



ETA-Danmark A/S
Göteborg Plads 1
DK-2150 Nordhavn
Tel. +45 72 24 59 00
Fax +45 72 24 59 04
Internet www.etadanmark.dk

Authorised and notified according
to Article 29 of the Regulation (EU)
No 305/2011 of the European
Parliament and of the Council of 9
March 2011

MEMBER OF EOTA



European Technical Assessment ETA-19/0167 of 2025/10/24

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 Slot Connectors

Product family to which the above construction product belongs:

Three-dimensional nailing plate (Edge connections for CLT, LVL and Glulam members)

Manufacturer:

ROTHO BLAAS SRL
Via dell'Adige 2/1
IT-39040 Cortaccia (BZ)
Tel. + 39 0471 818400
Fax + 39 0471 818484
Internet www.rothoblaas.com

Manufacturing plant:

Held on file by ETA-Danmark A/S

This European Technical Assessment contains:

9 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, Three Dimensional Nailing Plates

This version replaces:

The ETA with the same number issued on 2019-04-05

Translations of this European Technical Assessment in other languages shall fully correspond to the original issued document and should be identified as such.

Communication of this European Technical Assessment, including transmission by electronic means, shall be in full (excepted the confidential Annex(es) referred to above). However, partial reproduction may be made, with the written consent of the issuing Technical Assessment Body. Any partial reproduction has to be identified as such.

II SPECIFIC PART OF THE EUROPEAN TECHNICAL ASSESSMENT

1 Technical description of product

Technical description of the product

Rotho Blaas Slot Connectors are one-piece, slotted-in connectors to be used in timber-to-timber connections. The Connectors shall be produced from extruded aluminium alloy. Where corrosion protection of the screws to be used with the connectors is required, the material or coating shall be declared in accordance with the relevant specification given in Annex A of EN 14592.

Geometry and material

The length of the connector is 120 mm, the width 89 mm and the thickness 40 mm. Other dimensions are given in Annex A.

The Rotho Blaas Slot Connectors are made from aluminium EN AW-6005A T6 according to EN 755-2 with minimum yield strength $R_{p0.2} = 225 \text{ N/mm}^2$ and minimum tensile strength $R_m = 270 \text{ N/mm}^2$.

2 Specification of the intended use in accordance with the applicable European Assessment Document (hereinafter EAD)

Rotho Blaas Slot Connectors are used for connections in load bearing timber structures, as an edge connection between timber members, for which requirements for mechanical resistance and stability and safety in use in the sense of the Basic Works Requirements 1 of Regulation 305/2011 (EU) shall be fulfilled.

The Rotho Blaas Slot Connectors can be installed as connections between wood based members such as:

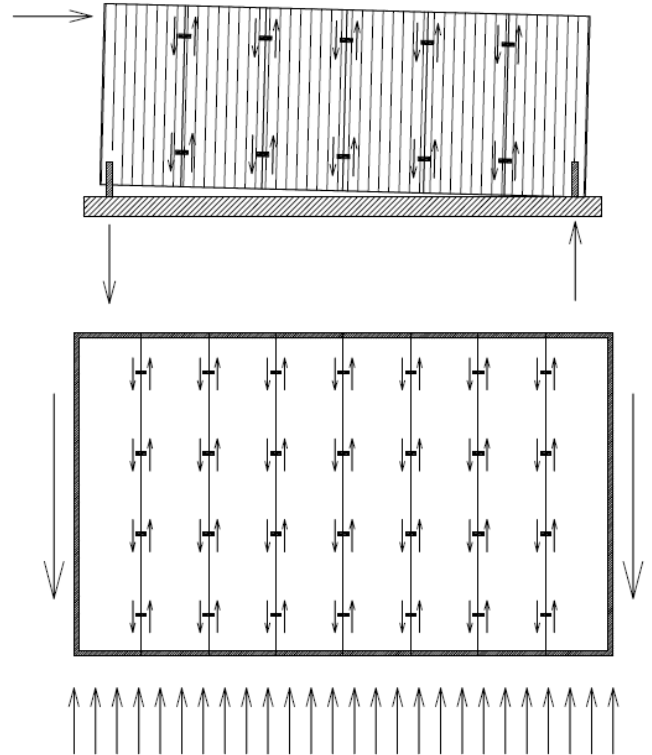
- Glulam according to EN 14080,
- LVL according to EN 14374,
- Cross laminated timber according to ETA.

