



**Technický a zkušební ústav
stavební Praha, s.p.**
Prosecká 811/76a
190 00 Prague
Czech Republic
T: +420 286 019 400
W: www.tzus.cz



European Technical Assessment

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General Part

Technical Assessment Body issuing the European Technical Assessment
Technický a zkušební ústav stavební Praha, s.p.

Trade name of the construction product	BPC Connectors
Product family to which the construction product belongs	Product area code: 13 Three-dimensional nailing plates
Manufacturer	BPC Building Products Ltd. Flanshaw Way Wakefield, WF2 9LP United Kingdom
Manufacturing plants	BPC Building Products Ltd. Flanshaw Way Wakefield, WF2 9LP United Kingdom
This European Technical Assessment contains	79 pages including 3 Annexes, which form an integral part of this European Technical Assessment
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

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1 Technical description of the product

BPC Connectors are a range of three-dimensional metal connectors. This ETA covers the following product ranges:

- Angle brackets
- Joist hangers
- Plates and anchors

The products are intended for load carrying timber to timber connections.

Characteristic load-carrying capacities of all connector types are developed partly by testing and partly by design supported by testing, using a calculation model which follows the guidelines of the corresponding technical references, complemented by the relevant EOTA Technical Reports.

Eurocode 5 for connections in timber and Eurocode 3 (relevant parts) for the steel parts (if applicable):

- EAD 130186-00-0603 for Three-dimensional nailing plates
- TR 015 for Three-dimensional nailing plates
- TR 017 for Angle brackets

The characteristic load-carrying capacities developed by design refer to the properties of specific nails supported by Declarations of Performance.

BPC connectors are manufactured from galvanized steel according to EN 10346.

1.1 Product range

1.1.1 Product codes

BPC connectors are referenced through acronyms derived from their product type followed by a code related to their dimensions, see Table 1, 2 and 3.

Table 1: Connector models - Angle brackets

BPC Three-dimensional connectors – Models and reference codes	
Model / Reference	Description
ABL/50x50 ABL/60x40 ABL/90x90 ABL/150x90 ABL/150x150	Angle brackets – 90° without reinforcement
AB/60x40 AB/90x90 AB/150x90 AB/150x150	Angle brackets – 90° with reinforcement
AB40/45x45 AB40/90x45 AB40/90x90	Angle brackets – 90° heavy duty without reinforcement
AB50/50x50 AB50/100x100 AB50/150x150 AB50/200x200	Angle brackets – 90° heavy duty without reinforcement
AP/442 AP/444 AP/664 AP/666 AP/888	Angle brackets – 90° without reinforcement

Table 2: Connector models - Joist hangers

BPC Three-dimensional connectors – Models and reference codes	
Model / Reference	Description
A270	Light duty joist hangers
B340 B460 B610	Medium duty joist hangers
MINI	Mini hangers – light duty
MTS/580	Mono truss shoes – light duty
GTS/800	Girder truss shoe
MTH/240 MTH/340 MTH/380 MTH/500 MTH/560 MTH/620	Multi-truss hangers – heavy duty
MTH/CF/380 MTH/CF/500 MTH/CF/560 MTH/CF/620	Multi-truss hangers with concealed flange

Table 3: Connector models - Plates and anchors

BPC Three-dimensional connectors – Models and reference codes	
Model / Reference	Description
FA1 FA2 FA3	Framing anchor
HDA/300 HDA/500	Holding down angle
SP/57 SP/82 SP/98 SP/100	Splice plate
TC38 TC44 TC47 TC50	Truss clip

1.1.2 Definitions of dimensions

The notation for the dimensions for angle brackets and joist hangers is given in Table 4:

Table 4: The notation for the dimensions

	Angle Bracket	Joist Hanger
<i>A</i>	Overall length of first face, measured perpendicular to fold	Overall depth of joist hanger, measured parallel to depth of joist
<i>B</i>	Overall length of second face, measured perpendicular to fold	Overall length of joist hanger, measured parallel to length of joist
<i>C</i>	Width of either face, i.e. length of fold	Seat width measured parallel to length of header
<i>H</i>	Slot with Horizontal orientation – i.e. parallel to fold	
<i>V</i>	Slot with Vertical orientation – i.e. perpendicular to fold	
<i>t_s</i>	Thickness of steel plate	
[1], [2]	Face number, [1] has length A [2] has length B otherwise as defined in the relevant section	Face number, [1] has maximum depth A [2] has maximum depth and length of A and B respectively otherwise as defined in the relevant section
[U]	Seat under supported component, as defined in the relevant section	

Additional notation for some dimensions of plates and anchors is defined in the corresponding section and/or drawing.

Images are representations only, and do not always show the correct number of holes.

1.2 Properties of the components

1.2.1 Steel for connector

The steel plate thicknesses in the connectors t_s are given in the product description tables in A1.1, A2.1 and A3.1.

The steel plate grade is at least S250 or G275 when galvanised. The minimum yield strength assumed in the calculations is:

$$f_{y,k} = 250 \text{ N/mm}^2$$

1.2.2 Timber

Timber substrates are assumed to have the following characteristic densities

Strength class	Characteristic density ρ_k (kg/m ³)
C16 (EN 338)	310
C24 (EN 338)	350
TR26	370

Timber should be free of knots and wane within the connector.

1.2.3 Fasteners

1.2.3.1 Timber to Timber connections

BPC connectors have holes for nails, screws and bolts. The hole diameters are given in the product description tables in A1.1, A2.1 and A3.1. Each hole diameter is suitable for a single type of fastener, as follows.

Hole diameter (mm) Fastener type

4, 4.5, 5 Nails as per 1.2.3.2

7, 9, 10, 11 and slots Screws – not considered for characteristic properties

13 Bolts as per 1.2.3.3

Characteristic structural properties have been calculated for a set of fasteners that match the recommendations of BPC.

1.2.3.2 Nails

Table 5: Nail description and characteristics

Type	Description	d^1 (mm)	l (mm)	$f_{ax,k}^2$ (N/mm ²)	f_u (N/mm ²)
A	Square twist nails Sherardized finish Normally supplied loose for manual fixing	3.4	30	4.78	600
B	Square twist nails Sherardized finish Normally supplied collated for a nail gun	3.4	35	4.3	700

¹ This diameter is the minimum cross-section dimension in accordance with EN 14592. Square twist nails are often described in the market by their largest cross-section dimension, so that a 3.4 mm diameter nail will be sold as being 3.75 mm diameter.

² In timber with a characteristic density ρ_k of 350 kg/m³, i.e. C24 timber. At other values of ρ_k the value is modified so $f_{ax,k} = f_{ax,k} \cdot \min\left(\frac{\rho_k}{350}, 1.1\right)$

The nails are CE marked to EN 14592 or an appropriate European Technical Assessment (ETA). The following characteristics are required for calculations.

The penetration depth is least equal to 6 d as defined in § 8.3.1.2(2) of EC5.

The parts of the product/s connected to a timber element should be fixed with fasteners in all holes of the same diameter (full nailing).

1.2.3.3 Bolts

Table 6: Bolt description and characteristics

Type	Description	d ¹ (mm)	A_s ² (mm ²)	f_{yb} ³ (N/mm ²)	f_{ub} ⁴ (N/mm ²)	$F_{v,Rd}$ (kN) ⁵
M12	Hexagon bolt assembly minimum grade 8.8 CE marked in accordance with EN 15048-1	12	84.3	640	800	32.4

¹ Nominal diameter is the cross-section dimension of the unthreaded part
² Stress area of the threaded part
³ Yield stress
⁴ Ultimate tensile stress
⁵ Design shear stress $F_{v,Rd} = \frac{\alpha_v f_{ub} A_s}{\gamma_{M2}}$, where $\alpha_v = 0.6$ and $\gamma_{M2} = 1.25$

Bolts may be used with MTH joist hangers to attach the hanger to a header beam. The bolts are installed in a pre-drilled 13 mm diameter hole. All bolt holes should be used.

The thickness of the header beam should be verified by an engineer.

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

BPC connectors are intended for use as permanent timber to timber load bearing connectors, subject to dry, internal conditions defined by the service class 1 and 2 of EC5. The connectors are one-piece non-welded face-fixed parts.

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

The assessment of the fitness for use of the BPC Connectors according to the basic work requirements (BWR) were carried out in compliance with EAD 130186-00-0603.

The European Technical Assessment is issued for the BPC Connectors on the basis of agreed data and information, deposited at Technický a zkušební ústav stavební Praha, s.p., which identifies BPC Connectors that has been assessed and judged. Changes to the BPC Connectors or production process which could result in this deposited data and information being incorrect should be notified to Technický a zkušební ústav stavební Praha, s.p. before the changes are introduced. Technický a zkušební ústav stavební Praha, s.p. will decide whether or not such changes affect the ETA and consequently the validity of the CE marking on the basis of the ETA and if so whether further assessment or alternations to the ETA shall be necessary.

Table 6: Essential characteristics of the product

	Essential characteristic	Performance
BWR 1: Mechanical resistance and stability		
2.2.1	Joint strength	See ETA, cl. 3.1.1
	Joint stiffness	See ETA, cl. 3.1.2
	Joint ductility	See ETA, cl. 3.1.3
2.2.2	Resistance to seismic actions	No performance assessed
2.2.3	Resistance to corrosion and deterioration	See ETA, cl. 3.1.5
BWR 2: Safety in case of fire		
2.2.4	Reaction to fire	See ETA, cl. 3.2.1
2.2.5	Resistance to fire	Not relevant

3.1 Mechanical resistance and stability

The following aspects of performance are relevant to this essential requirement.

3.1.1 Joint strength

The Characteristic Load-carrying Capacities for the range of BPC Connectors connected with standard fasteners are given in:

- Annex 1 Angle Bracket Products
- Annex 2 Joist Hanger Products
- Annex 3 Plate and Anchor Products

These properties should be used for designs in accordance with EN 1995-1-1:2004/A1 (Eurocode 5) or an appropriate national code. The load-carrying capacities have been derived by calculation or design assisted by testing or by testing.

These properties have further been developed based on the following assumptions:

- The width of joists narrower than the exact joist hanger width does not exceed the tolerance of + 0/- 4 mm to the joist hanger width
- For joist hangers, the header supporting the joist is adequately restrained against rotation
- Specified fasteners are installed in all available (and appropriate) holes of the same diameter
- Timber should be free of wane in the connectors
- The actual maximum bearing capacity of the joist itself is checked separately by the designer of the structure

3.1.2 Joint stiffness

No performance has been determined in relation to the joint stiffness properties to be used for the analysis of serviceability limit states.

In accordance with EN 26891, deflections during testing are limited to 15 mm. Therefore, a maximum deflection of 15 mm can be assumed when developing the full characteristic load-carrying capacities.

3.1.3 Joint ductility

BPC Connectors are for use in non-dissipative or low dissipative structures. No performance has been determined in relation to ductility of a joint under cyclic testing. Where national regulations may require it, an additional evaluation shall be carried out.

3.1.4 Resistance to seismic actions

No performance assessed.

3.1.5 Resistance to corrosion and deterioration

BPC Connectors covered by the present report can be used for permanent load-bearing timber to timber connections in structures, in the conditions of Service Classes 1 and 2 as specified in EC5.

BPC Connectors can be used in Service Classes 1 and 2 according to Eurocode 5 (EN 1995-1-1), and Hazard Classes 1 and 2 as specified in EN 335.

Steel products with this coating are suitable for use in environments with Corrosivity Categories C1 and C2 as defined in Table 1 of EN ISO 12944-2.

3.2 Safety in case of fire

3.2.1 Reaction to fire

BPC Connectors and associated fasteners are classified as non-combustible and meet the requirements of Class A1 according to EC decision 96/603/EC, amended by EC Decision 2000/605/EC.

3.2.2 Resistance to fire

Not relevant.

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

According to the decision 1997/638/EC¹, of the European Commission the system(s) of assessment and verification of constancy of performance (see Annex V to Regulation (EU) No 305/2011) given in the following table applies:

Product(s)	Intended use(s)	Level(s) or class(es)	Attestation of conformity system(s)
Shear plates, toothed-plate connectors, punched nail plaits, nailing plates	For structural timber products	---	2+

¹ 1997/638/EC - European Commission Decision of 19/09/1997, published in the Official Journal of the European Communities No L 268/36
ETA 20/0915, version 01, of 03/12/2020
070-058681

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 the Technický a zkušební ústav stavební Praha, s.p.

