

PERFORATED STRAP

REDUCED WEIGHT

Reduced thicknesses and optimised lengths reduce weight by 20% to 50%, making on-site handling easier.

OPTIMISED STRENGTH

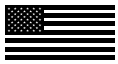
Thanks to the new S450GD steel, the thickness is reduced without compromising strength. The 0.12 in version achieves a 55% increase in strength.

TENSIONING

It can be tensioned and anchored at the ends with CLIPFIX60, or tensioned using the CLIPTIE40 tensioner. Alternatively, a GEKO or SKORPIO panel puller can be used together with the CLAMP1 accessory.

SLIM VERSION

New 1 in wide version for small applications, also suitable for timber elements of reduced thickness (1.5 in).



USA DESIGN VALUES

CANADA, EU and more design values available online.



SERVICE CONDITION



MATERIAL



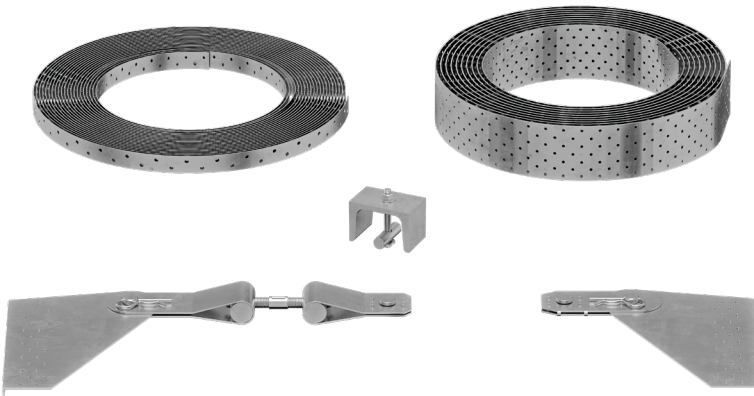
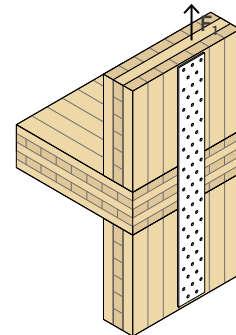
S450GD + Z275 carbon steel

THICKNESS [ga | in]

18 ga | 0.05 in

11 ga | 0.12 in

EXTERNAL LOADS



FIELD OF USE

Simple system for tensile joints subject to medium to low stresses.

Suitable for:


- solid timber and glulam
- timber frame
- CLT and LVL panels

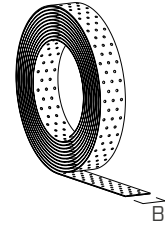
WALL BRACING

The new CLIPTIE40 tensioner allows quick and easy tensioning, also when used as bracing for timber frame walls.


CODES AND DIMENSIONS

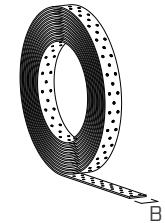
LBB 18 ga [0.05 in]

CODE	B [in]	L [ft]	s [in]	n Ø.0.20 [pcs]	n Ø.0.26 [pcs]		pcs
LBB1225	1	164	0.05	15/ft	1/3 ft	●	1
LBB1240	1 9/16	164	0.05	23/ft	1/3 ft	●	1
LBB1260	2 3/8	164	0.05	38/ft	1/3 ft	●	1
LBB1280	3 1/8	82	0.05	53/ft	1/3 ft	●	1



LBB 11 ga [0.12 in]

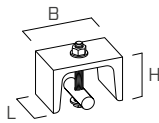
CODE	B [in]	L [ft]	s [in]	n Ø.0.20 [pcs]	n Ø.0.26 [pcs]		pcs
LBB3040	1 9/16	82	0.12	23/ft	1/3 ft	●	1



TENSIONERS

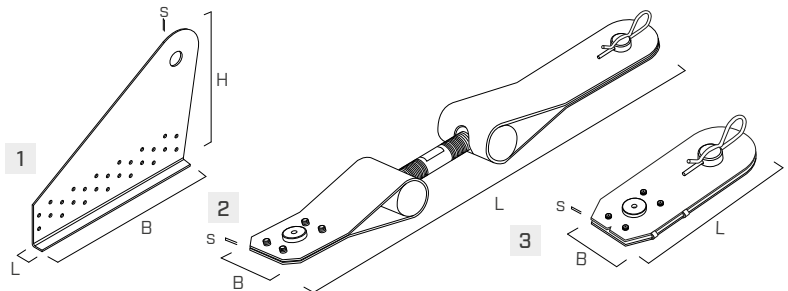
CODE	LBB type	LBB width	pcs
CLIPTIE40	LBB1225 LBB1240	B = 1 in 1 9/16 in	1
CLIPFIX60	LBB1240 LBB1260	B = 2 3/8 in 1 3/8 in	1

