

Leistungserklärung / Declaration of Performance

17005_ETA-11_0098_2021

- **Eindeutiger Kenncode des Produkttyps / Unique identification code of the product type**

Kenncode <i>Identification code</i>	Balkenschuh <i>Joist Hangers</i>
HV1140	80 x 120 x 2 mm
HV1210	80 x 120 x 2 mm mit Innenfalschen / <i>with interior flanges</i>

- **Verwendungszweck(e) / Usage(s)**
Balkenschuh für Holz zu Holz, Holz zu Beton oder Holz zu Stahl Verbindungen /
Joist hangers for timber to timber, timber to concrete or timber to steel connections

- **Hersteller / Manufacturer**
Conmetall Meister GmbH
Hafenstraße 26
29223 Celle Germany

- **System(e) zur Bewertung und Überprüfung der Leistungsbeständigkeit /**
System(s) for evaluating and verifying constancy of performance
System 2+

- **Europäisch Technische Bewertung / European Technical Assessment**
Europäisches Bewertungsdokument / *European evaluation document:*
ETAG 015 11.2012
Europäisch technische Bewertung / *European technical evaluation:*
ETA-11/0098 11.12.2013
Technische Bewertungsstelle / *Technical Assessment Body:*
VĮ Statybos produkcijos sertifikavimo centras
Notifizierte Stelle / *Notified body:*
1397



■ **Wesentliche Merkmale und erklärte Leistung(en) /**

Essential features and stated performance(s)

Wesentliches Merkmal <i>Essential features</i>	Leistung <i>Performance</i>	Harmonisierte technische Spezifikation <i>Harmonized technical specification</i>
Charakteristische Tragfähigkeit <i>Characteristic load-carrying capacity</i>	Annex B	ETA-11/0098; 3.1
Steifigkeit <i>Stiffness</i>	NPD	ETA-11/0098; 3.1
Duktilität bei zyklischer Prüfung <i>Ductility in cyclic testing</i>	NPD	ETA-11/0098; 3.1
Brandverhalten <i>Reaction to fire</i>	A1	ETA-11/0098; 3.2 EN 1350-1
Feuerwiderstand <i>Resistance to fire</i>	NPD	ETA-11/0098; 3.2
Freisetzung gefährlicher Substanzen <i>Release of dangerous substances</i>	Keine gefährlichen Materialien <i>No dangerous materials</i>	ETA-11/0098; 3.3
Beständigkeit gegenüber Korrosion und Verschlechterung <i>Resistance to corrosion and deterioration</i>	Nutzungsklassen 1 und 2 bei Holzkonstruktionen unter Verwendung von Holzarten gem. Eurocode 5 <i>Service classes 1 and 2 for timber constructions using wood species acc. Eurocode 5</i>	ETA-11/0098; 3.7
Maßbeständigkeit <i>Dimensional stability</i>	Tab 2	ETA-11/0098; 3.7

Tab.1 Wesentliche Merkmale / *essential features*

Die Leistung des vorstehenden Produkts entspricht der erklärten Leistung/ den erklärten Leistungen. Für die Erstellung der Leistungserklärung im Einklang mit der Verordnung (EU) Nr. 305/2011 ist allein der obengenannte Hersteller verantwortlich.

Unterzeichnet für den Hersteller und im Namen des Herstellers von:

The performance of the above product is the declared performance. The above manufacturer is solely responsible for drawing up the declaration of performance in accordance with Regulation (EU) No 305/2011.

Signed for the manufacturer and on behalf of the manufacturer of:

Conmetall Meister GmbH

Celle, 19.03.2021


i. V. Andreas Schacht
Leitung Einkauf Eisenwaren
Head of purchasing ironmongery


i. A. Christian Ehle
Leitung Qualitätsmanagement Celle
Head of quality management Celle



ANNEX B

Characteristic load-carrying capacities

B.1 Support conditions

The distance between the timber members, the timber and concrete members and the timber and steel members in the area of the connection must not exceed 3 mm. The members shall be prevented from rotation.

B.2 Fastener specification

Number and position of nails presented in the Table B.1 ÷ B.4 and Annex D.

B.3 Wane

Wane is not allowed, the timber has to be sharp-edged in the area of the contact with the joist hanger and inside the joist hanger.