Issued in Prague on 03/12/2020



By

Ing. Mária Schaan
Head of the TAB



Annexes:

- Annex 1 Angle bracket products
- Annex 2 Joist hanger products
- Annex 3 Plate and anchor product

ANNEX 1 ANGLE BRACKET PRODUCTS

A1.1 Angle brackets – Product descriptions

A1.1.1 Angle bracket – Model AB and ABL



ABL/50x50



AB/60x40



AB/90x90



AB/150x90



AB/150x150

AB Reference	Drawing	Dimensions			Holes in [1]		Holes in [2]
		t_s	A	B	C	$n \times \emptyset$	$n \times \emptyset$
ABL/50x50	AB.50X50	2.5	50	50	60	7× 4.5 1× V 11.0× 30	5× 4.5 2× 7 1× 11.0
AB/60x40 ^A ABL/60x40	AB.60X40	2.5	60	40	60	7× 4.5 1× V 11.0× 30	5× 4.5 2× 7 1× 11.0
AB/90x90 ^A ABL/90x90	AB 90x90	2.5	90	90	60	8× 4.5 2× 9.0 1× V 11.0× 30	8× 4.5 2× 9.0 1× 11.0
AB/150x90 ^A ABL/150x90	AB.150X90	2.5	150	90	60	13× 4.5 2× 9.0 1× 11.0 1× H 11.0× 30	8× 4.5 2× 9.0 1× V 11.0× 30
AB/150x150 ^A ABL/150x150	AB.150X150	2.5	150	150	60	13× 4.5 2× 9.0 1× V 11.0× 30 1× H 11.0× 30	13× 4.5 2× 9.0 1× 11.0 1× H 11.0× 30

^A AB brackets have a reinforcing rib in the fold

A1.1.2 Angle bracket – Model AB40



AB40/45x45 AB40/90x45 AB40/90x90 AB40/175 Flat

AB40 Reference	Drawing	Dimensions				Holes in [1]	Holes in [2]
		t_s	A	B	C	$n \times \emptyset$	$n \times \emptyset$
AB40/45x45	AB40.45X45	3.0	45	45	40	4× 5.0 1× 10.0	4× 5.0 1× 10.0
AB40/90x45	AB40.90X45	3.0	90	45	40	8× 5.0 2× 10.0	4× 5.0 1× 10.0
AB40/90x90	AB40.90X90	3.0	90	90	40	8× 5.0 2× 10.0	8× 5.0 2× 10.0
AB40/175 Flat	AB40.FLAT	3.0	87	87	40	8× 5.0 2× 10.0	8× 5.0 2× 10.0

AB40/Flat is a non-folded version of AB40/90x90 with the same number and layout of holes.

A1.1.3 Angle bracket – Model AB50



Pattern repeats

AB50/50x50 AB50/100x100 AB50/150x150 AB50/200x200

AB50 Reference	Drawing	Dimensions				Holes in [1]	Holes in [2]
		t_s	A	B	C	$n \times \emptyset$	$n \times \emptyset$
AB50/50x50	AB50	2.3	50	50	50	4× 4.0 1× 13.0	4× 4.0 1× 13.0
AB50/100x100	AB50	2.3	100	100	50	8× 4.0 2× 13.0	4× 4.0 1× 13.0
AB50/150x150	AB50	2.3	150	150	50	12× 4.0 3× 13.0	12× 4.0 3× 13.0
AB50/200x200	AB50	2.3	200	200	50	16× 4.0 4× 13.0	16× 4.0 4× 13.0

A1.1.4 Angle bracket – Model AP



AP/442 &
AP/444

AP/664

AP/666

AP/888

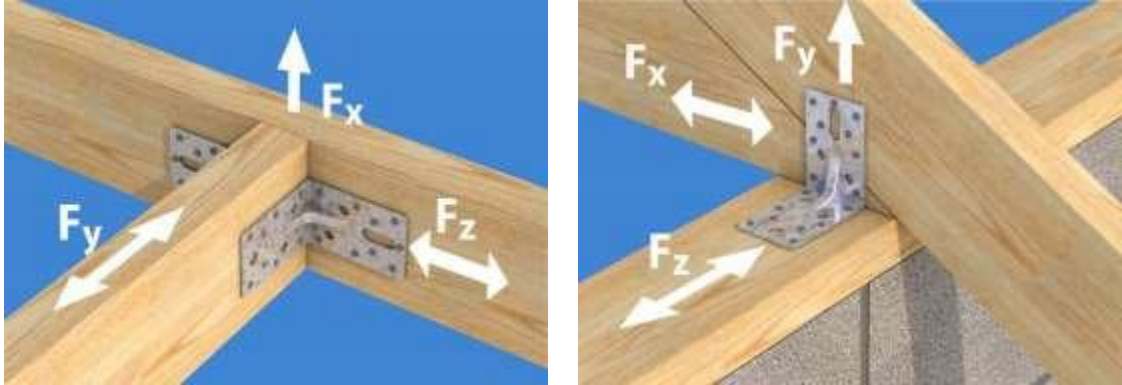
AP/60x200F

AP Reference	Drawing	t_s	Dimensions			Holes in [1] $n \times \emptyset$	Holes in [2] $n \times \emptyset$
			A	B	C		
AP/442	AP.442	2.5	40	40	20	2 × 5.0	2 × 5.0
AP/444	AP.444	2.5	40	40	40	3 × 5.0	3 × 5.0
AP/664	AP.664	2.5	60	60	40	5 × 5.0	5 × 5.0
AP/666	AP.666	2.5	60	60	60	8 × 5.0	7 × 5.0
AP/888	AP.888	2.5	80	80	80	14 × 5.0	14 × 5.0
AP/60x200F	AP.60X200F	2.5	200	-	60	25 × 5.0	-

A1.2 Angle brackets –Load-carrying capacities

The characteristic load-carrying capacities for pairs of BPC angle brackets in timber to timber connections are listed in the following tables.

Figure 1: Angle brackets: Direction of forces for pairs of brackets



A1.2.1 Angle brackets (pair) – Model AB

Table 6: AB angle brackets (pair) – C16 timber – Type A nails

AB Reference	Fasteners № × length [mm]		Characteristic capacity [kN]		
	Plate 1	Plate 2	$F_{x,k}$	$F_{y,k}$	$F_{z,k}$
AB/60x40 ^A	7 × 30	5 × 30	4.10	2.09	5.67
AB/90x90 ^A	9 × 30	8 × 30	8.26	2.75	7.84
AB/150x90 ^A	13 × 30	8 × 30	8.26	2.96	7.95
AB/150x150 ^A	13 × 30	13 × 30	8.26	3.38	8.15

^A Bracket has a reinforcing rib in the fold

Table 7: AB angle brackets (pair) – C16 timber – Type B nails

AB Reference	Fasteners № × length [mm]		Characteristic capacity [kN]		
	Plate 1	Plate 2	$F_{x,k}$	$F_{y,k}$	$F_{z,k}$
AB/60x40 ^A	7 × 35	5 × 35	4.78	3.81	7.59
AB/90x90 ^A	9 × 35	8 × 35	9.65	4.62	8.77
AB/150x90 ^A	13 × 35	8 × 35	9.65	4.62	8.77
AB/150x150 ^A	13 × 35	13 × 35	9.65	4.62	8.77

^A Bracket has a reinforcing rib in the fold

Table 8: AB angle brackets (pair) – C24 timber – Type A nails

AB Reference	Fasteners № × length [mm]		Characteristic capacity [kN]		
	Plate 1	Plate 2	$F_{x,k}$	$F_{y,k}$	$F_{z,k}$
AB/60x40 ^A	7 × 30	5 × 30	4.54	2.36	6.31
AB/90x90 ^A	9 × 30	8 × 30	9.15	3.49	8.64
AB/150x90 ^A	13 × 30	8 × 30	9.15	3.49	8.64
AB/150x150 ^A	13 × 30	13 × 30	9.15	3.49	8.64

^A Bracket has a reinforcing rib in the fold

Table 9: AB angle brackets (pair) – C24 timber – Type B nails

AB	Fasteners № × length [mm]		Characteristic capacity [kN]		
	Plate 1	Plate 2	$F_{x,k}$	$F_{y,k}$	$F_{z,k}$
Reference					
AB/60x40 ^A	7 × 35	5 × 35	5.31	4.14	7.53
AB/90x90 ^A	9 × 35	8 × 35	10.72	4.90	9.34
AB/150x90 ^A	13 × 35	8 × 35	10.72	4.90	9.34
AB/150x150 ^A	13 × 35	13 × 35	10.72	4.90	9.34

^A Bracket has a reinforcing rib in the fold

Table 10: AB angle brackets (pair) – TR26 timber – Type A nails

AB	Fasteners № × length [mm]		Characteristic capacity [kN]		
	Plate 1	Plate 2	$F_{x,k}$	$F_{y,k}$	$F_{z,k}$
Reference					
AB/60x40 ^A	7 × 30	5 × 30	4.76	2.49	6.63
AB/90x90 ^A	9 × 30	8 × 30	9.59	3.60	8.83
AB/150x90 ^A	13 × 30	8 × 30	9.59	3.60	8.83
AB/150x150 ^A	13 × 30	13 × 30	9.59	3.60	8.83

^A Bracket has a reinforcing rib in the fold

Table 11: AB angle brackets (pair) – TR26 timber – Type B nails

AB	Fasteners № × length [mm]		Characteristic capacity [kN]		
	Plate 1	Plate 2	$F_{x,k}$	$F_{y,k}$	$F_{z,k}$
Reference					
AB/60x40 ^A	7 × 35	5 × 35	5.58	4.26	7.86
AB/90x90 ^A	9 × 35	8 × 35	11.25	5.04	9.55
AB/150x90 ^A	13 × 35	8 × 35	11.25	5.04	9.55
AB/150x150 ^A	13 × 35	13 × 35	11.25	5.04	9.55

^A Bracket has a reinforcing rib in the fold

A1.2.2 Angle brackets (pair) – Model ABL

Table 12: ABL angle brackets (pair) – C16 timber – Type A nails

ABL	Fasteners № × length [mm]		Characteristic capacity [kN]		
	Plate 1	Plate 2	$F_{x,k}$	$F_{y,k}$	$F_{z,k}$
Reference					
ABL/50x50	7× 30	5× 30	3.41	2.09	5.67
ABL/60x40	7× 30	5× 30	4.10	2.09	5.67
ABL/90x90	9× 30	8× 30	8.26	2.88	7.90
ABL/150x90	13× 30	8× 30	8.26	2.88	7.90
ABL/150x150	13× 30	13× 30	8.26	2.88	7.90

Table 13: ABL angle brackets (pair) – C16 timber – Type B nails

ABL	Fasteners № × length [mm]		Characteristic capacity [kN]		
	Plate 1	Plate 2	$F_{x,k}$	$F_{y,k}$	$F_{z,k}$
Reference					
ABL/50x50	7× 35	5× 35	3.99	3.81	7.03
ABL/60x40	7× 35	5× 35	4.78	3.42	6.63
ABL/90x90	9× 35	8× 35	9.65	4.04	8.48
ABL/150x90	13× 35	8× 35	9.65	4.07	8.50
ABL/150x150	13× 35	13× 35	9.65	4.07	8.50

Table 14: ABL angle brackets (pair) – C24 timber – Type A nails

ABL	Fasteners № × length [mm]		Characteristic capacity [kN]		
	Plate 1	Plate 2	$F_{x,k}$	$F_{y,k}$	$F_{z,k}$
Reference					
ABL/50x50	7× 30	5× 30	3.78	2.36	6.31
ABL/60x40	7× 30	5× 30	4.54	2.36	6.31
ABL/90x90	9× 30	8× 30	9.15	3.09	8.43
ABL/150x90	13× 30	8× 30	9.15	3.09	8.43
ABL/150x150	13× 30	13× 30	9.15	3.09	8.43

Table 15: ABL angle brackets (pair) – C24 timber – Type B nails

ABL	Fasteners № × length [mm]		Characteristic capacity [kN]			
	Reference	Plate 1	Plate 2	$F_{x,k}$	$F_{y,k}$	$F_{z,k}$
ABL/50x50		7× 35	5× 35	4.43	4.30	7.72
ABL/60x40		7× 35	5× 35	5.31	3.66	7.29
ABL/90x90		9× 35	8× 35	10.72	4.32	9.05
ABL/150x90		13× 35	8× 35	10.72	4.36	9.07
ABL/150x150		13× 35	13× 35	10.72	4.36	9.07

Table 16: ABL angle brackets (pair) – TR26 timber – Type A nails

ABL	Fasteners № × length [mm]		Characteristic capacity [kN]			
	Reference	Plate 1	Plate 2	$F_{x,k}$	$F_{y,k}$	$F_{z,k}$
ABL/50x50		7× 30	5× 30	3.96	2.49	6.63
ABL/60x40		7× 30	5× 30	4.76	2.49	6.63
ABL/90x90		9× 30	8× 30	9.59	3.19	8.62
ABL/150x90		13× 30	8× 30	9.59	3.19	8.62
ABL/150x150		13× 30	13× 30	9.59	3.19	8.62