CLIPTIE40



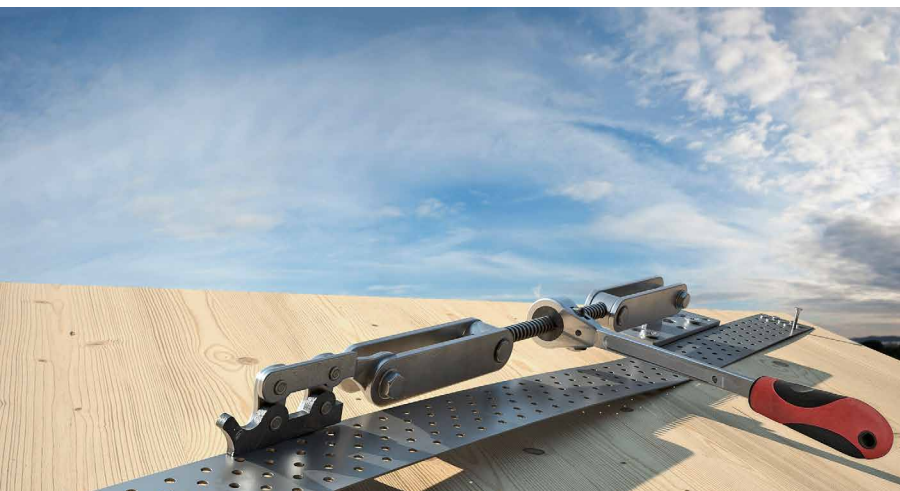
CODE	B [in]	H [in]	L [in]
CLIPTIE40	2 9/16	1 5/8	1 9/16

CLIPFIX60



SET COMPRISED OF:	B [in]	H [in]	L [in]	s [in]	n Ø.0.2 [pcs]	pcs
1 End plate	11 3/8	7 13/16	9/16	5/64	26	4 ⁽¹⁾
2 Tensioner	2 3/8	-	11 13/16 - 13 3/4	5/64	5	2
3 End element	2 3/8	-	6 3/16	5/64	5	2

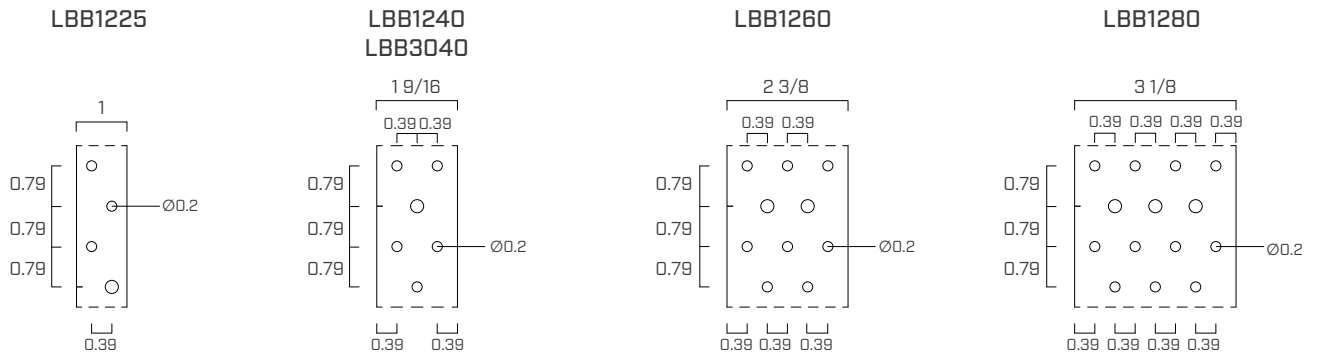
⁽¹⁾The set includes two right-hand and two left-hand end plates.



SIMPLIFIED TENSIONING

Using a GEKO or SKORPIO panel puller and the CLAMP1 accessory, the perforated steel strap can be tensioned without the need for additional components.