B.4 Characteristic load-carrying capacities

B.4.1 Timber beam to timber beam connections with an joist hanger

Table B.1. Characteristic load-carrying capacities $F_{1,k}$ of timber beam to timber beam connection for load direction according Figure B.1

Joist hanger type	Nails dimensions (mm)	Number of nails in		Position of nails shown in Figure ¹⁾	$F_{1,k}$ kN
		primary beam	secondary beam ³⁾		
45 × 95 × 2 ²⁾	40 × 4,0	8	4	D.1	6,11
45 × 96 × 2	40 × 4,0	14	4	D.2	6,4
45 × 137 × 2	40 × 4,0	20	5	D.3	7,96
45 × 167 × 2	40 × 4,0	24	6	D.4	9,55
51 × 93 × 2	40 × 4,0	14	4	D.2	6,4
51 × 105 × 2	40 × 4,0	16	4	D.5	6,4
51 × 135 × 2	40 × 4,0	20	5	D.6	8,0
51 × 164 × 2	40 × 4,0	24	6	D.4	9,55
60 × 100 × 2	40 × 4,0	16	8	D.7	12,7
63 × 158 × 2	40 × 4,0	24	12	D.8	19,1
76 × 120 × 2	40 × 4,0	20	10	D.9	15,9
80 × 120 × 2	40 × 4,0	20	10	D.9	15,9
80 × 120 × 2 ²⁾	40 × 4,0	20	10	D.10	15,9
100 × 140 × 2	40 × 4,0	18	14	D.11	9,6
100 × 140 × 2 ²⁾	40 × 4,0	18	14	D.12	9,6

¹⁾ see Annex D
²⁾ with interior flanges
³⁾ with predrilled holes, Ø3,2 mm



When load-carrying capacity is calculated the possibility of splinting caused by the tension perpendicular to the grain, shall be taken into account.

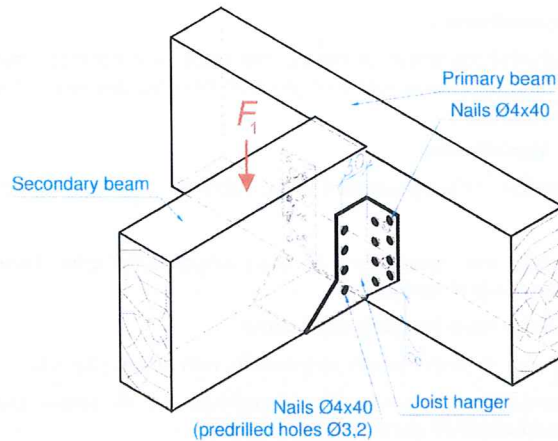


Figure B.1. Typical installation of the joist hanger in the timber beam to timber beam connections

B.4.2 Timber beam to timber column connections with a joist hanger

Table B.2. Characteristic load-carrying capacities $F_{1,k}$ of timber beam to timber column connection for load direction according Figure B.2

Joist hanger type	Nails dimensions (mm)	Number of nails in		Position of nails shown in Figure ¹⁾	$F_{1,k}$ kN
		column	beam ³⁾		
45 × 96 × 2	40 × 4,0	8	4	D.13	6,4
51 × 93 × 2	40 × 4,0	8	4	D.13	6,4
51 × 105 × 2	40 × 4,0	8	4	D.14	6,4
51 × 135 × 2	40 × 4,0	12	5	D.15	8,0
60 × 100 × 2	40 × 4,0	8	8	D.16	8,0
76 × 120 × 2	40 × 4,0	12	10	D.17	10,3
80 × 120 × 2	40 × 4,0	12	10	D.17	10,3
80 × 120 × 2 ²⁾	40 × 4,0	12	10	D.18	10,3
100 × 140 × 2	40 × 4,0	8	6	D.19	6,9
100 × 140 × 2 ²⁾	40 × 4,0	8	6	D.20	6,9