Table 17: ABL angle brackets (pair) – TR26 timber – Type B nails

ABL	Fasteners № × length [mm]		Characteristic capacity [kN]			
	Reference	Plate 1	Plate 2	$F_{x,k}$	$F_{y,k}$	$F_{z,k}$
ABL/50x50		7× 35	5× 35	4.65	4.55	8.06
ABL/60x40		7× 35	5× 35	5.58	3.78	7.62
ABL/90x90		9× 35	8× 35	11.25	4.46	9.25
ABL/150x90		13× 35	8× 35	11.25	4.50	9.27
ABL/150x150		13× 35	13× 35	11.25	4.50	9.27

A1.2.3 Angle brackets (pair) – Model AB40

Table 18: AB40 angle brackets (pair) – C16 timber – Type A nails

AB40 Reference	Fasteners № × length [mm]		Characteristic capacity [kN]		
	Plate 1	Plate 2	$F_{x,k}$	$F_{y,k}$	$F_{z,k}$
AB40/45x45	4 × 30	4 × 30	3.37	1.44	4.49
AB40/90x45	8 × 30	4 × 30	3.58	1.44	5.14
AB40/90x90	8 × 30	8 × 30	6.76	2.75	7.41

Table 19: AB40 angle brackets (pair) – C16 timber – Type B nails

AB40 Reference	Fasteners № × length [mm]		Characteristic capacity [kN]		
	Plate 1	Plate 2	$F_{x,k}$	$F_{y,k}$	$F_{z,k}$
AB40/45x45	4 × 35	4 × 35	3.94	3.00	5.90
AB40/90x45	8 × 35	4 × 35	4.19	3.00	6.51
AB40/90x90	8 × 35	8 × 35	7.91	4.22	8.14

Table 20: AB40 angle brackets (pair) – C24 timber – Type A nails

AB40 Reference	Fasteners № × length [mm]		Characteristic capacity [kN]		
	Plate 1	Plate 2	$F_{x,k}$	$F_{y,k}$	$F_{z,k}$
AB40/45x45	4 × 30	4 × 30	3.70	1.62	4.95
AB40/90x45	8 × 30	4 × 30	3.93	1.62	5.60
AB40/90x90	8 × 30	8 × 30	7.42	2.93	7.90

Table 21: AB40 angle brackets (pair) – C24 timber – Type B nails

AB40 Reference	Fasteners № × length [mm]		Characteristic capacity [kN]		
	Plate 1	Plate 2	$F_{x,k}$	$F_{y,k}$	$F_{z,k}$
AB40/45x45	4 × 35	4 × 35	4.34	3.38	6.55
AB40/90x45	8 × 35	4 × 35	4.62	3.38	7.11
AB40/90x90	8 × 35	8 × 35	8.71	4.51	8.68

Table 22: AB40 angle brackets (pair) – TR26 timber – Type A nails

AB40		Fasteners № × length [mm]		Characteristic capacity [kN]		
Reference	Plate 1	Plate 2	$F_{x,k}$	$F_{y,k}$	$F_{z,k}$	
AB40/45x45	4 × 30	4 × 30	3.86	1.71	5.18	
AB40/90x45	8 × 30	4 × 30	4.11	1.71	5.83	
AB40/90x90	8 × 30	8 × 30	7.75	3.03	8.07	

Table 23: AB40 angle brackets (pair) – TR26 timber – Type B nails

AB40		Fasteners № × length [mm]		Characteristic capacity [kN]		
Reference	Plate 1	Plate 2	$F_{x,k}$	$F_{y,k}$	$F_{z,k}$	
AB40/45x45	4 × 35	4 × 35	4.54	3.58	6.87	
AB40/90x45	8 × 35	4 × 35	4.83	3.58	7.40	
AB40/90x90	8 × 35	8 × 35	9.11	4.65	8.88	

A1.2.4 Angle brackets (pair) – Model AB50

Table 24: AB50 angle brackets (pair) – C16 timber – Type A nails

AB50 Reference	Fasteners № × length [mm]		Characteristic capacity [kN]		
	Plate 1	Plate 2	$F_{x,k}$	$F_{y,k}$	$F_{z,k}$
AB50/50x50	4 × 30	4 × 30	4.66	1.77	4.09
AB50/100x100	8 × 30	8 × 30	7.46	3.07	6.82
AB50/150x150	12 × 30	12 × 30	10.56	3.07	6.82
AB50/200x200	16 × 30	16 × 30	10.56	3.07	6.82

Table 25: AB50 angle brackets (pair) – C16 timber – Type B nails

AB50 Reference	Fasteners № × length [mm]		Characteristic capacity [kN]		
	Plate 1	Plate 2	$F_{x,k}$	$F_{y,k}$	$F_{z,k}$
AB50/50x50	4 × 35	4 × 35	5.45	3.07	5.28
AB50/100x100	8 × 35	8 × 35	8.72	4.21	7.39
AB50/150x150	12 × 35	12 × 35	12.34	4.21	7.39
AB50/200x200	16 × 35	16 × 35	12.34	4.21	7.39

Table 26: AB50 angle brackets (pair) – C24 timber – Type A nails

AB50 Reference	Fasteners № × length [mm]		Characteristic capacity [kN]		
	Plate 1	Plate 2	$F_{x,k}$	$F_{y,k}$	$F_{z,k}$
AB50/50x50	4 × 30	4 × 30	5.19	2.00	4.56
AB50/100x100	8 × 30	8 × 30	8.30	3.27	7.27
AB50/150x150	12 × 30	12 × 30	11.74	3.27	7.27
AB50/200x200	16 × 30	16 × 30	11.74	3.27	7.27

Table 27: AB50 angle brackets (pair) – C24 timber – Type B nails

AB50 Reference	Fasteners № × length [mm]		Characteristic capacity [kN]		
	Plate 1	Plate 2	$F_{x,k}$	$F_{y,k}$	$F_{z,k}$
AB50/50x50	4 × 35	4 × 35	6.08	3.47	5.91
AB50/100x100	8 × 35	8 × 35	9.72	4.55	7.91
AB50/150x150	12 × 35	12 × 35	13.76	4.55	7.91
AB50/200x200	16 × 35	16 × 35	13.76	4.55	7.91

Table 28: AB50 angle brackets (pair) – TR26 timber – Type A nails

AB50 Reference	Fasteners № × length [mm]		Characteristic capacity [kN]		
	Plate 1	Plate 2	$F_{x,k}$	$F_{y,k}$	$F_{z,k}$
AB50/50x50	4 × 30	4 × 30	5.45	2.11	4.80
AB50/100x100	8 × 30	8 × 30	8.71	3.37	7.43
AB50/150x150	12 × 30	12 × 30	12.33	3.37	7.43
AB50/200x200	16 × 30	16 × 30	12.33	3.37	7.43

Table 29: AB50 angle brackets (pair) – TR26 timber – Type B nails

AB50 Reference	Fasteners № × length [mm]		Characteristic capacity [kN]		
	Plate 1	Plate 2	$F_{x,k}$	$F_{y,k}$	$F_{z,k}$
AB50/50x50	4 × 35	4 × 35	6.39	3.66	6.22
AB50/100x100	8 × 35	8 × 35	10.22	4.73	8.11
AB50/150x150	12 × 35	12 × 35	14.46	4.73	8.11
AB50/200x200	16 × 35	16 × 35	14.46	4.73	8.11

A1.2.5 Angle brackets (pair) – Model AP

Table 30: AP angle brackets (pair) – C16 timber –Type A nails

AP	Fasteners № × length [mm]		Characteristic capacity [kN]		
	Plate 1	Plate 2	$F_{x,k}$	$F_{y,k}$	$F_{z,k}$
AP/442	2× 30	2× 30	1.44	0.84	2.10
AP/444	3× 30	3× 30	2.34	1.25	3.15
AP/664	5× 30	5× 30	4.43	2.09	5.25
AP/666	8× 30	7× 30	5.71	2.93	7.56
AP/888	14× 30	14× 30	12.26	5.34	10.57

Table 31: AP angle brackets (pair) – C16 timber –Type B nails

AP	Fasteners № × length [mm]		Characteristic capacity [kN]		
	Plate 1	Plate 2	$F_{x,k}$	$F_{y,k}$	$F_{z,k}$
AP/442	2× 35	2× 35	1.69	1.52	2.73
AP/444	3× 35	3× 35	2.74	2.29	4.09
AP/664	5× 35	5× 35	5.17	3.81	6.82
AP/666	8× 35	7× 35	6.67	5.34	9.13
AP/888	14× 35	14× 35	14.32	8.06	11.93

Table 32: AP angle brackets (pair) – C24 timber –Type A nails

AP	Fasteners № × length [mm]		Characteristic capacity [kN]		
	Plate 1	Plate 2	$F_{x,k}$	$F_{y,k}$	$F_{z,k}$
AP/442	2× 30	2× 30	1.60	0.94	2.34
AP/444	3× 30	3× 30	2.60	1.42	3.51
AP/664	5× 30	5× 30	4.90	2.36	5.84
AP/666	8× 30	7× 30	6.32	3.30	8.39
AP/888	14× 30	14× 30	13.58	5.75	11.30

Table 33: AP angle brackets (pair) – C24 timber –Type B nails

AP	Fasteners № × length [mm]		Characteristic capacity [kN]		
	Plate 1	Plate 2	$F_{x,k}$	$F_{y,k}$	$F_{z,k}$
AP/442	2× 35	2× 35	1.87	1.72	3.05
AP/444	3× 35	3× 35	3.04	2.58	4.57
AP/664	5× 35	5× 35	5.74	4.30	7.51
AP/666	8× 35	7× 35	7.41	6.03	9.90
AP/888	14× 35	14× 35	15.91	8.66	12.75

Table 34: AP angle brackets (pair) – TR26 timber –Type A nails

AP	Fasteners № × length [mm]		Characteristic capacity [kN]		
	Plate 1	Plate 2	$F_{x,k}$	$F_{y,k}$	$F_{z,k}$
AP/442	2× 30	2× 30	1.68	1.00	2.45
AP/444	3× 30	3× 30	2.72	1.50	3.68
AP/664	5× 30	5× 30	5.14	2.47	6.12
AP/666	8× 30	7× 30	6.63	3.49	8.76
AP/888	14× 30	14× 30	14.24	5.96	11.57

Table 35: AP angle brackets (pair) – TR26 timber –Type B nails

AP	Fasteners № × length [mm]		Characteristic capacity [kN]		
	Plate 1	Plate 2	$F_{x,k}$	$F_{y,k}$	$F_{z,k}$
AP/442	2× 35	2× 35	1.96	1.82	3.20
AP/444	3× 35	3× 35	3.19	2.73	4.80
AP/664	5× 35	5× 35	6.03	4.55	7.74
AP/666	8× 35	7× 35	7.78	6.37	10.21
AP/888	14× 35	14× 35	16.70	8.97	13.07

ANNEX 2 JOIST HANGER PRODUCTS

A2.1 Joist hangers – Product descriptions

In the following tables the number of holes n is given for both faces [1] combined or sides [2] combined. The holes are distributed equally between the two faces or sides.

A2.1.1 Joist hanger – Model A270



A270

A270 Reference	Drawing	t_s	Dimensions			Holes in [1]	Holes in [2]	Holes in [U]
			A	B	C	$n \times \emptyset$	$n \times \emptyset$	$n \times \emptyset$
A270/38	A270	0.9	276	50	38	30× 4.0	6× 4.0	-
A270/44	A270	0.9	273	50	44	30× 4.0	6× 4.0	-
A270/47	A270	0.9	272	50	47	30× 4.0	6× 4.0	-
A270/50	A270	0.9	270	50	50	30× 4.0	6× 4.0	-
A270/63	A270	0.9	264	50	63	30× 4.0	6× 4.0	-
A270/75	A270	0.9	258	50	75	30× 4.0	6× 4.0	-
A270/88	A270	0.9	252	50	88	30× 4.0	6× 4.0	-
A270/100	A270	0.9	245	50	100	30× 4.0	6× 4.0	-

A2.1.2 Joist hanger – Model B340



B340

B340 Reference	Drawing	Dimensions				Holes in [1]	Holes in [2]	Holes in [U]
		t_s	A	B	C	$n \times \emptyset$	$n \times \emptyset$	$n \times \emptyset$
B340/38	B340 x 38	1.2	343	54	38	26× 4.0	6× 4.0	2× 4.0
B340/44	B340 x 44	1.2	343	54	44	26× 4.0	6× 4.0	2× 4.0
B340/47	B340 x 47	1.2	343	54	47	26× 4.0	6× 4.0	2× 4.0
B340/50	B340 x 50	1.2	343	54	50	26× 4.0	6× 4.0	2× 4.0
B340/63	B340 x 63	1.2	343	54	63	26× 4.0	6× 4.0	2× 4.0
B340/75	B340 x 75	1.2	343	54	75	26× 4.0	6× 4.0	2× 4.0
B340/88	B340 x 88	1.2	343	54	88	26× 4.0	6× 4.0	2× 4.0
B340/100	B340 x 100	1.2	343	54	100	26× 4.0	6× 4.0	2× 4.0
B340/125	B340 x 125	1.2	343	54	125	26× 4.0	6× 4.0	2× 4.0
B340/150	B340 x 150	1.2	343	54	150	26× 4.0	6× 4.0	2× 4.0

Model B340 has a tab attached to the seat that extends below the header. The holes in [U] are within this tab, so they provide fixing points to the bottom edge of the header rather than the joist.