The design of the connections shall be based on the characteristic load-carrying capacities of the connectors. The design capacities shall be derived from the characteristic capacities in accordance with Eurocode 5 or an appropriate national code.

Annex B states the formulas for the characteristic load-carrying capacities and slip moduli of the connections with Rotho Blaas Slot Connectors.

The Rotho Blaas Slot Connectors are intended for use for connections subject to static or quasi static loading.

It is assumed that the forces acting on the connection are shear forces parallel to the member edges. The force F acts perpendicular to the flat surface of the connector and parallel to the timber member edges.



The Rotho Blaas Slot Connectors are for use in timber structures subject to the dry, internal conditions defined by the service classes 1 and 2 of EN 1995-1-1 (Eurocode 5).

The scope of the connectors regarding resistance to corrosion shall be defined according to national provisions that apply at the installation site considering environmental conditions.

The provisions made in this European Technical Assessment are based on an assumed intended working life of the connectors and fasteners of 50 years.

The indications given on the working life cannot be interpreted as a guarantee given by the producer or Assessment Body, 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.

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

Characteristic	Assessment of characteristic
3.1 Mechanical resistance and stability*) (BWR1)	
Joint Strength - Characteristic load-carrying capacity	See Annex B
Joint Stiffness	See annex B
Joint ductility	No performance assessed
Resistance to seismic actions	No performance assessed
Resistance to corrosion and deterioration	See section 3.6
3.2 Safety in case of fire (BWR2)	
Reaction to fire	The connectors are made from aluminium classified as Euroclass A1 in accordance with EN 13501-1 and Commission Delegated Regulation 2016/364
Resistance to fire	No performance assessed
3.3 General aspects related to the performance of the product	The connectors have been assessed as having satisfactory durability and serviceability when used in timber structures using the timber species described in Eurocode 5 and subject to the conditions defined by service class 1 and 2

*) See additional information in section 3.4 – 3.7.

3.4 Mechanical resistance and stability

The load-carrying capacities for Rotho Blaas Slot Connectors are applicable to the wood-based materials mentioned in paragraph 1 even though the term timber has been used in the following.

3.5 Mechanical resistance and stability

See annex B for characteristic load-carrying capacities and stiffness of the connections.

The characteristic lateral load-carrying capacities of Rotho Blaas Slot Connectors should be used for designs in accordance with Eurocode 5 or an appropriate national code.

No performance has been assessed in relation to ductility of a joint under cyclic testing. The contribution to the performance of structures in seismic zones, therefore, has not been assessed.

3.6 Aspects related to the performance of the product

3.6.1 Corrosion protection in service class 1 and 2

In accordance with EAD 130186-00-0603 the Rotho Blaas Slot Connectors are produced from aluminium EN AW-6005A T6 according to EN 755-2 with minimum yield strength $R_{p0.2} = 225 \text{ N/mm}^2$ and minimum tensile strength $R_m = 270 \text{ N/mm}^2$.

The screws are made from steel are electrogalvanised and yellow or blue chromate. The thickness of the zinc coating is minimum $5 \mu\text{m}$

3.7 General aspects related to the use of the product

Rotho Blaas Slot Connectors are manufactured in accordance with the provisions of this European Technical Assessment using the manufacturing processes as identified in the inspection of the plant by the notified inspection body and laid down in the technical documentation.

The installation shall be carried out in accordance with Eurocode 5 or an appropriate national code unless otherwise is defined in the following. Instructions from Rotho Blaas srl. should be considered for installation.

The connectors are used for connections in load bearing timber structures between members of glued laminated timber, cross-laminated timber, and laminated veneer lumber or similar glued members. The shape of the timber members in the shear plane is either straight as in a butt joint or profiled as in a tongue and groove joint.

A minimum of two connectors should be used for connections in load bearing timber structures.

The connectors are inserted with the same penetration depth in both timber members.

The load direction is perpendicular to the plane surface of the connectors and parallel to the timber edge. For glulam and LVL members with only parallel veneers, the load direction is parallel to the grain direction of the surface layers.

