,4	21,1	29,9	33,9
360-4	9	68	... / 400	6,1	7,6	9,7	14,5	21,8	30,6	37,5
400-4	10	76	... / 440	6,7	8,3	10,3	15,2	22,2	32,0	41,2
440-4	11	84	... / 480	7,3	9,1	11,0	15,2	22,2	32,0	44,0
480-4	12	92	... / 520	7,9	9,8	11,9	16,1	23,2	32,0	44,0
520-4	12	100	... / 560	8,6	10,6	12,8	16,1	23,4	32,0	44,0
560-4	12	108	... / 600	9,2	11,3	13,8	16,9	23,4	33,6	45,1
600-4	12	116	... / 640	9,8	12,1	14,7	17,6	24,2	33,6	46,1

screw 6,0x L
with L = b-20mm

(for timber with b=80mm
use screws 5,0x50)

number of screws =
number of steel dowel





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European Technical Assessment ETA-19/0831 of 2022/09/14

I General Part

Technical Assessment Body issuing the ETA and designated according to Article 29 of the Regulation (EU) No 305/2011: ETA-Danmark A/S

Trade name of the construction product: Rotho Blaas LOCK Connectors

Product family to which the above construction product belongs: Three-dimensional nailing plate (Connectors for timber, CLT, LVL, Glulam members to timber, steel or concrete)

Manufacturer: Rotho Blaas s.r.l
Via dell'Adige 2/1
IT-39040 Cortaccia (BZ)
Tel. + 39 0471 818400
Fax + 39 0471 818484
Internet www.rothoblaas.com

Manufacturing plant: Rotho Blaas s.r.l
Manufacturing Plants: 1A-2A-3A

This European Technical Assessment contains: 45 pages including 2 annexes which form an integral part of the document

This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of: EAD 130186-00-0603 for Three-dimensional nailing plates

This version replaces: The ETA with the same number issued on 2020-06-22

$$F_{2,Rk} = \min \left\{ \sum_{i=1}^{n_j} F_{v,j,Rk}^i ; \left[\left(\frac{1}{\sum_{i=1}^{n_1} F_{v,H,Rk}^i} \right)^2 + \left(\frac{1}{k_{H,2} \cdot F_{ax,H,Rk}} \right)^2 \right]^{-1} ; F_{2,alu,Rk} \right\}$$



Rotho Blaas LOCK Connectors	Module width [mm]	$k_{H,2}$	$F_{2,alu,Rk}$ [kN]
LOCK T 80	17,5	$n_M \cdot 2,19$	$n_M \cdot 10$
LOCK T 100	17,5	$n_M \cdot 4,39$	$n_M \cdot 10$
LOCK T 100FLOOR	210	$n_M \cdot 12,5$	$n_M \cdot 130$
LOCK T 120	17,5	$n_M \cdot 7,36$	$n_M \cdot 10$
LOCK T 135	25,0	$n_M \cdot 5,30$	$n_M \cdot 15$
LOCK T 135FLOOR	300	$n_M \cdot 15,3$	$n_M \cdot 240$
LOCK T 175	25,0	$n_M \cdot 10,0$	$n_M \cdot 20$
LOCK T 215	25,0	$n_M \cdot 17,2$	$n_M \cdot 20$
LOCK T 240	25,0	$n_M \cdot 22,7$	$n_M \cdot 24$
LOCK T 265	25,0	$n_M \cdot 29,0$	$n_M \cdot 24$
LOCK T 290	25,0	$n_M \cdot 36,0$	$n_M \cdot 24$

n_M is the number of basic modules, see product drawings



TIMBER: CLT-panels

- EAD 130005-00-0304 - Solid wood slab element for use as structural element in buildings