A2.1.3 Joist hanger – Model B460



B460

B460 Reference	Drawing	t_s	Dimensions			Holes in [1]	Holes in [2]	Holes in [U]
			A	B	C	$n \times \emptyset$	$n \times \emptyset$	$n \times \emptyset$
B460/38	LJ38	1.2	483	60	38	34× 4.0	8× 4.0	2× 4.0
B460/44	LJ44	1.2	480	60	44	34× 4.0	8× 4.0	2× 4.0
B460/47	LJ47	1.2	479	60	47	34× 4.0	8× 4.0	2× 4.0
B460/50	LJ50	1.2	477	60	50	34× 4.0	8× 4.0	2× 4.0
B460/63	LJ63	1.2	471	60	63	34× 4.0	8× 4.0	2× 4.0
B460/75	LJ75	1.2	465	60	75	34× 4.0	8× 4.0	2× 4.0
B460/88	LJ88	1.2	458	60	88	34× 4.0	8× 4.0	2× 4.0
B460/100	LJ100	1.2	452	60	100	34× 4.0	8× 4.0	2× 4.0
B460/125	LJ125	1.2	440	60	125	34× 4.0	8× 4.0	2× 4.0
B460/150	LJ150	1.2	427	60	150	34× 4.0	8× 4.0	2× 4.0

A2.1.4 Joist hanger – Model B610



B610

B610 Reference	Drawing	t_s	Dimensions			Holes in [1]	Holes in [2]	Holes in [U]
			A	B	C	$n \times \emptyset$	$n \times \emptyset$	$n \times \emptyset$
B610/38	B610	1.5	608	50	38	46× 4.0	10× 4.0	2× 4.0
B610/44	B610	1.5	605	50	44	46× 4.0	10× 4.0	2× 4.0
B610/47	B610	1.5	604	50	47	46× 4.0	10× 4.0	2× 4.0
B610/50	B610	1.5	602	50	50	46× 4.0	10× 4.0	2× 4.0
B610/63	B610	1.5	596	50	63	46× 4.0	10× 4.0	2× 4.0
B610/75	B610	1.5	608	50	75	46× 4.0	10× 4.0	2× 4.0
B610/88	B610	1.5	602	50	88	46× 4.0	10× 4.0	2× 4.0
B610/100	B610	1.5	596	50	100	46× 4.0	10× 4.0	2× 4.0
B610/125	B610	1.5	608	50	125	46× 4.0	10× 4.0	2× 4.0
B610/150	B610	1.5	596	50	150	46× 4.0	10× 4.0	2× 4.0

Model B610 has a tab attached to the seat that extends below the header. The holes in [U] are within this tab, so they provide fixing points to the bottom edge of the header rather than the joist.

A2.1.5 Joist hanger – Model GTS/800

GTS

GTS/800	Drawing	Dimensions				Holes in [1]	Holes in [2]	Holes in [U]
Reference		t_s	A	B	C	$n \times \emptyset$	$n \times \emptyset$	$n \times \emptyset$
GTS/800/38	GTS-800-38	1.2	343	100	38	26× 4.0	8× 4.0	2× 4.0
GTS/800/44	GTS-800-44	1.2	343	100	44	26× 4.0	8× 4.0	2× 4.0
GTS/800/47	GTS-800-47	1.2	343	100	47	26× 4.0	8× 4.0	2× 4.0
GTS/800/50	GTS-800-50	1.2	343	100	50	26× 4.0	8× 4.0	2× 4.0
GTS/800/63	GTS-800-63	1.2	343	100	63	26× 4.0	8× 4.0	2× 4.0
GTS/800/75	GTS-800-75	1.2	343	100	75	26× 4.0	8× 4.0	2× 4.0
GTS/800/88	GTS-800-88	1.2	343	100	88	26× 4.0	8× 4.0	2× 4.0
GTS/800/100	GTS-800-100	1.2	343	100	100	26× 4.0	8× 4.0	2× 4.0

Model GTS/800 has a tab attached to the seat that extends below the header. The holes in [U] are within this tab, so they provide fixing points to the bottom edge of the header rather than the joist.

A2.1.6 Joist hanger – Model MINI



MINI

MINI Reference	Drawing	Dimensions				Holes in [1]	Holes in [2]	Holes in [U]
		t_s	A	B	C	$n \times \emptyset$	$n \times \emptyset$	$n \times \emptyset$
MINI/38	MINI	0.8	71	40	38	8 × 4.0	8 × 4.0	-
MINI/44	MINI	0.8	68	40	44	8 × 4.0	8 × 4.0	-
MINI/47	MINI	0.8	67	40	47	8 × 4.0	8 × 4.0	-
MINI/50	MINI	0.8	65	40	50	8 × 4.0	8 × 4.0	-

Model MINI has reinforcing ribs across the seat.

A2.1.7 Joist hanger – Model MTS/580 (MONO)



MTS (MONO)

MTS (MONO) Reference	Drawing	t_s	Dimensions			Holes in [1]	Holes in [2]	Holes in [U]
			A	B	C	$n \times \emptyset$	$n \times \emptyset$	$n \times \emptyset$
MTS/580/38	MONO	0.9	90	75	38	12× 4.0	10× 4.0	2× 4.0
MTS/580/44	MONO	0.9	86	75	44	12× 4.0	10× 4.0	2× 4.0
MTS/580/47	MONO	0.9	85	75	47	12× 4.0	10× 4.0	2× 4.0
MTS/580/50	MONO	0.9	84	75	50	12× 4.0	10× 4.0	2× 4.0

Model MTS (MONO) has a tab attached to the seat that extends below the header. The holes in [U] are within this tab, so they provide fixing points to the bottom edge of the header rather than the joist.

A2.1.8 Joist hanger – Model MTH/240



MTH/240

MTH/240 Reference	Dimensions			Holes in [1]	Holes in [2]	Holes in [U]	
	t_s	A	B	C	$n \times \varnothing$	$n \times \varnothing$	$n \times \varnothing$
MTH/240/38	1.5	103	84	38	14× 4.0 2× 13.0	12× 4.0	-
MTH/240/44	1.5	100	84	44	14× 4.0 2× 13.0	12× 4.0	-
MTH/240/47	1.5	98	84	47	14× 4.0 2× 13.0	12× 4.0	-
MTH/240/50	1.5	97	84	50	14× 4.0 2× 13.0	12× 4.0	-

A2.1.9 Joist hanger – Model MTH/340



MTH/340

MTH/340 Reference	Dimensions				Holes in [1]	Holes in [2]	Holes in [U]
	t_s	A	B	C	$n \times \varnothing$	$n \times \varnothing$	$n \times \varnothing$
MTH/340/38	1.5	153	84	38	22× 4.0 4× 13.0	16× 4.0	-
MTH/340/44	1.5	150	84	44	22× 4.0 4× 13.0	16× 4.0	-
MTH/340/47	1.5	148	84	47	22× 4.0 4× 13.0	16× 4.0	-
MTH/340/50	1.5	147	84	50	22× 4.0 4× 13.0	16× 4.0	-
MTH/340/63	1.5	140	84	63	22× 4.0 4× 13.0	16× 4.0	-
MTH/340/75	1.5	134	84	75	22× 4.0 4× 13.0	16× 4.0	-

A2.1.10 Joist hanger – Model MTH/380 and MTH/CF/380



MTH/CF/380

MTH/380 Reference	Dimensions			Holes in [1]	Holes in [2]	Holes in [U]	
	t_s	A	B	C	$n \times \emptyset$	$n \times \emptyset$	$n \times \emptyset$
MTH/380/38	1.5	170	84	38	22× 4.0 4× 13.0	16× 4.0	-
MTH/380/44	1.5	170	84	44	22× 4.0 4× 13.0	16× 4.0	-
MTH/380/47	1.5	168	84	47	22× 4.0 4× 13.0	16× 4.0	-
MTH/380/50	1.5	167	84	50	22× 4.0 4× 13.0	16× 4.0	-
MTH/380/63	1.5	160	84	63	22× 4.0 4× 13.0	16× 4.0	-
MTH/380/75	1.5	154	84	75	22× 4.0 4× 13.0	16× 4.0	-
MTH/380/88	1.5	148	84	88	22× 4.0 4× 13.0	16× 4.0	-
MTH/380/100 ^A	1.5	142	84	100	22× 4.0 4× 13.0	16× 4.0	-

^A Available as MTH/CF/380 with faces plates folded inwards for concealed fixings

A2.1.11 Joist hanger – Model MTH/460 and MTH/CF/460



MTH/460

MTH/380 Reference	Dimensions			Holes in [1]		Holes in [2]	Holes in [U]
	t_s	A	B	C	$n \times \emptyset$	$n \times \emptyset$	$n \times \emptyset$
MTH/460/38	1.5	213	84	38	26× 4.0 6× 13.0	18× 4.0	-
MTH/460/44	1.5	210	84	44	26× 4.0 6× 13.0	18× 4.0	-
MTH/460/47	1.5	208	84	47	26× 4.0 6× 13.0	18× 4.0	-
MTH/460/50	1.5	207	84	50	26× 4.0 6× 13.0	18× 4.0	-
MTH/460/63	1.5	200	84	63	26× 4.0 6× 13.0	18× 4.0	-
MTH/460/75	1.5	194	84	75	26× 4.0 6× 13.0	18× 4.0	-
MTH/460/88	1.5	188	84	88	26× 4.0 6× 13.0	18× 4.0	-
MTH/460/100 ^A	1.5	182	84	100	26× 4.0 6× 13.0	18× 4.0	-
MTH/460/125 ^A	1.5	169	84	125	26× 4.0 6× 13.0	18× 4.0	-

^A Available as MTH/CF/460 with faces plates folded inwards for concealed fixings

A2.1.12 Joist hanger – Model MTH/500 and MTH/CF/500



MTH/500

MTH/500 Reference	t_s	Dimensions			Holes in [1]	Holes in [2]	Holes in [U]
		A	B	C	$n \times \emptyset$	$n \times \emptyset$	$n \times \emptyset$
MTH/500/38	1.5	233	84	38	30× 4.0 6× 13.0	20× 4.0	-
MTH/500/44	1.5	230	84	44	30× 4.0 6× 13.0	20× 4.0	-
MTH/500/47	1.5	228	84	47	30× 4.0 6× 13.0	20× 4.0	-
MTH/500/50	1.5	227	84	50	30× 4.0 6× 13.0	20× 4.0	-
MTH/500/63	1.5	220	84	63	30× 4.0 6× 13.0	20× 4.0	-
MTH/500/75	1.5	214	84	75	30× 4.0 6× 13.0	20× 4.0	-
MTH/500/88	1.5	208	84	88	30× 4.0 6× 13.0	20× 4.0	-
MTH/500/100 ^A	1.5	202	84	100	30× 4.0 6× 13.0	20× 4.0	-
MTH/500/125 ^A	1.5	189	84	125	30× 4.0 6× 13.0	20× 4.0	-
MTH/500/150 ^A	1.5	177	84	150	30× 4.0 6× 13.0	20× 4.0	-

^A Available as MTH/CF/500 with faces plates folded inwards for concealed fixings

A2.1.13 Joist hanger – Model MTH/560 and MTH/CF/560



MTH/560

MTH/560 Reference	t_s	Dimensions			Holes in [1]	Holes in [2]	Holes in [U]
		A	B	C	$n \times \emptyset$	$n \times \emptyset$	$n \times \emptyset$
MTH/560/38	1.5	263	84	38	34× 4.0 6× 13.0	22× 4.0	-
MTH/560/44	1.5	260	84	44	34× 4.0 6× 13.0	22× 4.0	-
MTH/560/47	1.5	258	84	47	34× 4.0 6× 13.0	22× 4.0	-
MTH/560/50	1.5	257	84	50	34× 4.0 6× 13.0	22× 4.0	-
MTH/560/63	1.5	250	84	63	34× 4.0 6× 13.0	22× 4.0	-
MTH/560/75	1.5	244	84	75	34× 4.0 6× 13.0	22× 4.0	-
MTH/560/88	1.5	238	84	88	34× 4.0 6× 13.0	22× 4.0	-
MTH/560/100 ^A	1.5	232	84	100	34× 4.0 6× 13.0	22× 4.0	-
MTH/560/125 ^A	1.5	219	84	125	34× 4.0 6× 13.0	22× 4.0	-
MTH/560/150 ^A	1.5	207	84	150	34× 4.0 6× 13.0	22× 4.0	-

^A Available as MTH/CF/560 with faces plates folded inwards for concealed fixings