GEOMETRY



FASTENERS

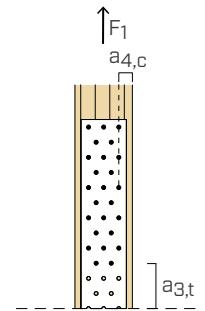
type	description		d [in]	support
LBA	high bond nail		0.157	

INSTALLATION

MINIMUM DISTANCES

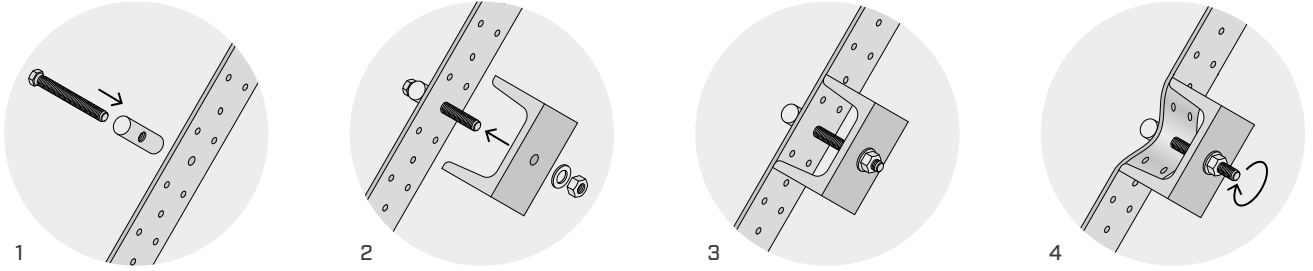
TIMBER ⁽¹⁾			nails LBA Ø0.157
Lateral connector-unloaded edge	$a_{4,c}$	[in]	0.39
Connector- loaded end	$a_{3,t}$	[in]	1.57

⁽¹⁾ Minimum distances for solid timber or glulam consistent with specific gravity $G = <0.5$

