Technical Sheet

HDCLT

Concealed solution for connecting CLT walls to concrete foundations.

High strength, low profile, seamlessly secure. Designed specifically for connecting cross-laminated timber (CLT) wall panels to concrete foundations: the HDCLT tension tie provides a robust design uplift capacity of up to 18.6 kN, yet due to it's low profile of just 140 mm, remains completely concealed within the subfloor and floor covering layers.
To help reduce installation time, the fastener configuration has been optimised for maximum performance with the most efficient screw quantity.
HDCLT includes an 8mm thick washer integrated with the tension tie seat, which provides additional strength where it is most needed. The profile design permits up to 25mm concrete-CLT panel interlayer thickness.











Features

Material

Tension Tie: S 250 GD + Z 275 according to DIN EN
Washer: S235JR according to EN 10025

Corrosion Protection:

275 g/m2 galvanized on both sides 20mm washer: ~ 55µm according to EN1461

Benefits

- **High-strength: up to 18.6 kN design uplift resistance**
- **Low height: completely concealed within the floor structure**
- **Flexible: allows up to 25mm tolerance to ensure optimal fastener edge distance where a concrete-CLT interlayer exists.**

Applications

Suitable For

Supporting Member:

- CLT, Concrete, Steel, Solid Timber

Supported Member:

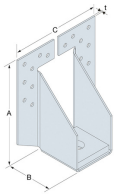
- CLT, Solid wood, Engineered Timber

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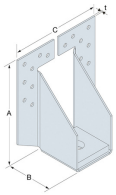
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Technical Data



Product Dimensions

Reference	Connector Dimensions						
	Product Dimensions[mm]				Joist	Flange B	Other
	A[mm]	B[mm]	C[mm]	t[mm]	Round Ø5[mm]	Round Ø18[mm]	Weight[kg]
HDCLT140	137	60	119	2	16	1	0.48



Product capacities

Reference	Holdowns capacity				
	Characteristic capacities - Timber C24				
	Characteristic capacities - Timber C24[kN]				
	$R_{1,k}$				
	CNA4.0x40	CNA4.0x50	CNA4.0x60	CSA5.0x40	CSA5.0x50
HDCLT140	7.6	10.1	12.6	min(22.1; 24,2/kmod)	min(26.1; 24,2/kmod)

	With Washer – US50/50/8			
HDCLT140	Fasteners (Flange A)	CSA5.0x50	CNA4.0x50	
	R_d (kN)	20.47	8.55	
	Anchor (Flange B)	FM 753 EVO M16-151/30	FM-753 CRACK 3DG M16-150/30	AT-HP + LMAS M16
	Concrete Option	7	1	1
	Effective embedment depth (h_{ef})	80	86	192
	Min. Member thickness (h_{min})	160	170	222
	Charac. Spacing ($s_{cr,N}$)	240	258	576
	Charac. Edge distance ($c_{cr,N}$)	120	120	288
	N_{Rd} (kN)	23.5	23.3	51.4

Non-cracked concrete C20/25
No reinforcement for splitting
kmod: **1,1**; service class : **2**

Product capacities [kser]

Reference	Holdowns capacity				
	kser[kN/mm]				
	CNA4.0x40	CNA4.0x50	CNA4.0x60	CSA5.0x40	CSA5.0x50
HDCLT140	1.2	1.5	1.9	4.4	5.2

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Installation

Fastener

- CSA Ø5mm or CNAØ4mm according to ETA-04/0013
- On concrete: Heavy Duty Wedge Anchor, Injection system for concrete, High capacity undercut anchor, concrete screw

Installation

The connection to the wood is made with CNA nails or CSA connector screws.
The bolt must be verified for the tensile force to be absorbed.

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