A2.1.14 Joist hanger – Model MTH/620 and MTH/CF/620



MTH/620

MTH/620 Reference	Dimensions				Holes in [1]	Holes in [2]	Holes in [U]
	t_s	A	B	C	$n \times \emptyset$	$n \times \emptyset$	$n \times \emptyset$
MTH/620/38	1.5	38	84	293	42× 4.0 8× 13.0	26× 4.0	-
MTH/620/44	1.5	47	84	290	42× 4.0 8× 13.0	26× 4.0	-
MTH/620/47	1.5	44	84	288	42× 4.0 8× 13.0	26× 4.0	-
MTH/620/50	1.5	50	84	287	42× 4.0 8× 13.0	26× 4.0	-
MTH/620/63	1.5	63	84	280	42× 4.0 8× 13.0	26× 4.0	-
MTH/620/75	1.5	75	84	274	42× 4.0 8× 13.0	26× 4.0	-
MTH/620/88	1.5	88	84	268	42× 4.0 8× 13.0	26× 4.0	-
MTH/620/100 ^A	1.5	100	84	262	42× 4.0 8× 13.0	26× 4.0	-
MTH/620/125 ^A	1.5	125	84	249	42× 4.0 8× 13.0	26× 4.0	-
MTH/620/150 ^A	1.5	150	84	237	42× 4.0 8× 13.0	26× 4.0	-

^A Available as MTH/CF/620 with faces plates folded inwards for concealed fixings

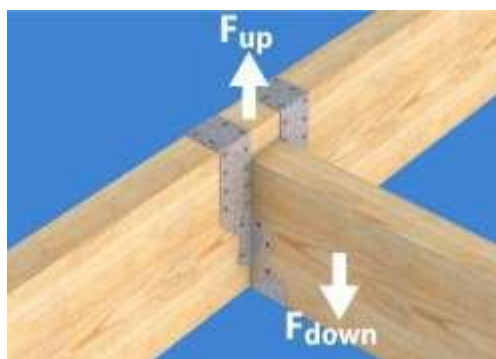
A2.2 Joist hangers – Load-carrying capacities

The load-carrying capacities of BPC Joist hangers in Timber to Timber connections are listed in the following tables:

The characteristic capacities F_{up} and F_{down} are declared.

Fasteners in the header plate are all face fixed unless noted otherwise.

Figure 2: Joist hangers: Direction of forces



A2.2.1 Joist hangers – Model A270

Table 36: A270 joist hangers – C16 timber – Type A or Type B nails

A270 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
A270/38	30× 30 or 35	6× 30 or 35	2.48	11.13
A270/44	30× 30 or 35	6× 30 or 35	2.79	11.13
A270/47	30× 30 or 35	6× 30 or 35	2.79	11.13
A270/50	30× 30 or 35	6× 30 or 35	2.79	11.13
A270/63	30× 30 or 35	6× 30 or 35	2.79	13.05
A270/75	30× 30 or 35	6× 30 or 35	2.79	12.46
A270/88	30× 30 or 35	6× 30 or 35	2.79	12.46
A270/100	30× 30 or 35	6× 30 or 35	2.79	12.46

Table 37: A270 joist hangers – C16 timber – Type A or Type B nails – Wrapped ^A

A270 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
A270/38	30× 30 or 35	6× 30 or 35	2.48	10.29
A270/44	30× 30 or 35	6× 30 or 35	2.79	10.75
A270/47	30× 30 or 35	6× 30 or 35	2.79	10.75
A270/50	30× 30 or 35	6× 30 or 35	2.79	11.20
A270/63	30× 30 or 35	6× 30 or 35	2.79	12.18
A270/75	30× 30 or 35	6× 30 or 35	2.79	12.32
A270/88	30× 30 or 35	6× 30 or 35	2.79	12.32
A270/100	30× 30 or 35	6× 30 or 35	2.79	12.62

^A Header plates are wrapped over the top edge of the header. Minimum 2×7N_ø fasteners fixed in the header face and 2×4N_ø fasteners fixed in the header top edge.

Table 38: A270 joist hangers – C24 timber – Type A or Type B nails

A270 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
A270/38	30× 30 or 35	6× 30 or 35	2.80	11.83
A270/44	30× 30 or 35	6× 30 or 35	3.15	11.83
A270/47	30× 30 or 35	6× 30 or 35	3.15	11.83
A270/50	30× 30 or 35	6× 30 or 35	3.15	11.83
A270/63	30× 30 or 35	6× 30 or 35	3.15	13.78
A270/75	30× 30 or 35	6× 30 or 35	3.15	13.16
A270/88	30× 30 or 35	6× 30 or 35	3.15	13.16
A270/100	30× 30 or 35	6× 30 or 35	3.15	13.16

Table 39: A270 joist hangers – C24 timber – Type A or Type B nails – Wrapped ^A

A270 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
A270/38	30× 30 or 35	6× 30 or 35	2.80	10.94
A270/44	30× 30 or 35	6× 30 or 35	3.15	11.40
A270/47	30× 30 or 35	6× 30 or 35	3.15	11.40
A270/50	30× 30 or 35	6× 30 or 35	3.15	11.86
A270/63	30× 30 or 35	6× 30 or 35	3.15	12.86
A270/75	30× 30 or 35	6× 30 or 35	3.15	13.01
A270/88	30× 30 or 35	6× 30 or 35	3.15	13.01
A270/100	30× 30 or 35	6× 30 or 35	3.15	13.33

^A Header plates are wrapped over the top edge of the header. Minimum 2×7N_ø fasteners fixed in the header face and 2×4N_ø fasteners fixed in the header top edge.

Table 40: A270 joist hangers – TR26 timber – Type A or Type B nails

A270 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
A270/38	30× 30 or 35	6× 30 or 35	2.96	12.16
A270/44	30× 30 or 35	6× 30 or 35	3.33	12.16
A270/47	30× 30 or 35	6× 30 or 35	3.33	12.16
A270/50	30× 30 or 35	6× 30 or 35	3.33	12.16
A270/63	30× 30 or 35	6× 30 or 35	3.33	14.13
A270/75	30× 30 or 35	6× 30 or 35	3.33	13.49
A270/88	30× 30 or 35	6× 30 or 35	3.33	13.49
A270/100	30× 30 or 35	6× 30 or 35	3.33	13.49

Table 41: A270 joist hangers – TR26 timber – Type A or Type B nails – Wrapped ^A

A270 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
A270/38	30× 30 or 35	6× 30 or 35	2.96	11.25
A270/44	30× 30 or 35	6× 30 or 35	3.33	11.71
A270/47	30× 30 or 35	6× 30 or 35	3.33	11.71
A270/50	30× 30 or 35	6× 30 or 35	3.33	12.18
A270/63	30× 30 or 35	6× 30 or 35	3.33	13.18
A270/75	30× 30 or 35	6× 30 or 35	3.33	13.34
A270/88	30× 30 or 35	6× 30 or 35	3.33	13.34
A270/100	30× 30 or 35	6× 30 or 35	3.33	13.66

^A Header plates are wrapped over the top edge of the header. Minimum 2×7N^o fasteners fixed in the header face and 2×4N^o fasteners fixed in the header top edge.

A2.2.2 Joist hangers – Model B340

Table 42: B340 joist hangers – C16, C24 or TR26 timber – Type A or Type B nails

B340 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
B340/38	26× 30 or 35	6× 30 or 35	2.47	15.00
B340/44	26× 30 or 35	6× 30 or 35	2.76	15.00
B340/47	26× 30 or 35	6× 30 or 35	2.76	15.00
B340/50	26× 30 or 35	6× 30 or 35	2.76	15.00
B340/63	26× 30 or 35	6× 30 or 35	2.76	15.00
B340/75	26× 30 or 35	6× 30 or 35	2.76	15.00
B340/88	26× 30 or 35	6× 30 or 35	2.76	15.00
B340/100	26× 30 or 35	6× 30 or 35	2.76	15.00
B340/125	26× 30 or 35	6× 30 or 35	2.76	15.00
B340/150	26× 30 or 35	6× 30 or 35	2.76	15.00

A2.2.3 Joist hangers – Model B460

Table 43: B460 joist hangers – C16, C24 or TR26 timber – Type A or Type B nails

B460 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
B460/38	34× 30 or 35	8× 30 or 35	3.71	18.00
B460/44	34× 30 or 35	8× 30 or 35	4.14	18.00
B460/47	34× 30 or 35	8× 30 or 35	4.14	18.00
B460/50	34× 30 or 35	8× 30 or 35	4.14	18.00
B460/63	34× 30 or 35	8× 30 or 35	4.14	18.00
B460/75	34× 30 or 35	8× 30 or 35	4.14	18.00
B460/88	34× 30 or 35	8× 30 or 35	4.14	18.00
B460/100	34× 30 or 35	8× 30 or 35	4.14	18.00
B460/125	34× 30 or 35	8× 30 or 35	4.14	18.00
B460/150	34× 30 or 35	8× 30 or 35	4.14	18.00

A2.2.4 Joist hangers – Model B610

Determined by calculation supported by testing.

Table 44: B610 joist hangers – C16, C24 or TR26 timber – Type A or Type B nails

B610 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
B610/38	46× 30 or 35	10× 30 or 35	3.70	17.00
B610/44	46× 30 or 35	10× 30 or 35	4.10	17.00
B610/47	46× 30 or 35	10× 30 or 35	4.10	20.00
B610/50	46× 30 or 35	10× 30 or 35	4.10	20.00
B610/63	46× 30 or 35	10× 30 or 35	4.10	20.00
B610/75	46× 30 or 35	10× 30 or 35	4.10	20.00
B610/1010	46× 30 or 35	10× 30 or 35	4.10	20.00
B610/100	46× 30 or 35	10× 30 or 35	4.10	20.00
B610/125	46× 30 or 35	10× 30 or 35	4.10	20.00
B610/150	46× 30 or 35	10× 30 or 35	4.10	20.00

A2.2.5 Joist hangers – Model MH “MINI”

Table 45: Joist hangers – Model MH “MINI” – C16 timber – Type A nails

MH “MINI” Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MH “MINI”/38	8× 30	8× 30	2.48	5.59
MH “MINI”/44	8× 30	8× 30	2.80	5.59
MH “MINI”/47	8× 30	8× 30	2.80	5.59
MH “MINI”/50	8× 30	8× 30	2.80	5.59

Table 46: Joist hangers – Model MH “MINI” – C16 timber – Type B nails

MH “MINI” Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MH “MINI”/38	8× 35	8× 35	2.60	6.55
MH “MINI”/44	8× 35	8× 35	3.02	6.55
MH “MINI”/47	8× 35	8× 35	3.22	6.55
MH “MINI”/50	8× 35	8× 35	3.28	6.55

Table 47: Joist hangers – Model MH “MINI” – C24 timber – Type A nails

MH “MINI” Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MH “MINI”/38	8× 30	8× 30	2.80	6.32
MH “MINI”/44	8× 30	8× 30	3.16	6.32
MH “MINI”/47	8× 30	8× 30	3.16	6.32
MH “MINI”/50	8× 30	8× 30	3.16	6.32

Table 48: Joist hangers – Model MH “MINI” – C24 timber – Type B nails

MH “MINI” Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MH “MINI”/38	8× 35	8× 35	2.94	7.40
MH “MINI”/44	8× 35	8× 35	3.41	7.40
MH “MINI”/47	8× 35	8× 35	3.64	7.40
MH “MINI”/50	8× 35	8× 35	3.70	7.40

Table 49: Joist hangers – Model MH “MINI” – TR26 timber – Type A nails

MH “MINI” Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MH “MINI”/38	8× 30	8× 30	2.96	6.68
MH “MINI”/44	8× 30	8× 30	3.34	6.68
MH “MINI”/47	8× 30	8× 30	3.34	6.68
MH “MINI”/50	8× 30	8× 30	3.34	6.68

Table 50: Joist hangers – Model MH “MINI” – TR26 timber – Type B nails

MH “MINI” Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MH “MINI”/38	8× 35	8× 35	3.11	7.82
MH “MINI”/44	8× 35	8× 35	3.60	7.82
MH “MINI”/47	8× 35	8× 35	3.85	7.82
MH “MINI”/50	8× 35	8× 35	3.91	7.82

A2.2.6 Joist hangers – Model MTS “MONO”

Table 51: Joist hangers – Model MTS “MONO” – C16 timber – Type A nails

MTS “MONO” Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTS “MONO”/38	12× 30	10× 30	3.72	7.63
MTS “MONO”/44	12× 30	10× 30	3.90	8.95
MTS “MONO”/47	12× 30	10× 30	4.18	7.63
MTS “MONO”/50	12× 30	10× 30	4.52	8.95

Table 52: Joist hangers – Model MTS “MONO” – C16 timber – Type B nails

MTS “MONO” Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTS “MONO”/38	12× 35	10× 35	4.83	8.95
MTS “MONO”/44	12× 35	10× 35	4.18	7.63
MTS “MONO”/47	12× 35	10× 35	4.18	7.63
MTS “MONO”/50	12× 35	10× 35	4.90	8.95