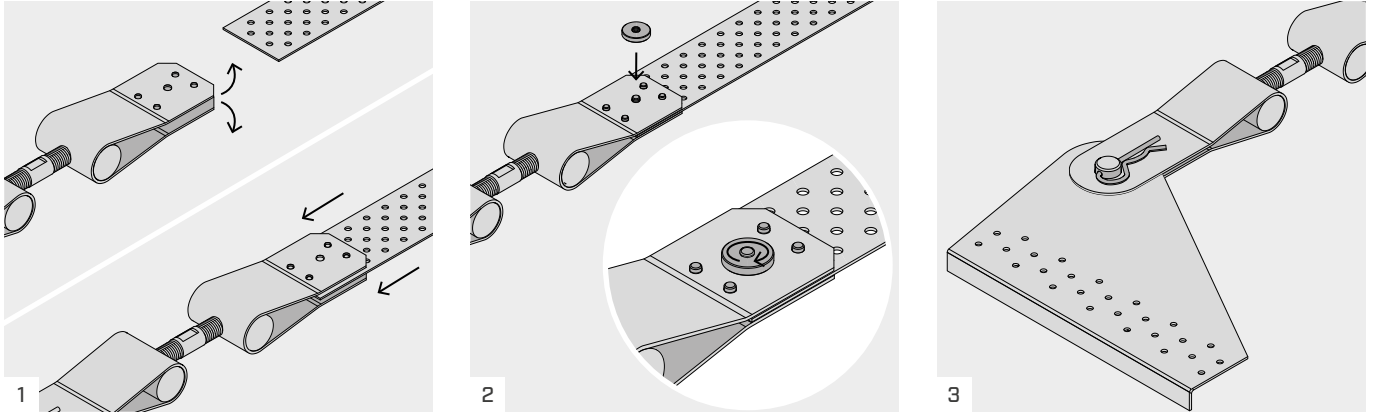


ASSEMBLY

CLIPTIE40



CLIPFIX60 | TENSIONER

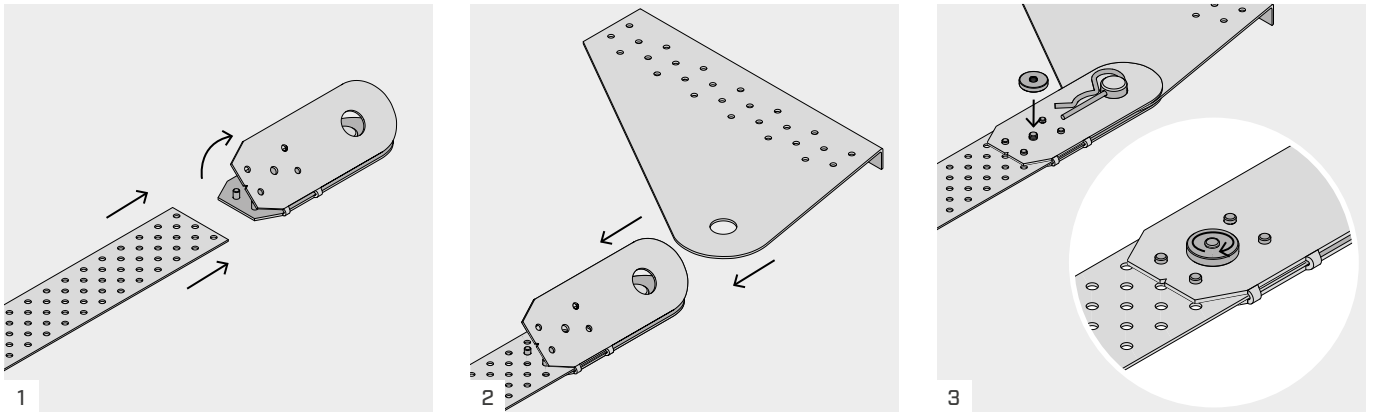


1 Open the tensioner and insert the perforated steel strap.

2 Tighten with a knurled nut.

3 Hook the end plate.

CLIPFIX60 | END ELEMENT

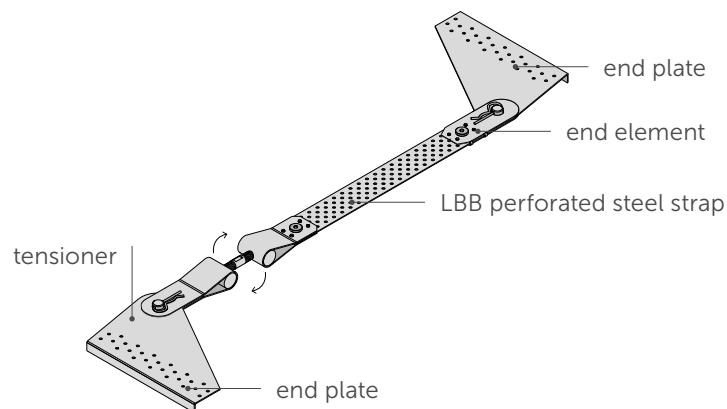


1 Open the end element and insert the perforated steel strap.

2 Hook the end plate.

3 Tighten with a knurled nut.

ADJUSTING THE SYSTEM

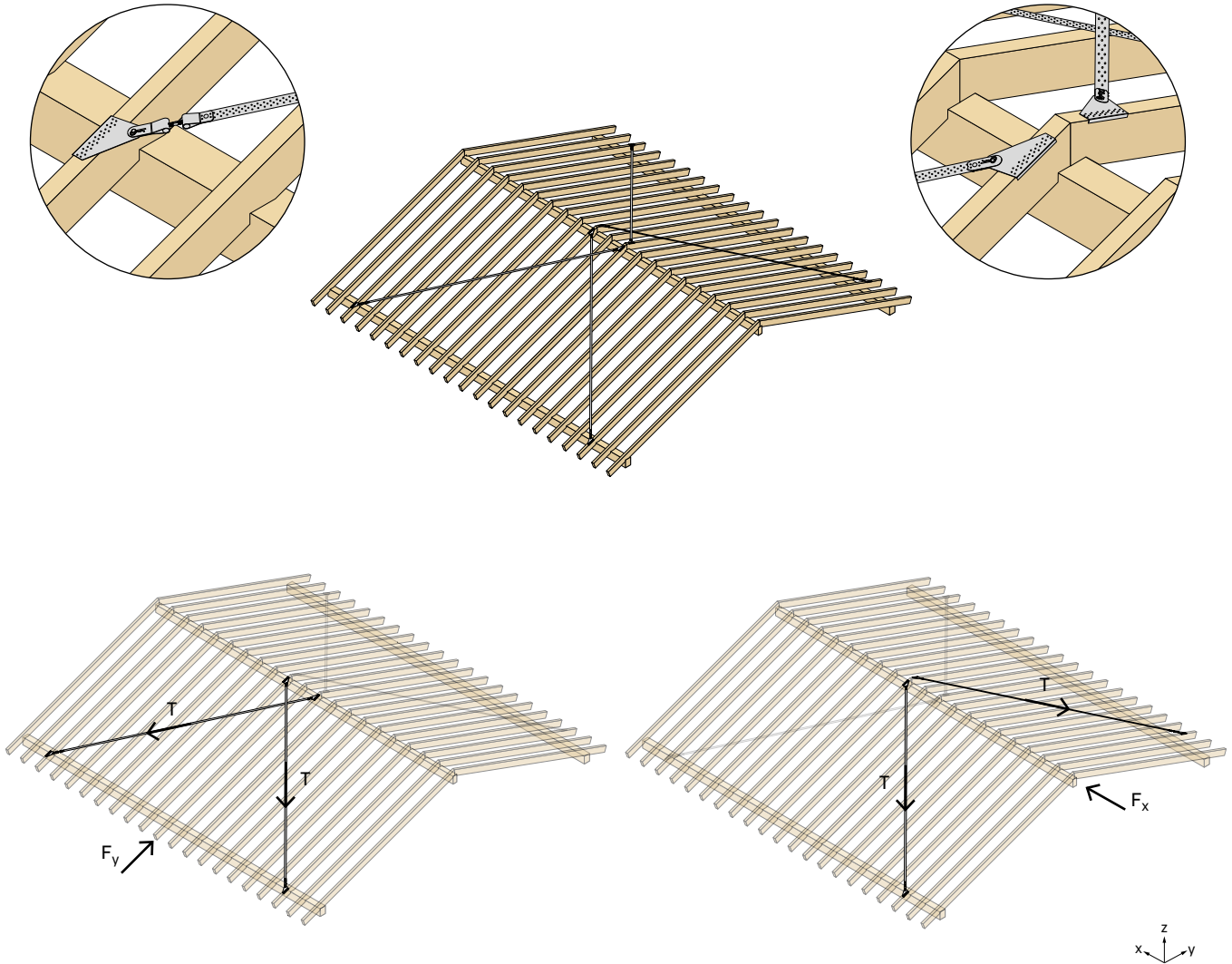


Use the tensioner to regulate the length of the bracing system.

APPLICATION | ROOF BRACING

CLIPFIX60