¹⁾ see Annex D
²⁾ with interior flanges
³⁾ with predrilled holes, Ø3,2 mm

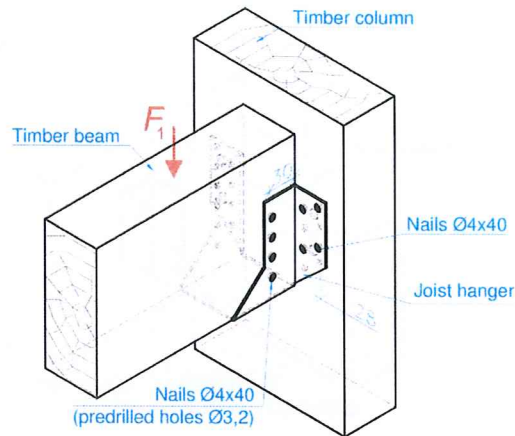


Figure B.2. Typical installation of the joist hanger in the timber beam to timber column connections

B.4.3 Timber beam to concrete member connections with an joist hangers

Table B.3. Characteristic load-carrying capacities $F_{1,k}$ of timber beam to concrete member connection for load direction according Figure B.3

Joist hanger type	Nails dimensions (mm)	Number of nails in the timber beam ²⁾	Load carrying capacity of the steel anchor not less than, kN		Position of nails in the timber beam shown in Figure ¹⁾	$F_{1,k}$ kN
			$F_{a,ax,Rk}$	$F_{a,v,Rk}$		
45 × 96 × 2	40 × 4,0	4	1,5	3,3	D.2	6,4
51 × 93 × 2	40 × 4,0	4	1,6	3,3	D.2	6,4
51 × 105 × 2	40 × 4,0	4	1,2	3,3	D.5	6,4
51 × 135 × 2	40 × 4,0	5	1,4	4,0	D.6	8,0
60 × 100 × 2	40 × 4,0	8	2,6	6,4	D.7	12,7
76 × 120 × 2	40 × 4,0	10	3,2	8,0	D.9	15,9
80 × 120 × 2	40 × 4,0	10	3,3	8,0	D.9	15,9
100 × 140 × 2	40 × 4,0	6	3,2	9,6	D.11	9,6

¹⁾ see Annex D
²⁾ with predrilled holes, Ø3,2 mm
 $F_{a,ax,Rk}$ – is the characteristic axial withdrawal capacity of the steel anchor embedded in the concrete
 $F_{a,v,Rk}$ – is the characteristic load-carrying capacity for anchor per shear plane

The joist hanger attached to the concrete member by two anchors. The anchors shall be placed in the upper holes in the both flanges.

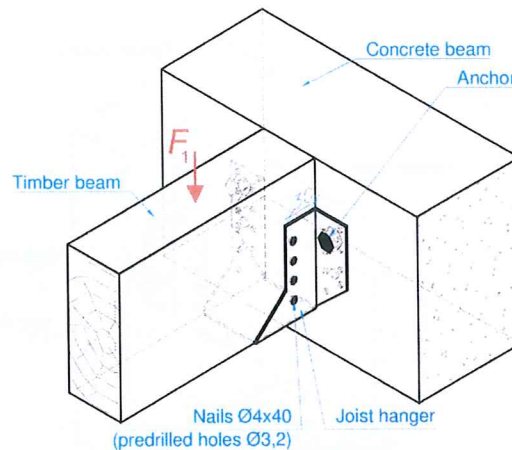


Figure B.3. Typical installation of the joist hanger in the timber beam to concrete member connections

B.4.4 Timber beam to steel member connections with an joist hangers

Table B.4. Characteristic load-carrying capacities $F_{1,k}$ of timber beam to steel member connection for load direction according Figure B.4

Joist hanger type	Nails dimensions (mm)	Number of nails in the timber beam ²⁾	Load carrying capacity of the bolt not less than, kN		Position of nails in the timber beam shown in Figure ¹⁾	$F_{1,k}$ kN
			$F_{bt,Rk}$	$F_{bv,Rk}$		
45 × 96 × 2	40 × 4,0	4	1,6	3,3	D.2	6,4
51 × 93 × 2	40 × 4,0	4	1,6	3,3	D.2	6,4
51 × 105 × 2	40 × 4,0	4	1,0	1,6	D.5	6,4
51 × 135 × 2	40 × 4,0	5	1,1	2,0	D.6	8,0
60 × 100 × 2	40 × 4,0	8	2,1	3,2	D.7	12,7
76 × 120 × 2	40 × 4,0	10	2,5	4,0	D.9	15,9
80 × 120 × 2	40 × 4,0	10	2,4	4,0	D.9	15,9
100 × 140 × 2	40 × 4,0	6	2,7	4,8	D.11	9,6
¹⁾ see Annex D ²⁾ with predrilled holes, Ø3,2 mm $F_{bt,Rk}$ – is the characteristic resistance to tension forces of bolt $F_{bv,Rk}$ – is the characteristic shear resistance per shear plane for bolt						

The joist hanger attached to the steel member minimum by two bolts. If the only two bolts are used, they shall be placed in the upper holes in the both flanges.