Table 53: Joist hangers – Model MTS “MONO” – C24 timber – Type A nails

MTS “MONO” Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTS “MONO”/38	12× 30	10× 30	4.20	8.62
MTS “MONO”/44	12× 30	10× 30	4.72	8.62
MTS “MONO”/47	12× 30	10× 30	4.72	8.62
MTS “MONO”/50	12× 30	10× 30	4.72	8.62

Table 54: Joist hangers – Model MTS “MONO” – C24 timber – Type B nails

MTS “MONO” Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTS “MONO”/38	12× 35	10× 35	4.41	10.10
MTS “MONO”/44	12× 35	10× 35	5.10	10.10
MTS “MONO”/47	12× 35	10× 35	5.45	10.10
MTS “MONO”/50	12× 35	10× 35	5.53	10.10

Table 55: Joist hangers – Model MTS “MONO” – TR26 timber – Type A nails

MTS “MONO” Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTS “MONO”/38	12× 30	10× 30	4.44	9.11
MTS “MONO”/44	12× 30	10× 30	4.99	9.11
MTS “MONO”/47	12× 30	10× 30	4.99	9.11
MTS “MONO”/50	12× 30	10× 30	4.99	9.11

Table 56: Joist hangers – Model MTS “MONO” – TR26 timber – Type B nails

MTS “MONO” Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTS “MONO”/38	12× 35	10× 35	4.66	10.68
MTS “MONO”/44	12× 35	10× 35	5.39	10.68
MTS “MONO”/47	12× 35	10× 35	5.76	10.68
MTS “MONO”/50	12× 35	10× 35	5.85	10.68

A2.2.7 Joist hangers – Model GTS/800

Table 57: Joist hangers – Model GTS/800 – C16 timber – Type A nails

GTS/800 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
GTS/800/38	26× 30	8× 30	3.71	13.70
GTS/800/44	26× 30	8× 30	4.14	14.27
GTS/800/47	26× 30	8× 30	4.14	14.27
GTS/800/50	26× 30	8× 30	4.14	14.27
GTS/800/63	26× 30	8× 30	4.14	14.27
GTS/800/75	26× 30	8× 30	4.14	14.27
GTS/800/88	26× 30	8× 30	4.14	14.27
GTS/800/100	26× 30	8× 30	4.14	14.27

Values may be used for wrapped with header plates wrapped over the top edge of the header. Minimum 2×9N_o fasteners fixed in the header face and 2×3N_o fasteners fixed in the header top edge.

Table 58: Joist hangers – Model GTS/800 – C16 timber – Type B nails

GTS/800 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
GTS/800/38	26× 35	8× 35	3.89	13.95
GTS/800/44	26× 35	8× 35	4.51	14.77
GTS/800/47	26× 35	8× 35	4.82	15.18
GTS/800/50	26× 35	8× 35	4.86	15.23
GTS/800/63	26× 35	8× 35	4.86	15.23
GTS/800/75	26× 35	8× 35	4.86	15.23
GTS/800/88	26× 35	8× 35	4.86	15.23
GTS/800/100	26× 35	8× 35	4.86	15.23

Values may be used for wrapped with header plates wrapped over the top edge of the header. Minimum 2×9N_o fasteners fixed in the header face and 2×3N_o fasteners fixed in the header top edge.

Table 59: Joist hangers – Model GTS/800 – C24 timber – Type A nails

GTS/800 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
GTS/800/38	26× 30	8× 30	4.19	14.92
GTS/800/44	26× 30	8× 30	4.67	15.56
GTS/800/47	26× 30	8× 30	4.67	15.56
GTS/800/50	26× 30	8× 30	4.67	15.56
GTS/800/63	26× 30	8× 30	4.67	15.56
GTS/800/75	26× 30	8× 30	4.67	15.56
GTS/800/88	26× 30	8× 30	4.67	15.56
GTS/800/100	26× 30	8× 30	4.67	15.56

Values may be used for wrapped with header plates wrapped over the top edge of the header. Minimum 2×9N₀ fasteners fixed in the header face and 2×3N₀ fasteners fixed in the header top edge.

Table 60: Joist hangers – Model GTS/800 – C24 timber – Type B nails

GTS/800 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
GTS/800/38	26× 30	8× 30	4.40	15.19
GTS/800/44	26× 35	8× 35	5.09	16.12
GTS/800/47	26× 35	8× 35	5.44	16.58
GTS/800/50	26× 35	8× 35	5.48	16.64
GTS/800/63	26× 35	8× 35	5.48	16.64
GTS/800/75	26× 35	8× 35	5.48	16.64
GTS/800/88	26× 35	8× 35	5.48	16.64
GTS/800/100	26× 35	8× 35	5.48	16.64

Values may be used for wrapped with header plates wrapped over the top edge of the header. Minimum 2×9N₀ fasteners fixed in the header face and 2×3N₀ fasteners fixed in the header top edge.

Table 61: Joist hangers – Model GTS/800 – TR26 timber – Type A nails

GTS/800 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
GTS/800/38	26× 30	8× 30	4.43	15.42
GTS/800/44	26× 30	8× 30	4.94	16.10
GTS/800/47	26× 30	8× 30	4.94	16.10
GTS/800/50	26× 30	8× 30	4.94	16.10
GTS/800/63	26× 30	8× 30	4.94	16.10
GTS/800/75	26× 30	8× 30	4.94	16.10
GTS/800/88	26× 30	8× 30	4.94	16.10
GTS/800/100	26× 30	8× 30	4.94	16.10

Use C24 values for wrapped header plates.

Table 62: Joist hangers – Model GTS/800 – TR26 timber – Type B nails

GTS/800 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
GTS/800/38	26× 35	8× 35	4.65	15.71
GTS/800/44	26× 35	8× 35	5.38	16.69
GTS/800/47	26× 35	8× 35	5.75	17.18
GTS/800/50	26× 35	8× 35	5.80	17.25
GTS/800/63	26× 35	8× 35	5.80	17.25
GTS/800/75	26× 35	8× 35	5.80	17.25
GTS/800/88	26× 35	8× 35	5.80	17.25
GTS/800/100	26× 35	8× 35	5.80	17.25

Use C24 values for wrapped header plates.

A2.2.8 Joist hangers – Model MTH/240

Values for C16 Type A nails are also valid for bolted connections. The header thickness should be checked by an engineer.

Table 63: Joist hangers – Model MTH/240 – C16 timber – Type A nails

MTH/240 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/240/38	14× 30	12× 30	4.93	9.56
MTH/240/44	14× 30	12× 30	5.46	9.56
MTH/240/47	14× 30	12× 30	5.46	9.56
MTH/240/50	14× 30	12× 30	5.46	9.56

Table 64: Joist hangers – Model MTH/240 – C16 timber – Type B nails

MTH/240 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/240/38	14× 35	12× 35	5.18	11.23
MTH/240/44	14× 35	12× 35	6.00	11.23
MTH/240/47	14× 35	12× 35	6.40	11.23
MTH/240/50	14× 35	12× 35	6.42	11.23

Table 65: Joist hangers – Model MTH/240 – C24 timber – Type A nails

MTH/240 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/240/38	14× 30	12× 30	5.56	10.79
MTH/240/44	14× 30	12× 30	6.17	10.79
MTH/240/47	14× 30	12× 30	6.17	10.79
MTH/240/50	14× 30	12× 30	6.17	10.79

Table 66: Joist hangers – Model MTH/240 – C24 timber – Type B nails

MTH/240 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/240/38	14× 35	12× 35	5.85	12.68
MTH/240/44	14× 35	12× 35	6.77	12.68
MTH/240/47	14× 35	12× 35	7.23	12.68
MTH/240/50	14× 35	12× 35	7.25	12.68

Table 67: Joist hangers – Model MTH/240 – TR26 timber – Type A nails

MTH/240 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/240/38	14× 30	12× 30	5.88	11.41
MTH/240/44	14× 30	12× 30	6.52	11.41
MTH/240/47	14× 30	12× 30	6.52	11.41
MTH/240/50	14× 30	12× 30	6.52	11.41

Table 68: Joist hangers – Model MTH/240 – TR26 timber – Type B nails

MTH/240 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/240/38	14× 35	12× 35	6.18	13.41
MTH/240/44	14× 35	12× 35	7.16	13.41
MTH/240/47	14× 35	12× 35	7.64	13.41
MTH/240/50	14× 35	12× 35	7.66	13.41

A2.2.9 Joist hangers – Model MTH/340

Values are also valid for bolted connections. The header thickness should be checked by an engineer.

Table 69: Joist hangers – Model MTH/340 – C16 timber – Type A nails

MTH/340 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/340/38	22× 30	16× 30	8.63	15.02
MTH/340/44	22× 30	16× 30	9.56	15.02
MTH/340/47	22× 30	16× 30	9.56	15.02
MTH/340/50	22× 30	16× 30	9.56	15.02
MTH/340/63	22× 30	16× 30	8.19	15.02
MTH/340/75	22× 30	16× 30	8.19	15.02

Table 70: Joist hangers – Model MTH/340 – C16 timber – Type B nails

MTH/340 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/340/38	22× 35	16× 35	9.06	17.65
MTH/340/44	22× 35	16× 35	10.49	17.65
MTH/340/47	22× 35	16× 35	11.21	17.65
MTH/340/50	22× 35	16× 35	11.23	17.65
MTH/340/63	22× 35	16× 35	9.63	17.65
MTH/340/75	22× 35	16× 35	9.63	17.65

Table 71: Joist hangers – Model MTH/340 – C24 timber – Type A nails

MTH/340 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/340/38	22× 30	16× 30	9.74	16.95
MTH/340/44	22× 30	16× 30	10.79	16.95
MTH/340/47	22× 30	16× 30	10.79	16.95
MTH/340/50	22× 30	16× 30	10.79	16.95
MTH/340/63	22× 30	16× 30	9.25	16.95
MTH/340/75	22× 30	16× 30	9.25	16.95

Table 72: Joist hangers – Model MTH/340 – C24 timber – Type B nails

MTH/340 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/340/38	22× 30	16× 30	10.23	19.93
MTH/340/44	22× 35	16× 35	11.85	19.93
MTH/340/47	22× 35	16× 35	12.65	19.93
MTH/340/50	22× 35	16× 35	12.68	19.93
MTH/340/63	22× 35	16× 35	10.87	19.93
MTH/340/75	22× 35	16× 35	10.87	19.93

Table 73: Joist hangers – Model MTH/340 – TR26 timber – Type A nails

MTH/340 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/340/38	22× 30	16× 30	10.29	17.92
MTH/340/44	22× 30	16× 30	11.41	17.92
MTH/340/47	22× 30	16× 30	11.41	17.92
MTH/340/50	22× 30	16× 30	11.41	17.92
MTH/340/63	22× 30	16× 30	9.78	17.92
MTH/340/75	22× 30	16× 30	9.78	17.92

Table 74: Joist hangers – Model MTH/340 – TR26 timber – Type B nails

MTH/340 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/340/38	22× 35	16× 35	10.82	21.07
MTH/340/44	22× 35	16× 35	12.52	21.07
MTH/340/47	22× 35	16× 35	13.38	21.07
MTH/340/50	22× 35	16× 35	13.41	21.07
MTH/340/63	22× 35	16× 35	11.49	21.07
MTH/340/75	22× 35	16× 35	11.49	21.07

A2.2.10 Joist hangers – Model MTH/380

Use MTH/340 values for bolted connections. The header thickness should be checked by an engineer.