To stabilise the roof against wind and seismic actions, LBB perforated steel straps can be installed crosswise. As they work only in tension, they must be installed in pairs between the main members of the structural frame and secured at the ends with end plates. The straps must be tensioned using CLIPFIX60 to prevent displacement of the principal rafters under load. It is also important to correctly design the connection at the base of the principal rafters, avoiding tensile stresses perpendicular to the wood grain.



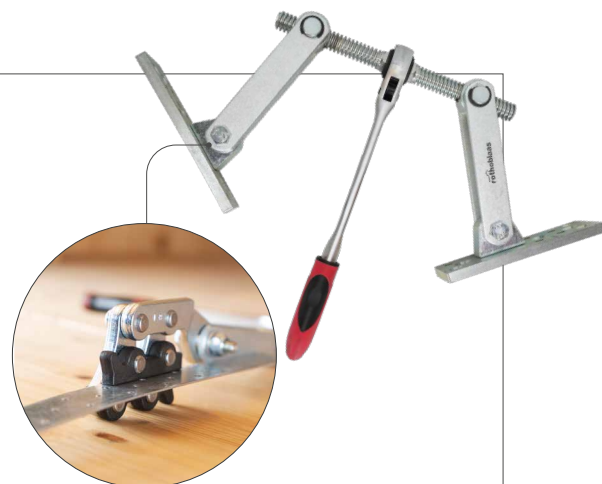
GEKO PANEL PULLER

The perforated steel straps can also be tensioned using GEKO combined with the CLAMP1 accessory.