The recesses for the slot connectors must fit the connector thickness. Up to two screws may be used to fix each connector. The connectors may also be used without screws.

The gap between the timber members to be connected shall be maximum 5 mm. The gap shall be considered when determining the load-carrying capacity.

The minimum spacing is:

$a_1 = 480 \text{ mm}$ for glulam and LVL with exclusively parallel veneers

$a_1 = 320 \text{ mm}$ for CLT and LVL with cross veneers

The minimum end distances are:

$a_{3,t} = 480 \text{ mm}$ for glulam and LVL with exclusively parallel veneers

$a_{3,t} = 320 \text{ mm}$ for CLT and LVL with cross veneers

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

4.1 AVCP system

According to the decision 97/638/EC of the European Commission¹, as amended, the system(s) of assessment and verification of constancy of performance (see Annex V to Regulation (EU) No 305/2011) is 2+.

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 at ETA-Danmark prior to CE marking.

Issued in Copenhagen on 2025-10-24 by



Thomas Bruun
Managing Director, ETA-Danmark

Annex A

Product details and definitions

Rotho Blaas Slot Connector

Slotted-in one-piece connector. Aluminium EN AW-6005A T6 according to EN 755-2 with minimum yield strength $R_{p0,2} = 225 \text{ N/mm}^2$ and minimum tensile strength $R_m = 270 \text{ N/mm}^2$.