Table 75: Joist hangers – Model MTH/380 – C16 timber – Type A nails

MTH/380 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/380/38	22× 30	16× 30	8.63	15.02
MTH/380/44	22× 30	16× 30	9.56	15.02
MTH/380/47	22× 30	16× 30	9.56	15.02
MTH/380/50	22× 30	16× 30	9.56	15.02
MTH/380/63	22× 30	16× 30	9.56	15.02
MTH/380/75	22× 30	16× 30	9.56	15.02
MTH/380/88	22× 30	16× 30	9.56	15.02
MTH/380/100	22× 30	16× 30	8.19	15.02

Table 76: Joist hangers – Model MTH/380 – C16 timber – Type B nails

MTH/380 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/380/38	22× 35	16× 35	9.06	17.65
MTH/380/44	22× 35	16× 35	10.49	17.65
MTH/380/47	22× 35	16× 35	11.21	17.65
MTH/380/50	22× 35	16× 35	11.23	17.65
MTH/380/63	22× 35	16× 35	11.23	17.65
MTH/380/75	22× 35	16× 35	11.23	17.65
MTH/380/88	22× 35	16× 35	11.23	17.65
MTH/380/100	22× 35	16× 35	9.63	17.65

Table 77: Joist hangers – Model MTH/380 – C24 timber – Type A nails

MTH/380 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/380/38	22× 30	16× 30	9.74	16.95
MTH/380/44	22× 30	16× 30	10.79	16.95
MTH/380/47	22× 30	16× 30	10.79	16.95
MTH/380/50	22× 30	16× 30	10.79	16.95
MTH/380/63	22× 30	16× 30	10.79	16.95
MTH/380/75	22× 30	16× 30	10.79	16.95
MTH/380/88	22× 30	16× 30	10.79	16.95
MTH/380/100	22× 30	16× 30	9.25	16.95

Table 78: Joist hangers – Model MTH/380 – C24 timber – Type B nails

MTH/380 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/380/38	22× 30	16× 30	10.23	19.93
MTH/380/44	22× 35	16× 35	11.85	19.93
MTH/380/47	22× 35	16× 35	12.65	19.93
MTH/380/50	22× 35	16× 35	12.68	19.93
MTH/380/63	22× 35	16× 35	12.68	19.93
MTH/380/75	22× 35	16× 35	12.68	19.93
MTH/380/88	22× 35	16× 35	12.68	19.93
MTH/380/100	22× 35	16× 35	10.87	19.93

Table 79: Joist hangers – Model MTH/380 – TR26 timber – Type A nails

MTH/380 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/380/38	22× 30	16× 30	10.29	17.92
MTH/380/44	22× 30	16× 30	11.41	17.92
MTH/380/47	22× 30	16× 30	11.41	17.92
MTH/380/50	22× 30	16× 30	11.41	17.92
MTH/380/63	22× 30	16× 30	11.41	17.92
MTH/380/75	22× 30	16× 30	11.41	17.92
MTH/380/88	22× 30	16× 30	11.41	17.92
MTH/380/100	22× 30	16× 30	9.78	17.92

Table 80: Joist hangers – Model MTH/380 – TR26 timber – Type B nails

MTH/380 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/380/38	22× 35	16× 35	10.82	21.07
MTH/380/44	22× 35	16× 35	12.52	21.07
MTH/380/47	22× 35	16× 35	13.38	21.07
MTH/380/50	22× 35	16× 35	13.41	21.07
MTH/380/63	22× 35	16× 35	13.41	21.07
MTH/380/75	22× 35	16× 35	13.41	21.07
MTH/380/88	22× 35	16× 35	13.41	21.07
MTH/380/100	22× 35	16× 35	11.49	21.07

A2.2.11 Joist hangers – Model MTH/460

Values are also valid for bolted connections. The header thickness should be checked by an engineer.

Table 81: Joist hangers – Model MTH/460 – C16 timber – Type A nails

MTH/460 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/460/38	26× 30	18× 30	9.86	17.75
MTH/460/44	26× 30	18× 30	10.92	17.75
MTH/460/47	26× 30	18× 30	10.92	17.75
MTH/460/50	26× 30	18× 30	10.92	17.75
MTH/460/63	26× 30	18× 30	10.92	17.75
MTH/460/75	26× 30	18× 30	10.92	17.75
MTH/460/88	26× 30	18× 30	10.92	17.75
MTH/460/100	26× 30	18× 30	10.92	17.75
MTH/460/125	26× 30	18× 30	10.92	17.75

Table 82: Joist hangers – Model MTH/460 – C16 timber – Type B nails

MTH/460 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/460/38	26× 35	18× 35	10.36	20.44
MTH/460/44	26× 35	18× 35	11.99	20.86
MTH/460/47	26× 35	18× 35	12.81	20.86
MTH/460/50	26× 35	18× 35	12.84	20.86
MTH/460/63	26× 35	18× 35	12.84	20.86
MTH/460/75	26× 35	18× 35	12.84	20.86
MTH/460/88	26× 35	18× 35	12.84	20.86
MTH/460/100	26× 35	18× 35	12.84	20.86
MTH/460/125	26× 35	18× 35	12.84	20.86

Table 83: Joist hangers – Model MTH/460 – C24 timber – Type A nails

MTH/460 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/460/38	26× 30	18× 30	11.69	22.52
MTH/460/44	26× 30	18× 30	13.54	23.55
MTH/460/47	26× 30	18× 30	14.46	23.55
MTH/460/50	26× 30	18× 30	14.49	23.55
MTH/460/63	26× 30	18× 30	14.49	23.55
MTH/460/75	26× 30	18× 30	14.49	23.55
MTH/460/88	26× 30	18× 30	14.49	23.55
MTH/460/100	26× 30	18× 30	14.49	23.55
MTH/460/125	26× 30	18× 30	14.49	23.55

Table 84: Joist hangers – Model MTH/460 – C24 timber – Type B nails

MTH/460 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/460/38	26× 30	18× 30	11.69	22.52
MTH/460/44	26× 35	18× 35	13.54	23.55
MTH/460/47	26× 35	18× 35	14.46	23.55
MTH/460/50	26× 35	18× 35	14.49	23.55
MTH/460/63	26× 35	18× 35	14.49	23.55
MTH/460/75	26× 35	18× 35	14.49	23.55
MTH/460/88	26× 35	18× 35	14.49	23.55
MTH/460/100	26× 35	18× 35	14.49	23.55
MTH/460/125	26× 35	18× 35	14.49	23.55

Table 85: Joist hangers – Model MTH/460 – TR26 timber – Type A nails

MTH/460 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/460/38	26× 30	18× 30	11.77	21.18
MTH/460/44	26× 30	18× 30	13.03	21.18
MTH/460/47	26× 30	18× 30	13.03	21.18
MTH/460/50	26× 30	18× 30	13.03	21.18
MTH/460/63	26× 30	18× 30	13.03	21.18
MTH/460/75	26× 30	18× 30	13.03	21.18
MTH/460/88	26× 30	18× 30	13.03	21.18
MTH/460/100	26× 30	18× 30	13.03	21.18
MTH/460/125	26× 30	18× 30	13.03	21.18

Table 86: Joist hangers – Model MTH/460 – TR26 timber – Type B nails

MTH/460 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/460/38	26× 35	18× 35	12.36	23.46
MTH/460/44	26× 35	18× 35	14.31	24.90
MTH/460/47	26× 35	18× 35	15.29	24.90
MTH/460/50	26× 35	18× 35	15.32	24.90
MTH/460/63	26× 35	18× 35	15.32	24.90
MTH/460/75	26× 35	18× 35	15.32	24.90
MTH/460/88	26× 35	18× 35	15.32	24.90
MTH/460/100	26× 35	18× 35	15.32	24.90
MTH/460/125	26× 35	18× 35	15.32	24.90

A2.2.12 Joist hangers – Model MTH/500

Use MTH/460 values for bolted connections. The header thickness should be checked by an engineer.

Table 87: Joist hangers – Model MTH/500 – C16 timber – Type A nails

MTH/500 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/500/38	30× 30	20× 30	11.09	20.48
MTH/500/44	30× 30	20× 30	12.29	20.48
MTH/500/47	30× 30	20× 30	12.29	20.48
MTH/500/50	30× 30	20× 30	12.29	20.48
MTH/500/63	30× 30	20× 30	12.29	20.48
MTH/500/75	30× 30	20× 30	12.29	20.48
MTH/500/88	30× 30	20× 30	12.29	20.48
MTH/500/100	30× 30	20× 30	12.29	20.48
MTH/500/125	30× 30	20× 30	12.29	20.48
MTH/500/150	30× 30	20× 30	10.92	20.48

Table 88: Joist hangers – Model MTH/500 – C16 timber – Type B nails

MTH/500 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/500/38	30× 35	20× 35	11.65	21.73
MTH/500/44	30× 35	20× 35	13.49	23.78
MTH/500/47	30× 35	20× 35	14.41	24.07
MTH/500/50	30× 35	20× 35	14.44	24.07
MTH/500/63	30× 35	20× 35	14.44	24.07
MTH/500/75	30× 35	20× 35	14.44	24.07
MTH/500/88	30× 35	20× 35	14.44	24.07
MTH/500/100	30× 35	20× 35	14.44	24.07
MTH/500/125	30× 35	20× 35	14.44	24.07
MTH/500/150	30× 35	20× 35	12.84	24.07

Table 89: Joist hangers – Model MTH/500 – C24 timber – Type A nails

MTH/500 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/500/38	30× 30	20× 30	12.52	23.12
MTH/500/44	30× 30	20× 30	13.87	23.12
MTH/500/47	30× 30	20× 30	13.87	23.12
MTH/500/50	30× 30	20× 30	13.87	23.12
MTH/500/63	30× 30	20× 30	13.87	23.12
MTH/500/75	30× 30	20× 30	13.87	23.12
MTH/500/88	30× 30	20× 30	13.87	23.12
MTH/500/100	30× 30	20× 30	13.87	23.12
MTH/500/125	30× 30	20× 30	13.87	23.12
MTH/500/150	30× 30	20× 30	12.33	23.12

Table 90: Joist hangers – Model MTH/500 – C24 timber – Type B nails

MTH/500 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/500/38	30× 30	20× 30	13.15	23.99
MTH/500/44	30× 35	20× 35	15.23	26.29
MTH/500/47	30× 35	20× 35	16.27	27.17
MTH/500/50	30× 35	20× 35	16.30	27.17
MTH/500/63	30× 35	20× 35	16.30	27.17
MTH/500/75	30× 35	20× 35	16.30	27.17
MTH/500/88	30× 35	20× 35	16.30	27.17
MTH/500/100	30× 35	20× 35	16.30	27.17
MTH/500/125	30× 35	20× 35	16.30	27.17
MTH/500/150	30× 35	20× 35	14.49	27.17

Table 91: Joist hangers – Model MTH/500 – TR26 timber – Type A nails

MTH/500 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/500/38	30× 30	20× 30	13.24	24.26
MTH/500/44	30× 30	20× 30	14.66	24.44
MTH/500/47	30× 30	20× 30	14.66	24.44
MTH/500/50	30× 30	20× 30	14.66	24.44
MTH/500/63	30× 30	20× 30	14.66	24.44
MTH/500/75	30× 30	20× 30	14.66	24.44
MTH/500/88	30× 30	20× 30	14.66	24.44
MTH/500/100	30× 30	20× 30	14.66	24.44
MTH/500/125	30× 30	20× 30	14.66	24.44
MTH/500/150	30× 30	20× 30	13.03	24.44

Table 92: Joist hangers – Model MTH/500 – TR26 timber – Type B nails

MTH/500 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/500/38	30× 35	20× 35	13.91	25.01
MTH/500/44	30× 35	20× 35	16.10	27.45
MTH/500/47	30× 35	20× 35	17.20	28.67
MTH/500/50	30× 35	20× 35	17.24	28.71
MTH/500/63	30× 35	20× 35	17.24	28.71
MTH/500/75	30× 35	20× 35	17.24	28.71
MTH/500/88	30× 35	20× 35	17.24	28.71
MTH/500/100	30× 35	20× 35	17.24	28.71
MTH/500/125	30× 35	20× 35	17.24	28.71
MTH/500/150	30× 35	20× 35	15.32	28.71

A2.2.13 Joist hangers – Model MTH/560

Use MTH/460 values for bolted connections. The header thickness should be checked by an engineer.