CODE	description	pcs
GEKO	panel puller	1

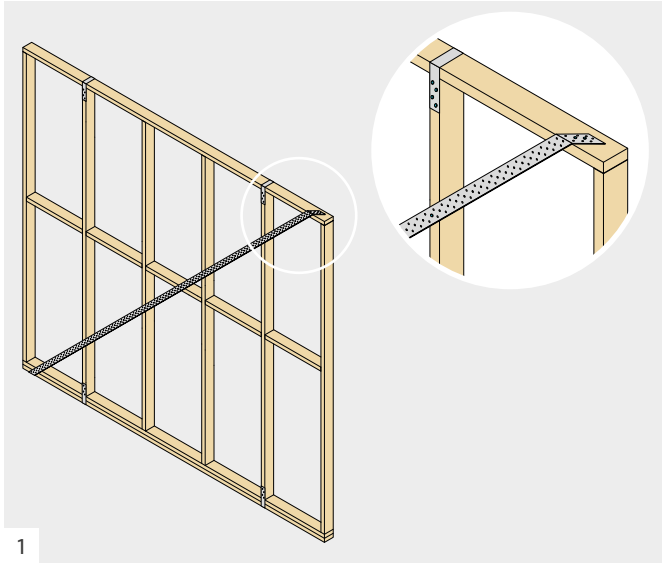
CODE	description	pcs
GEKOP	2 3/8" x 6 1/4" zinc plated spare plates	1
CLAMP1	ratchet for perforated strap	1

For further details, see the "TOOLS FOR TIMBER CONSTRUCTION" catalogue, available in the "Catalogues" section of the website www.rothoblaas.com.