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European Technical Assessment ETA-21/0914 of 2021/11/25					
I General Part					
Technical Assessment Body issuing the ETA and designated according to Article 29 of the Regulation (EU) No 305/2011: ETA-Danmark A/S					
Trade name of the construction product:		REZULT CLT			
Product family to which the above construction product belongs:		Cross laminated timber element			
Manufacturer:		Ukrainian Sawmill Holding Company ltd 38 Yaroslaviv Val St. UA-01034 Kyiv, Ukraine Internet www.rezult.pro			
Manufacturing plant:		Ukrainian Sawmill Holding Company ltd 38 Yaroslaviv Val St. UA-01034 Kyiv, Ukraine			
This European Technical Assessment contains:		16 pages including 4 annexes which form an integral part of the document			
This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of:		EAD 130005-00-0304 - Solid wood slab element for use as structural element in buildings			
This version replaces:					

ER	Requirement	Verification method	Class / Use category / value
Mechanical resistance and stability			
Bending, tension and compression strength and stiffness: For the calculation the characteristic strength and stiffness values of softwood according to EN 338 shall be used taking into consideration the definitions in annex 2. In addition the following values apply:			
Board strength class	EN 338		C16/T10 C24/T14
Modulus of elasticity parallel to grain of the boards $E_{0,mean}$	EAD 130005-00-0304 2.2.1.1		C24/T14 12000 MPa
Bending strength parallel to grain of the boards $f_{m,k}$	EAD 130005-00-0304 2.2.1.1		C16/T10 $f_{m,k} = 16$ MPa C24/T14 $f_{m,k} = 24$ MPa
Tensile strength parallel to grain of the boards $f_{t,k}$	EN 14080		C16/T10 16 MPa C24/T14 19 MPa
Compressive strength parallel to grain of the boards $f_{c,k}$	EN 14080		C16/T10 20 MPa C24/T14 24 MPa
Density ρ_k	EAD 130005-00-0304		Pinus Sylvestris C16/T10 1,1 - 380 kg/m ³ C24/T14 1,1 - 420 kg/m ³ Other softwood species: C16/T10 1,1 - 310 kg/m ³ C24/T14 1,1 - 350 kg/m ³
1.1 Mechanical actions in plane of the cross laminated timber			
Shear strength for the calculation with the gross cross section $f_{v,k}$	EAD 130005-00-0304 2.2.1.3		C16/T10 3,2 MPa C24/T14 4,0 MPa
Shear strength for the calculation in the joints between non-edge glued boards within a layer $f_{v,j,k}$	EAD 130005-00-0304 2.2.1.3		8,0 MPa
Shear strength for the calculation in the crossing areas of orthogonally bonded non-edge glued boards $f_{v,c,k}$	EAD 130005-00-0304 2.2.1.3		2,5 MPa
1.2 Mechanical actions perpendicular to the plane of the cross laminated timber			
Rolling shear strength $f_{rv,k}$	EAD 130005-00-0304 2.2.1.3		See Figure 3
Rolling shear modulus $G_{0,mean}$	EAD 130005-00-0304 2.2.1.3		50 MPa
Compression strength $f_{c,0,k}$	EAD 130005-00-0304		C16/T10 2,5 MPa C24/T14 3,0 MPa
For references regarding the calculation see below. National regulations might have to be followed.			
Use of fasteners	According to EN 1995-1-1, for further details see annex 4		
Creep and duration of load	According to EN 1995-1-1		
Dimensional stability	Moisture content during use shall not change to such extent that adverse deformations can occur.		

"Concrete" tiles made without cement

- EAD developed by ETA-Danmark A/S
- Microorganisms and enzymes generate calcium silicate



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European Technical Assessment ETA-22/0684 of 2022/09/26

I General Part

Technical Assessment Body issuing the ETA and designated according to Article 29 of the Regulation (EU) No 305/2011: ETA-Danmark A/S

