ALBERTS®

DECLARATION OF PERFORMANCE

Number: GAH/LE-005
as required by (EU) regulation 305/2011 - Nr. GAH 6008

1. ETA 08/0170
   GAH Rafter purlin anchors
2. Type: 8646/ 8647 170 right/left, 8648/ 8649 210 right/left
   8650/ 8651 250, 290, 330, 370 right/left
   The rafter purlin anchors are labelled with the manufacturer's trade mark, CE marking and the number issued by the Karlsruhe Institute of Technology. All other information, such as the date of manufacture, is specified on the packaging label.
3. Rafter purlin anchors are designed for joining load-bearing wooden components, e.g., for joining a timber beam and a purlin.
4. Gust. Alberts GmbH & Co. KG
   Blumenthal 2
   58849 Herscheid
5. N/A
6. System for assessing constancy of performance: 2+
7. N/A
8. The Karlsruhe Institute of Technology (KIT), NB no. 0769, performed an initial inspection of the plant and factory production control as an well as ongoing monitoring, assessment and evaluation of factory production control in accordance with system 2+ and issued the following document: Certificate of conformity for factory production control, no. 0769-CPD-6008.

9. **Declared performance**

Essential characteristics	Performance	Standardised technical specification
Characteristic load-bearing capacity	See Annex B of ETA 08/0170	
Stiffness	No performance determined	
Ductility	No performance determined	EN 1350-1
Safety in the event of a fire Fire performance	The rafter purlin anchors are made of steel, classified as Euroclass A1 in accordance with EN 1350-1	
Hygiene, health and environmental protection	No hazardous substances contained	
Durability and fitness for purpose	The durability and fitness for purpose of the rafter purlin anchors was assessed as satisfactory, provided they are used in timber constructions with the wood types described in Eurocode 5, and meet the requirements of service classes 1, 2 and service class 3 for stainless steel.	
Identification	See appendix A of ETA 08/0170	

ETA 08/0170
ETAG 015 three-dimensional spike plates

10. The product performance as per numbers 1 and 2 corresponds to the declared performance as per number 9. The manufacturer as stated in number 4 is solely responsible for the issuing of this declaration of performance in compliance with the Regulation (EU) No. 305/2011. Signed for and in the name of the manufacturer by:

Peter Feldmann	**Head of Quality Management**
Name	Role
Herscheid 22. May 2018	**i.A.**
Location and date of issue	Signature

Annex B
Characteristic load-carrying capacities

Support conditions
The distance between the timber elements in the area of the connection must not exceed 3 mm. The timber members have to be prevented from rotation.

Fastener specification
The holes have to be nailed as given in Annex A, beginning at the end of the purlin tie.

Wane
Wane is not allowed, the timber has to be sharp-edged in the area of the purlin ties.

Characteristic load-carrying capacities 2 purlin ties

Table B.1: Characteristic load-carrying capacities Load F_1 – 2 Purlin Ties / connection

Purlin Ties	Number of nails per Purlin Tie	Nailed connection $F_{Rk,N}$	Steel $F_{Rk,S}$	Transverse tensile failure
right/left 170	2 x 4	5,6 kN	10,2 kN	Design according to equation (B.1)
right/left 210	2 x 6	10,2 kN	10,2 kN	
right/left 250	2 x 8	15,7 kN	10,2 kN	
right/left 290	2 x 10	21,9 kN	10,2 kN	
right/left 330	2 x 12	28,4 kN	10,2 kN	
right/left 370	2 x 14	35,2 kN	10,2 kN	

Splitting
For a lifting force F_1 splitting has to be considered, when necessary, for both timber elements. The capacity of a connection with two purlin ties on both sides of the timber element is calculated according to the general splitting design for connections with mechanical fasteners in EN 1995:2010.

$$F_{90,Rk} = 14\ b \sqrt{\frac{h_e}{\left(1 - \frac{h_e}{h}\right)}} \qquad \text{(B.1)}$$

Where:

$F_{90,Rk}$	the characteristic splitting capacity in N
b	the member thickness, in mm
h_e	is the loaded edge distance to the centre of the most distant fastener in mm
h	the timber member height in mm

The design value of the force component perpendicular to the structural member's axis has to be lower than the design capacity $F_{90,Rd}$.