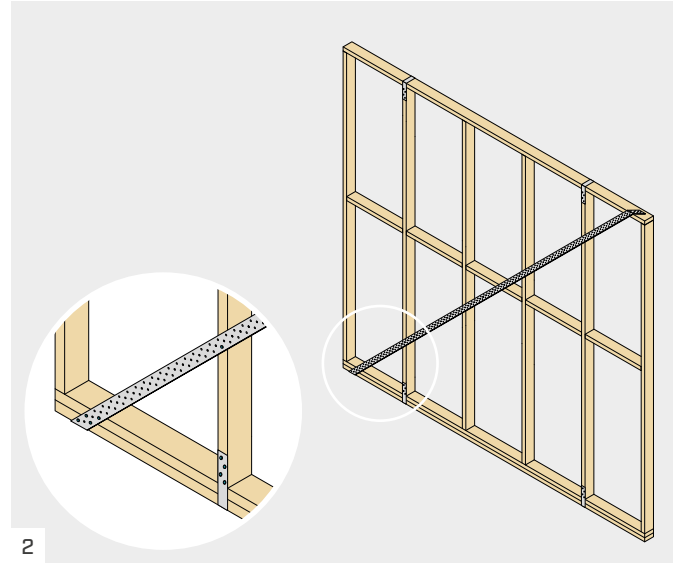


APPLICATION | WALL BRACING

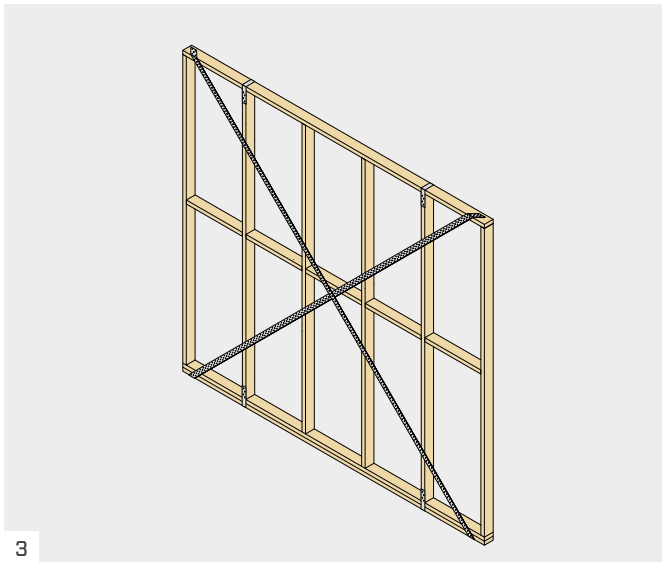
CLIPTIE40



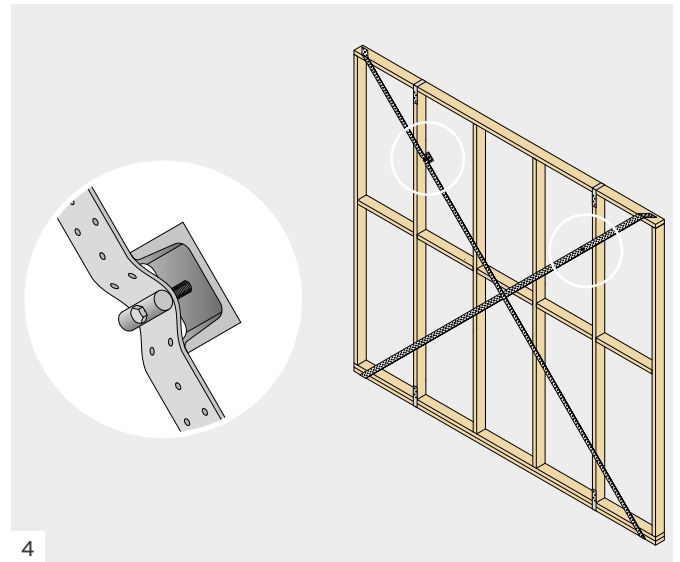
1 Position the strap at an inclination between 30° and 60° and secure it to the top rail.



2 Secure the strap to the bottom rail.



3 Repeat the previous operations to secure the second strap.



4 Apply CLIPTIE40 to each strap at the Ø0.26 holes (present every 3 feet) and tension the straps evenly.

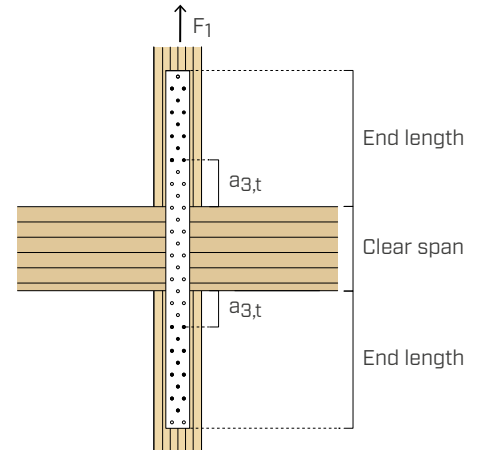
Tension should be gradually and evenly applied to both straps, in order to prevent deformation of the timber elements caused by excessive tension on one of the tensioners. Once tensioned, the strap should be secured to the intermediate studs.

STRUCTURAL VALUES | TIMBER-TO-TIMBER | F₁

CONNECTOR SHEAR RESISTANCE

For the strength F_v of the LBA nails, refer to the calculator provided in the product webpage or use "TIMBER SCREWS AND DECK FASTENING" catalogue.

Also, Allowable strength values for some common use of product is provided below:



type	Ga.	DF/SP		SPF/HF		T _{ASD} ⁽²⁾⁽³⁾ [lbf]
		fasteners pcs. - LBA Ø x L [in]	end length ⁽¹⁾ [in]	fasteners pcs. - LBA Ø x L [in]	end length ⁽¹⁾ [in]	
LBB1225	18	10 - Ø 0.157 x 2 3/7	5 1/8	10 - Ø 0.157 x 2 3/7	6	1720
LBB1240	18	10 - Ø 0.157 x 2 3/8	5 1/8	12 - Ø 0.157 x 2 3/8	5 1/8	2064
LBB1260	18	16 - Ø 0.157 x 2 3/8	4 1/3	18 - Ø 0.157 x 2 3/8	5 1/8	3096
LBB1280	18	20 - Ø 0.157 x 2 3/8	4 1/3	24 - Ø 0.157 x 2 3/8	5 1/8	4127
LBB3040	11	20 - Ø 0.157 x 2 3/8	6 2/3	26 - Ø 0.157 x 2 3/8	8 1/4	5159

⁽¹⁾ Ensure minimum edge distance $a_{3,t} = 1.57"$ is satisfied.

⁽²⁾ $C_d = 1.6$ has been considered in this table to account for temporarily uplift load.

⁽³⁾ The tensile strength of the system T_{ASD} is the minimum between the $T_{ASD,steel}$ (plate side tensile strength) and $T_{ASD,timber}$ (shear resistance of the connectors used for fastening).

GENERAL PRINCIPLES

- Structural values are calculated according to NDS2024.
- Dimensioning and verification of the timber elements must be carried out separately.
- It is recommended to place the connectors symmetrically with respect to the load direction.