Trade name of the construction product:	BioLITH biocement tiles
Product family to which the above construction product belongs:	Tiles made of aggregate blends and microorganisms
Manufacturer:	BioMASON Denmark ApS c/o Gorrissen Federspiel Axeltorv 2 DK-1609 København V Denmark www.biomason.com
Manufacturing plant:	IBF BioBeton Aps F.L. Smidths Vej 8 DK-7441 Bording
This European Technical Assessment contains:	6 pages which form an integral part of the document
This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of:	EAD 210207-00-0404: Tiles made of aggregate blends and microorganisms
This version replaces:	-



Acoustic insulation boards made from sea-weed



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European Technical Assessment ETA-21/1036 of 2021/12/17

General Part

Technical Assessment Body issuing the ETA and designated according to Article 29 of the Regulation (EU) No 305/2011: ETA-Danmark A/S

Trade name of the construction product:	Søuld Acoustic Mats: FR
Product family to which the above construction product belongs:	Factory-made thermal and/or acoustic insulation products made of vegetable or animal fibres
Manufacturer:	Søuld Aps Storhavevej 4 DK-9940 Læse Tlf: +45 93 805 810 www.sould.dk
Manufacturing plant:	Søuld Aps Storhavevej 4 DK-9940 Læse
This European Technical Assessment contains:	5 pages
This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of:	EAD 040005-00-1201 for Factory-made thermal and/or acoustic insulation products made of vegetable or animal fibres
This version replaces:	



Re-used masonry clay units.

- EAD developed by ETA-Danmark A/S



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European Technical Assessment ETA-21/0774 of 2021/08/25

I General Part

Technical Assessment Body issuing the ETA and designated according to Article 29 of the Regulation (EU) No 305/2011: ETA-Danmark A/S

Trade name of the construction product: Genbrugssten Re-used bricks

Product family to which the above construction product belongs: Recycled clay masonry units

Manufacturer: Genbrugssten ApS
Agdrupvej 3
DK-9700 Brønderslev
Tel +45 69 16 03 77
Internet www.genbrugssten.dk

Manufacturing plant: Genbrugssten ApS
Agdrupvej 3
DK-9700 Brønderslev

This European Technical Assessment contains: 6 pages including 1 annex which form an integral part of the document

This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of: European Assessment Document (EAD) no. EAD 170005-00-0305 for Recycled clay masonry units

This version replaces:

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

Characteristic	Assessment of characteristic
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3.2 Safety in case of fire (BWR2)

Reaction to fire	The Genbrugssten Re-used bricks are classified as class A1 without testing in accordance with EC Delegated Regulation 2016/364/EU and EN 13501-1
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3.3 Hygiene, health and the environment (BWR3)

Dimensions	The dimensions of the Genbrugssten Re-used bricks are
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Type	Length mm	Width mm	Height mm
Genbrugssten Re-used bricks	228	108	55

The tolerance on all dimensions is ± 20 mm corresponding to tolerance category Tm in EN 771-1

Density	The gross dry density of Genbrugssten Re-used bricks is 1650 kg/m ³ with tolerance class Dm ($\pm 30\%$) in accordance with EN 771-1
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Compression strength	See annex A
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Initial rate of water absorption	No performance assessed
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Bond strength	No performance assessed
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Determination of volume and percentage of voids and net volume	No performance assessed
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Freeze/thaw resistance	Type	Mean value for the ratio of pore volume by boiling
	Genbrugssten Re-used bricks	pf $\leq 0,9$

Active soluble salt content	No performance assessed
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ETA's are necessary for the circular economy



The timber connections are documented for joints with screws and bolts and support the possibility of design for disassembly to ensure future reuse.

The brackets and assembly patterns are constantly optimized to optimize material consumption to minimize the drain on natural resources.

The ETAs are an important tool for securing documentation for new and innovative solutions to support the circular economy in construction.

They express the properties of the products and assemblies in a common European language and create access to all EU countries and are based on a transparent and technically sound process.

ETA's are necessary for the circular economy

WHAT MANUFACTURERS SAY

69%

ETA improves
reputation

79%

ETA increases
market share

79%

ETA increases
sales levels

87%

ETA is a recognised
brand