Technical Sheet

ETC
Truss hangers

These hangers are used in small trusses with Fasteners a cross-section of 38 mm. They enable to make a hip by assembling hip and jack half trusses. The models differ depending on the installation type.



Features

Material

- Galvanized steel S250GD + Z275 according to NF EN 10346.

Benefits

- Utilisable dans de multiples configurations,
- Fixation sur bois ou sur béton...

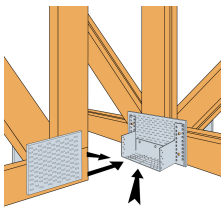
Applications

Header member

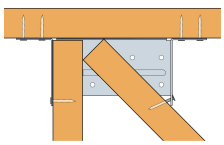
- **Supporting member:** solid wood, composite lumber, glued-laminated wood, concrete, steel.
- **Supported member:** solid wood.

When to Use

- Truss end hip hanger



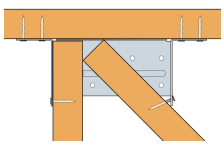
ETC



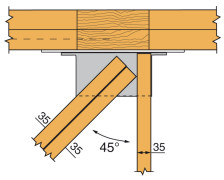
ETC434 2 elements assembly 1 hip - 1 jack



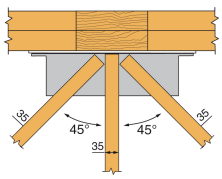
Étriers pour croupe ETC836



ETC434 2 elements assembly 1 hip - 1 jack



ETC485R 2 elements assembly 1 hip - 1 jack



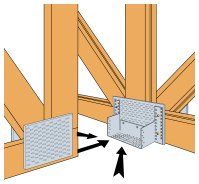
ETC835 3 elements assembly 1 hip - 2 jack

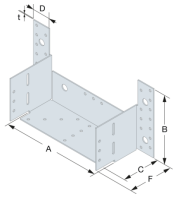
Technical Sheet

ETC
Truss hangers

Technical Data

Product Dimensions

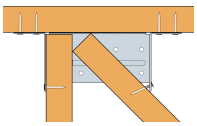


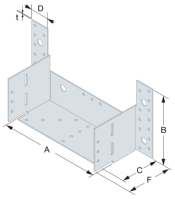


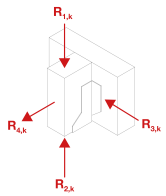
Reference	Connector Dimensions												
	Product Dimensions[mm]						Header holes			Joist holes			Other
	A[mm]	B[mm]	C[mm]	D[mm]	F[mm]	t[mm]	Face		Base	Side Flanges		Base	Weight[kg]
							Ø5	Ø13	Ø5	Ø5	Ø5x7.5	Ø5	
ETC434	140	145	80	225	100	1.5	24	4	-	6	8	10	0.55
ETC485R	195	145	110	279	90	2	24	4	-	12	-	31	0.85
ETC502	206	145	98	290	89	2	24	4	-	6	-	12	0.85
ETC835	355	240	110	481	143	3	40	4	-	14	-	33	2.8

* Currently not CE marked.
ETC392 application requires vertical member (king post), min. width 97 mm.

Product capacities - Timber to timber - Header ≥ 97mm - Hip(s) with 1 Ply







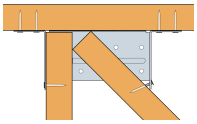
Reference	Multiple Hanger capacity												
	Product capacities - Timber to timber - Header ≥ 97 mm - Hip(s) with 1 Ply												
	Characteristic capacities - Header ≥ 97 mm - Timber C24[kN]						Timber section and fasteners						
	$R_{2,k}$			$R_{1,k}$			Header	Jack			Hip		
	Jack	Hip	Max.	Jack	Hip	Total	CNA4.0x35	No. of plies	Min. height	CNA4.0x35	No. of plies	Min. height	CNA4.0x35
ETC434	5.3	4.7	3.3	5.3	4.7	5.5	19	1	147	6	1	147	6
ETC502	1.2	5.6	3.3	4.5	3.4	11.4	15	1	97	4	1	97	6

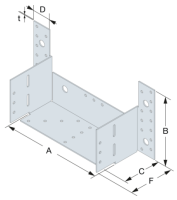
Donwload capacities are calculated as: $R_{1,k}$=min(Jack + Hip; Total)
Uplift capacities are calculated as: $R_{2.k}$=min(Jack + Hip; Max)
Load path for download is :
ETC434 : 25% on jack, 75% on hip
ETC502 : 40 % on jack, 30% on each hip

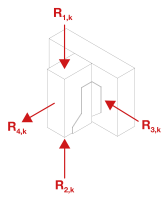
Technical Sheet

ETC
Truss hangers

Product capacities - Timber to timber - Header ≥ 197mm - Hip(s) with 1 Ply



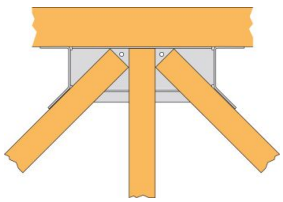


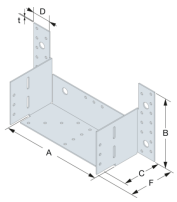


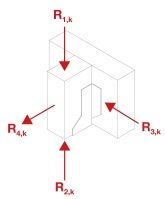
Reference	Multiple Hanger capacity												
	Product capacities - Timber to timber - Header ≥ 197 mm - Hip(s) with 1 Ply												
	Characteristic capacities - Header ≥ 97 mm - Timber C24[kN]						Timber section and fasteners						
	$R_{1,k}$			$R_{2,k}$			Header	Hip			Jack		
	Jack	Hip	Total	Jack	Hip	Max.	CNA4.0x35	No. of plies	Min. height	CNA4.0x35	No. of plies	Min. height	CNA4.0x35
ETC434	5.3	9	12	5.3	4.7	3.3	27	1	147	6	1	147	6
ETC502	4.6	9.3	23.2	1.2	5.6	4.4	27	1	97	6	1	97	4

Uplift capacities are calculated as : $R_{2.k}$=min(Jack + No. of Hip*Hip; Max)
Load path is :
25 % on jack, 75 % on hip for ETC434
20 % on jack, 40% on each hip for ETC502
Please refer to the installation section to see images of the different possible installations.