Table 93: Joist hangers – Model MTH/560 – C16 timber – Type A nails

MTH/560 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/560/38	34× 30	22× 30	12.32	22.34
MTH/560/44	34× 30	22× 30	13.65	23.21
MTH/560/47	34× 30	22× 30	13.65	23.21
MTH/560/50	34× 30	22× 30	13.65	23.21
MTH/560/63	34× 30	22× 30	13.65	23.21
MTH/560/75	34× 30	22× 30	13.65	23.21
MTH/560/88	34× 30	22× 30	13.65	23.21
MTH/560/100	34× 30	22× 30	13.65	23.21
MTH/560/125	34× 30	22× 30	13.65	23.21
MTH/560/150	34× 30	22× 30	13.65	23.21

Table 94: Joist hangers – Model MTH/560 – C16 timber – Type B nails

MTH/560 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/560/38	34× 35	22× 35	12.95	23.03
MTH/560/44	34× 35	22× 35	14.99	25.28
MTH/560/47	34× 35	22× 35	16.01	26.40
MTH/560/50	34× 35	22× 35	16.05	26.44
MTH/560/63	34× 35	22× 35	16.05	26.44
MTH/560/75	34× 35	22× 35	16.05	26.44
MTH/560/88	34× 35	22× 35	16.05	26.44
MTH/560/100	34× 35	22× 35	16.05	26.44
MTH/560/125	34× 35	22× 35	16.05	26.44
MTH/560/150	34× 35	22× 35	16.05	26.44

Table 95: Joist hangers – Model MTH/560 – C24 timber – Type A nails

MTH/560 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/560/38	34× 30	22× 30	13.91	24.67
MTH/560/44	34× 30	22× 30	15.41	26.20
MTH/560/47	34× 30	22× 30	15.41	26.20
MTH/560/50	34× 30	22× 30	15.41	26.20
MTH/560/63	34× 30	22× 30	15.41	26.20
MTH/560/75	34× 30	22× 30	15.41	26.20
MTH/560/88	34× 30	22× 30	15.41	26.20
MTH/560/100	34× 30	22× 30	15.41	26.20
MTH/560/125	34× 30	22× 30	15.41	26.20
MTH/560/150	34× 30	22× 30	15.41	26.20

Table 96: Joist hangers – Model MTH/560 – C24 timber – Type B nails

MTH/560 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/560/38	34× 30	22× 30	14.62	25.45
MTH/560/44	34× 35	22× 35	16.92	27.99
MTH/560/47	34× 35	22× 35	18.08	29.25
MTH/560/50	34× 35	22× 35	18.12	29.30
MTH/560/63	34× 35	22× 35	18.12	29.30
MTH/560/75	34× 35	22× 35	18.12	29.30
MTH/560/88	34× 35	22× 35	18.12	29.30
MTH/560/100	34× 35	22× 35	18.12	29.30
MTH/560/125	34× 35	22× 35	18.12	29.30
MTH/560/150	34× 35	22× 35	18.12	29.30

Table 97: Joist hangers – Model MTH/560 – TR26 timber – Type A nails

MTH/560 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/560/38	34× 30	22× 30	14.71	25.73
MTH/560/44	34× 30	22× 30	16.29	27.48
MTH/560/47	34× 30	22× 30	16.29	27.48
MTH/560/50	34× 30	22× 30	16.29	27.48
MTH/560/63	34× 30	22× 30	16.29	27.48
MTH/560/75	34× 30	22× 30	16.29	27.48
MTH/560/88	34× 30	22× 30	16.29	27.48
MTH/560/100	34× 30	22× 30	16.29	27.48
MTH/560/125	34× 30	22× 30	16.29	27.48
MTH/560/150	34× 30	22× 30	16.29	27.48

Table 98: Joist hangers – Model MTH/560 – TR26 timber – Type B nails

MTH/560 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/560/38	34× 35	22× 35	15.45	26.55
MTH/560/44	34× 35	22× 35	17.89	29.23
MTH/560/47	34× 35	22× 35	19.11	30.58
MTH/560/50	34× 35	22× 35	19.15	30.62
MTH/560/63	34× 35	22× 35	19.15	30.62
MTH/560/75	34× 35	22× 35	19.15	30.62
MTH/560/88	34× 35	22× 35	19.15	30.62
MTH/560/100	34× 35	22× 35	19.15	30.62
MTH/560/125	34× 35	22× 35	19.15	30.62
MTH/560/150	34× 35	22× 35	19.15	30.62

A2.2.14 Joist hangers – Model MTH/620

Values are also valid for bolted connections. The header thickness should be checked by an engineer.

Table 99: Joist hangers – Model MTH/620 – C16 timber – Type A nails

MTH/620 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/620/38	42× 30	26× 30	14.79	24.81
MTH/620/44	42× 30	26× 30	16.38	26.54
MTH/620/47	42× 30	26× 30	16.38	26.54
MTH/620/50	42× 30	26× 30	16.38	26.54
MTH/620/63	42× 30	26× 30	16.38	26.54
MTH/620/75	42× 30	26× 30	16.38	26.54
MTH/620/88	42× 30	26× 30	16.38	26.54
MTH/620/100	42× 30	26× 30	16.38	26.54
MTH/620/125	42× 30	26× 30	16.38	26.54
MTH/620/150	42× 30	26× 30	16.38	26.54

Table 100: Joist hangers – Model MTH/620 – C16 timber – Type B nails

MTH/620 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/620/38	42× 35	26× 35	15.53	25.62
MTH/620/44	42× 35	26× 35	17.99	28.28
MTH/620/47	42× 35	26× 35	19.21	29.60
MTH/620/50	42× 35	26× 35	19.25	29.65
MTH/620/63	42× 35	26× 35	19.25	29.65
MTH/620/75	42× 35	26× 35	19.25	29.65
MTH/620/88	42× 35	26× 35	19.25	29.65
MTH/620/100	42× 35	26× 35	19.25	29.65
MTH/620/125	42× 35	26× 35	19.25	29.65
MTH/620/150	42× 35	26× 35	19.25	29.65

Table 101: Joist hangers – Model MTH/620 – C24 timber – Type A nails

MTH/620 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/620/38	42× 30	26× 30	16.69	27.45
MTH/620/44	42× 30	26× 30	18.49	29.40
MTH/620/47	42× 30	26× 30	18.49	29.40
MTH/620/50	42× 30	26× 30	18.49	29.40
MTH/620/63	42× 30	26× 30	18.49	29.40
MTH/620/75	42× 30	26× 30	18.49	29.40
MTH/620/88	42× 30	26× 30	18.49	29.40
MTH/620/100	42× 30	26× 30	18.49	29.40
MTH/620/125	42× 30	26× 30	18.49	29.40
MTH/620/150	42× 30	26× 30	18.49	29.40

Table 102: Joist hangers – Model MTH/620 – C24 timber – Type B nails

MTH/620 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/620/38	42× 30	26× 30	17.54	28.37
MTH/620/44	42× 35	26× 35	20.31	31.37
MTH/620/47	42× 35	26× 35	21.69	32.87
MTH/620/50	42× 35	26× 35	21.74	32.92
MTH/620/63	42× 35	26× 35	21.74	32.92
MTH/620/75	42× 35	26× 35	21.74	32.92
MTH/620/88	42× 35	26× 35	21.74	32.92
MTH/620/100	42× 35	26× 35	21.74	32.92
MTH/620/125	42× 35	26× 35	21.74	32.92
MTH/620/150	42× 35	26× 35	21.74	32.92

Table 103: Joist hangers – Model MTH/620 – TR26 timber – Type A nails

MTH/620 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/620/38	42× 30	26× 30	17.65	28.67
MTH/620/44	42× 30	26× 30	19.55	30.74
MTH/620/47	42× 30	26× 30	19.55	30.74
MTH/620/50	42× 30	26× 30	19.55	30.74
MTH/620/63	42× 30	26× 30	19.55	30.74
MTH/620/75	42× 30	26× 30	19.55	30.74
MTH/620/88	42× 30	26× 30	19.55	30.74
MTH/620/100	42× 30	26× 30	19.55	30.74
MTH/620/125	42× 30	26× 30	19.55	30.74
MTH/620/150	42× 30	26× 30	19.55	30.74

Table 104: Joist hangers – Model MTH/620 – TR26 timber – Type B nails

MTH/620 Reference	Fasteners		Characteristic capacity [kN]	
	Header [1]	Joist [2]	F_{up}	F_{down}
MTH/620/38	42× 35	26× 35	18.54	29.64
MTH/620/44	42× 35	26× 35	21.47	32.81
MTH/620/47	42× 35	26× 35	22.93	34.40
MTH/620/50	42× 35	26× 35	22.98	34.45
MTH/620/63	42× 35	26× 35	22.98	34.45
MTH/620/75	42× 35	26× 35	22.98	34.45
MTH/620/88	42× 35	26× 35	22.98	34.45
MTH/620/100	42× 35	26× 35	22.98	34.45
MTH/620/125	42× 35	26× 35	22.98	34.45
MTH/620/150	42× 35	26× 35	22.98	34.45

ANNEX 3 PLATE AND ANCHOR PRODUCTS

A3.1 Plates and anchors – Product descriptions

A3.1.1 Angle bracket – Model FA



FA3

FA Reference	Drawing	t_s	Dimensions			Holes in [1]	Holes in [2]
			A	B	C	$n \times \emptyset$	$n \times \emptyset$
FA1, FA2, FA3	FA	1.2	42	42	125	9 × 4.0	9 × 4.0

FA3 has a single fold. FA1 and FA2 have an additional fold creating an internal or external support respectively.

A3.1.2 Holding down angles – Model HDA



HDA

HDA Reference	Drawing	Dimensions				Holes in [1]	Holes in [2]
		t_s	A	B	C	$n \times \emptyset$	$n \times \emptyset$
HDA/300	HDA	2.0	32	32	300	12× 4.0	12× 4.0
HDA/500	HDA	2.0	32	32	500	20× 4.0	20× 4.0

A3.1.3 Splice plate – Model SP



SP

Splice plate		Dimensions			Holes in [1]	Holes in [2]
Reference	t_s	A	B	C	$n \times \emptyset$	$n \times \emptyset$
SP/57x400	0.9	57	18	400	40× 4.0	8× 4.0
SP/82x550	0.9	82	18	550	88× 4.0	11× 4.0
SP/98x550	0.9	98	18	550	99× 4.0	11× 4.0
SP/100x350	0.9	100	15	350	63× 4.0	7× 4.0

A3.1.4 Truss clip – Model TC



TC

Truss clip	Dimensions				Holes in [1]	Holes in [2]
Reference	t_s	A	B	C	$n \times \varnothing$	$n \times \varnothing$
TC/38	0.9	110	29	38	7× 4.0 2× 8.0	10× 4.0
TC/44	0.9	110	29	44	7× 4.0 2× 8.0	10× 4.0
TC/47	0.9	110	29	47	7× 4.0 2× 8.0	10× 4.0
TC/50	0.9	110	29	50	7× 4.0 2× 8.0	10× 4.0

A3.2 Plates and anchors – Load-carrying capacities

A3.2.1 Framing anchor – Model FA

Framing anchors FA1 and FA2 with a folded leg achieve the same values as the unfolded FA3 version provided that

- all nine fasteners for each plate are in the same joint component
- loaded and unloaded edge and end fastener spacings are no worse than for the unfolded anchor FA3.

Table 105: Framing Anchor – Model FA – C16 timber – Type A or B nails

FA Reference	Plate 1	Fasteners		Characteristic capacity [kN]		
		Plate 2	Type	$F_{x,k}$	$F_{y,k}$	$F_{z,k}$
FA1, FA2, FA3	9× 30	9× 30	A	4.05	2.16	3.11
FA1, FA2, FA3	9× 35	9× 35	B	4.93	2.63	3.35

Table 106: Framing Anchor – Model FA – C24 timber – Type A or B nails

FA Reference	Plate 1	Fasteners		Characteristic capacity [kN]		
		Plate 2	Type	$F_{x,k}$	$F_{y,k}$	$F_{z,k}$
FA1, FA2, FA3	9× 30	9× 30	A	4.57	2.32	3.41
FA1, FA2, FA3	9× 35	9× 35	B	5.56	2.86	3.68

Table 107: Framing Anchor – Model FA – TR26 timber – Type A or B nails

FA Reference	Plate 1	Fasteners		Characteristic capacity [kN]		
		Plate 2	Type	$F_{x,k}$	$F_{y,k}$	$F_{z,k}$
FA1, FA2, FA3	9× 30	9× 30	A	4.83	2.40	3.52
FA1, FA2, FA3	9× 35	9× 35	B	5.88	3.75	4.20

A3.2.2 Truss clips – Model TC

Truss clip values are for uplift only and have been determined for a rafter at a 30° slope.

Table 108: Truss clips – Model TC – C16, C24 or TR26 timber – Type A or B nails

TC	Fasteners		Characteristic capacity [kN]
Reference	Plate 1	Plate 2	F_{up}
TC/38	7× 30 or 35	10× 30 or 35	3.50
TC/44	7× 30 or 35	10× 30 or 35	3.75
TC/47	7× 30 or 35	10× 30 or 35	3.75
TC/50	7× 30 or 35	10× 30 or 35	3.75

A3.2.3 Holding down angles – Model HDA

Holding down angle values are given per connector in tension parallel to the fold, but holding down angles should not be used singly.

The values assume that an equal number of fasteners per angle is used for each component in the joint and that all the holes in one or other plate are filled at any point along the length of the connector.

Table 109: Holding down angles – Model HDA – C16, C24 or TR26 timber – Type A or B nails

HDA Reference	Fasteners		Characteristic capacity [kN]	
	Plate 1	Plate 2	Nº of connectors	$F_{x,k}$
HDA/300	6× 30 or 35	6× 30 or 35	2	7.5
HDA/500	10× 30 or 35	10× 30 or 35	2	7.5
HDA/300	6× 30 or 35	6× 30 or 35	4	20
HDA/500	10× 30 or 35	10× 30 or 35	4	20

A3.2.4 Splice plates – Model SP

Values are given per plate in tension parallel to the fold, but splice plates should always be used in sets of four.

It is assumed that the joint between the components is at the centre of the connector, so the number of fasteners given per plate in the table is halved for each component.

Table 110: Splice plates – Model SP – C16, C24 or TR26 timber – Type A or B nails

SP	Fasteners		Characteristic capacity [kN]
Reference	Plate 1	Plate 2	$F_{x,k}$
SP/57x400	40× 30 or 35	8× 30 or 35	14
SP/82x550	88× 30 or 35	11× 30 or 35	19
SP/98x550	99× 30 or 35	11× 30 or 35	22
SP/100x350	63× 30 or 35	7× 30 or 35	19