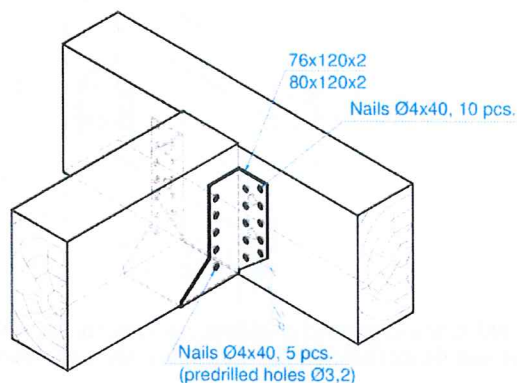


Figure D.9. Number and position of nails in the timber beam to timber beam connection with the joist hanger 76×120×2 and 80×120×2. Position of nails is symmetrical in both sides.

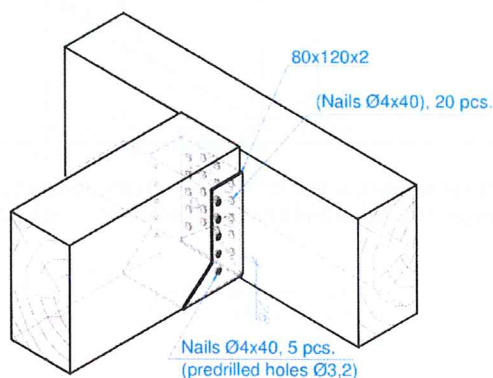


Figure D.10. Number and position of nails in the timber beam to timber beam connection with the joist hanger 80×120×2 with interior flanges. Position of nails is symmetrical in both sides.

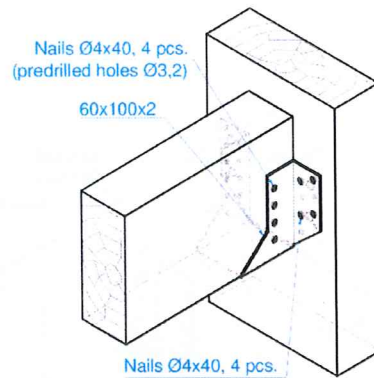


Figure D.16. Number and position of nails in the timber beam to timber column connection with the joist hanger 60×100×2. Position of nails is symmetrical in both sides.

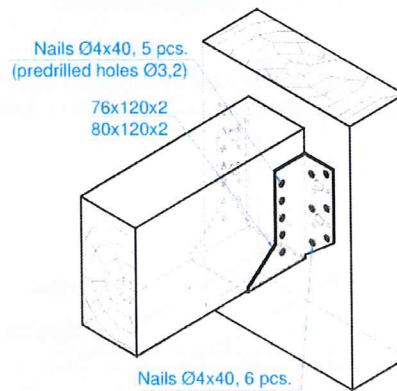


Figure D.17. Number and position of nails in the timber beam to timber column connection with the joist hanger 76×120×2 and 80×120×2. Position of nails is symmetrical in both sides.

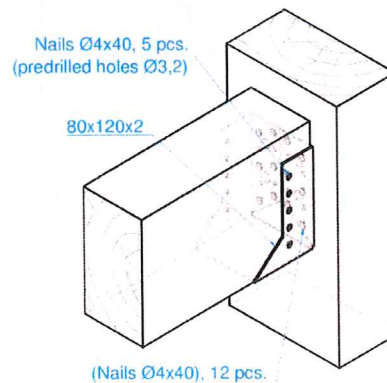


Figure D.18. Number and position of nails in the timber beam to timber column connection with the joist hanger 80×120×2 with interior flanges. Position of nails is symmetrical in both sides.