Product capacities - Timber to timber - Header ≥ 195mm







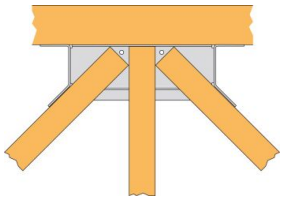
Reference	Multiple Hanger capacity									
	Characteristic capacities - Timber to timber - Full nailing - G+D									
	Header	Characteristic capacity - Header ≥197mm - Timber C24[kN]			Timber sections and fasteners					
	CNA4.0x35	$R_{1,k}$			Jack			Hip		
		Jack	Hip	Total	No. of plies	Min. height	CNA4.0x35	No. of plies	Min. height	CNA4.0x35
ETC502	25	6.6	4.9	16.4	1	97	4	1	97	6

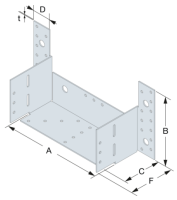
Uplift capacities are calculated as : $R_{2.k}$=min(Jack + 2*Hip; Max)
Load path is :
40 % on jack, 30% on each hip for ETC502.

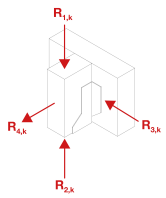
Technical Sheet

ETC
Truss hangers

Product capacities - Timber to timber - Header ≥ 147mm



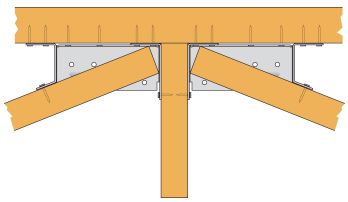


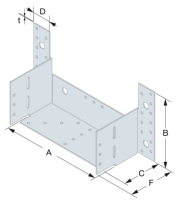


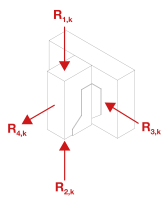
Reference	Multiple Hanger capacity												
	Characteristic capacity - Header ≥147mm - Timber C24												
	Characteristic capacity - Header ≥147mm - Timber C24[kN]						Timber section and fasteners						
	$R_{1,k}$			$R_{2,k}$			Header	Jack			Hip		
	Jack	Hip	Total	Jack	Hip	Max.	CNA4.0x35	No. of plies	Min. height	CNA4.0x35	No. of plies	Min. height	CNA4.0x35
ETC502	5.8	4.3	14.4	1.2	5.6	3.3	23	1	97	4	1	97	6

Uplift capacities are calculated as : R2.k=min(Jack + 2*Hip; Max)
Load path is :
40 % on jack, 30% on each hip for ETC502

Product capacities - Timber to timber - 1 Left model + 1 Right model







Reference	Multiple Hanger capacity								
	Characteristic capacities - Timber to timber - Full nailing - G+D								
	Header	Characteristic capacity - Header ≥197mm - Timber C24[kN]			Timber sections and fasteners				
	CNA4.0x35	$R_{1,k}$			Jack			Hip		
		Jack	Hip	Total	No. of plies	Min. height	CNA4.0x35	No. of plies	Min. height	CNA4.0x35

In this case, the installation is made with one ETC434G on the left of the central rafter (hip) and one ETC434D on the right of the central rafter.

Installation

Fasteners on supported member

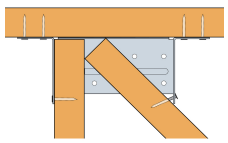
- CNA annular ring-shank nails dia. 4.0 x 35 mm.

Fasteners on supporting member

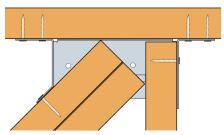
- ***Wood element***: CNA annular ring-shank nails dia. 4.0 x 35 mm.
- ***Steel element***: bolts dia. 12 mm (bolt diameter cannot be more than 2 mm smaller than the drill hole diameter).
- ***Concrete element***: WA M12-104/5 mechanical anchor or chemical anchor (AT-HP resin + LMAS M12 x 150 threaded rod).

Installation

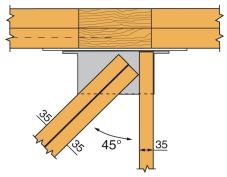
Use all the specified fasteners for a given installation. Elements made with 2 plies must be assembled with each other so that they act as a single element (see Eurocode 5).



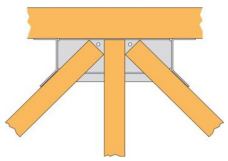
ETC434 2 elements assembly 1 hip - 1 jack



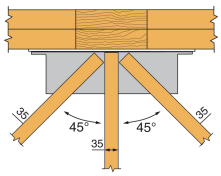
ETC434 2 elements assembly 1 hip - 1 jack



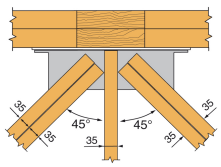
ETC485R 2 elements assembly 1 hip - 1 jack



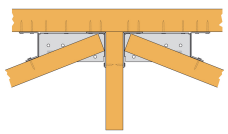
ETC502 3 elements assembly 1 hip - 2 jack



ETC835 3 elements assembly 1 hip - 2 jack



ETC835 3 elements assembly 1 hip - 2 jack



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