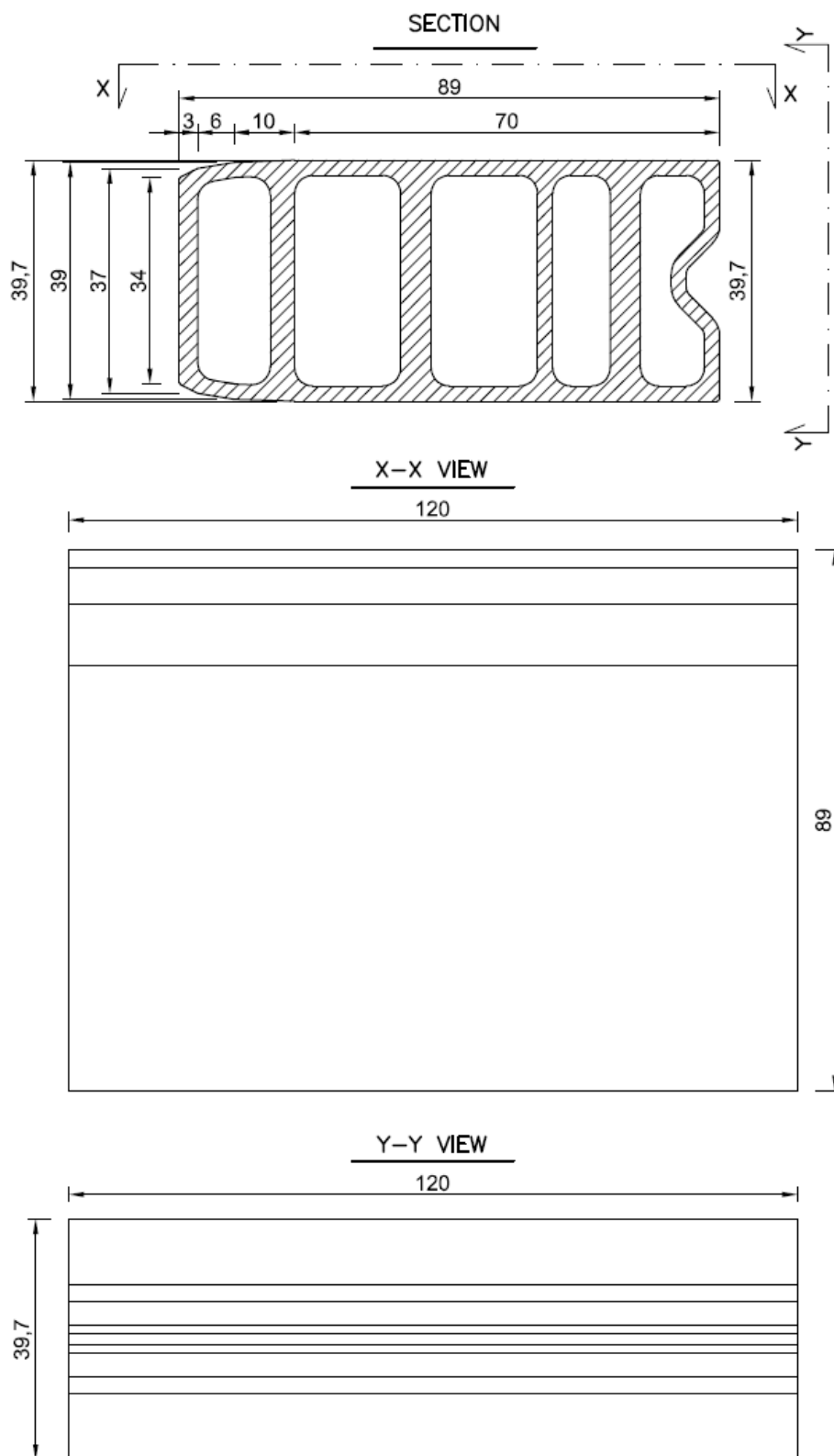


Figure A.1: Slot Connector dimensions

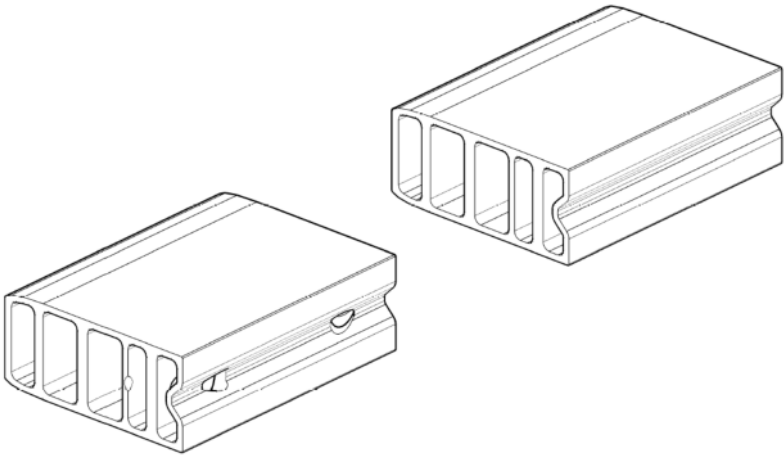


Figure A.2: Slot Connector with (left) and without (right) holes for screws

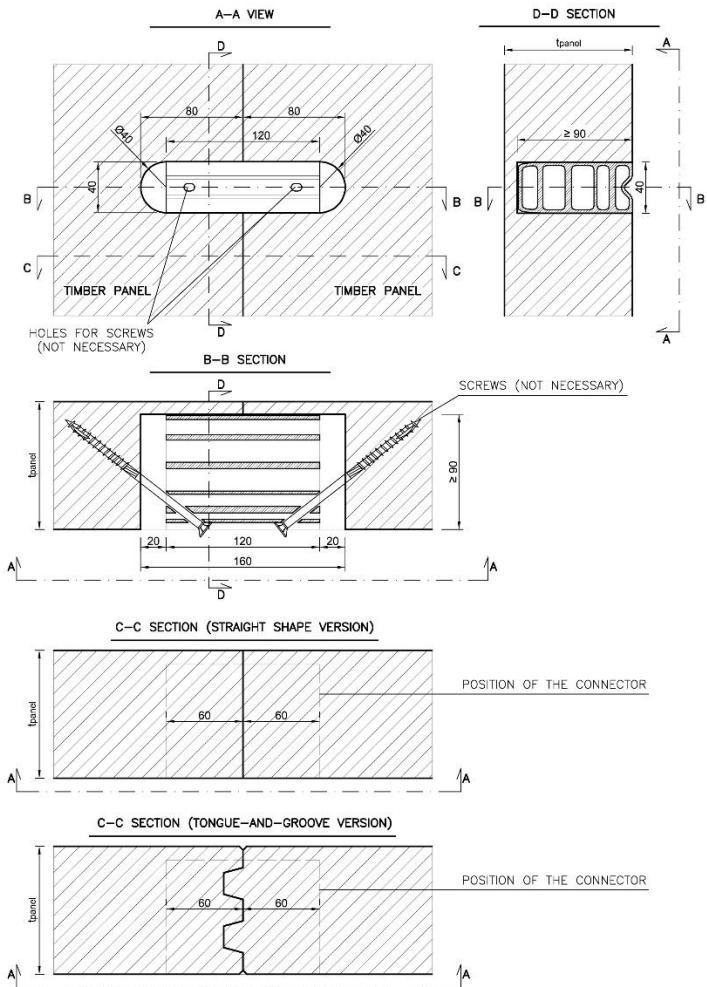


Figure A.3: Installation

Fastener types and sizes

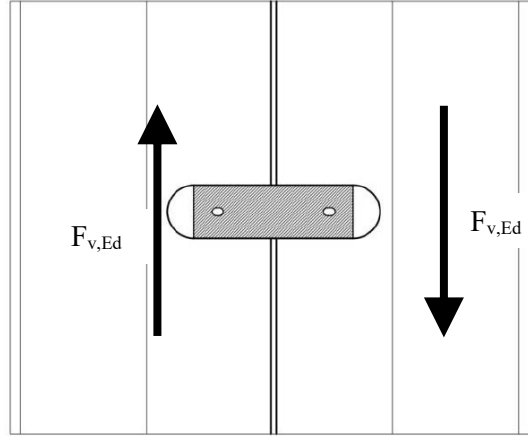
SCREW diameter [mm]	Length [mm]	Screw type
5.0 – 8.0	100 - 200	Rothoblaas screws according to EN14592 or ETA-11/0030

Annex B

Characteristic values of load-carrying-capacities

The forces are assumed to act parallel to the shear plane and the timber member surface and perpendicular to the longitudinal axis of the connector. Screws of equal length may be inserted in the two holes of the connector but are not required.

Timber-to-timber connections with slot connectors – with or without additional screws



$$F_{v,Rk} = k_{a1} \cdot b_{ef} \cdot f_{c,0,k} \cdot \left(\sqrt{t_{gap}^2 + 2 \cdot (t_e - 5\text{mm})^2 + 2 \cdot t_{gap} \cdot (t_e - 5\text{mm})} - t_{gap} - (t_e - 5\text{mm}) \right) \quad (\text{B.1})$$

$$k_{a1} = \begin{cases} 1 & \text{for } a_1 \geq 480 \text{ mm and } a_{3,t} \geq 480 \text{ mm} \\ 1 - 0,001 \cdot (480 - \min\{a_1; a_{3,t}\}) & \text{for } a_1 < 480 \text{ mm or } a_{3,t} < 480 \text{ mm} \end{cases} \quad (\text{B.2})$$

Where:

- k_{a1} Factor taking into account reduced spacing or end distance;
- b_{ef} Effective connector depth, $b_{ef} = b = 89 \text{ mm}$ for LVL and glulam,
 $b_{ef} = \Sigma d_0 + 0,1 \cdot (b - \Sigma d_0)$ for CLT
- Σd_0 Accumulated layer thickness of CLT members within width b parallel to $F_{v,Ed}$;
- $f_{c,0,k}$ Characteristic parallel to grain compressive strength of CLT longitudinal layer or glulam, respectively;
in service class 1, $f_{c,0,k}$ may be increased by a factor of 1,4 for CLT and glulam,
- $f_{c,0,k}$ Characteristic compressive strength of LVL parallel to the direction of the load $F_{v,Ed}$;
- t_{gap} Gap width between timber members, $t_{gap} \leq 5 \text{ mm}$;
- t_e Penetration depth of Rotho Blaas Slot Connector, $t_e = 60 \text{ mm} - 0,5 \cdot t_{gap}$;
- b width of Rotho Blaas Slot Connector, $b = 89 \text{ mm}$;
- a_1 Connector spacing parallel to load direction and shear plane;
- $a_{3,t}$ Connector end distance parallel to load direction and shear plane.

The slip modulus per Rotho Blaas Slot Connector may be assumed as:

$$K_{ser} = \frac{\rho_k}{20} \text{ kN / mm for Rotho Blaas Slot Connector in CLT or softwood LVL}$$

$$K_{ser} = \frac{\rho_k}{15} \text{ kN / mm for Rotho Blaas Slot Connector in hardwood LVL or glulam}$$

Where:

- ρ_k Characteristic density of the timber members in kg/m^3 ;