# **CLT AND MASS TIMBER**

Solutions to design and build with solid wood panel systems

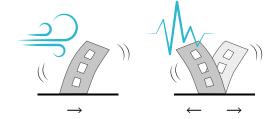


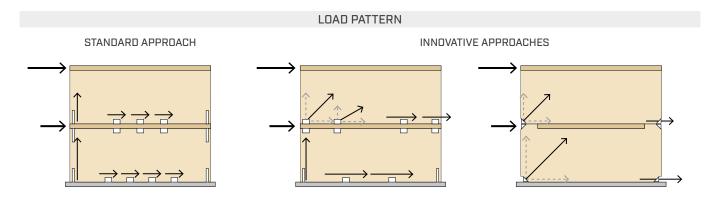
## TIMBER BUILDINGS

#### HORIZONTAL LOADS

During the design phase of a building its reaction to horizontal and vertical actions such as, **wind** and/or **earthquakes** must be considered.

Horizontal actions can be schematised as loads acting on the floor levels. To guarantee the adequate seismic performance of timber buildings and avoid all the possible failure modes, it is fundamental to design all the connection systems correctly.

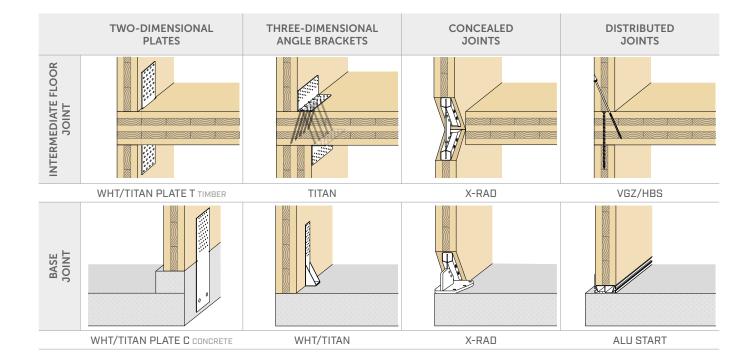




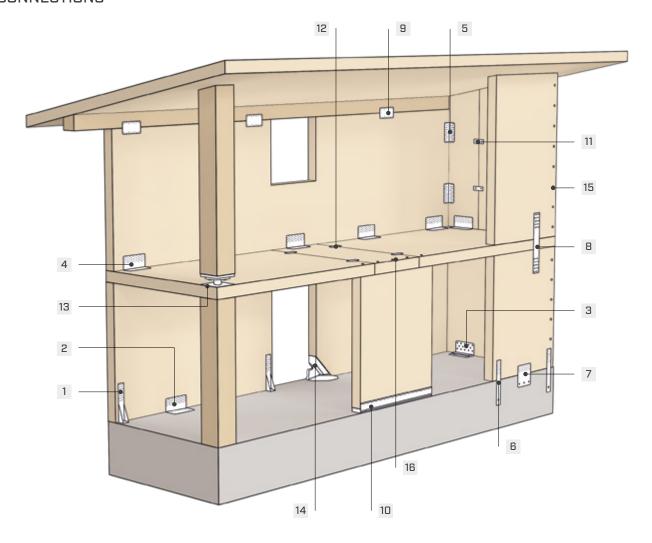
Horizontal loads acting at the floor level introduce shear and tension forces on the structural elements of the building; these forces must be absorbed by an effective connection system. A complete range of joints for walls and buildings also allows for innovative design approaches.

#### THE RIGHT SOLUTION FOR EVERY JOINT

The same structural problem can be solved using different alternative connection systems.



#### CONNECTIONS



#### ANGLE BRACKETS

They are used for both timber-to-timber and timber-to-concrete connections. Depending on the specific model, they can be used to transfer tensile and shear forces, or a combination of both forces. The addition of special washers improves their performance and versatility.

- 1 WHT
- 2 TITAN N
- 3 TITAN S + WASHER
- 4 TITAN V
- 5 TITAN F

#### TWO-DIMENSIONAL PLATES

They allow the transfer of both tensile and shear forces; depending on the type used, they are suitable for both timber-to-timber and timber-to-concrete connections. Using fasteners with different diameters means that a wide range of strengths can be covered.

- 6 WHT PLATE C
- 7 TITAN PLATE C
- 8 WHT PLATE T
- TITAN PLATE T

#### SPECIAL CONNECTORS

A new range of simple solutions are available to solve complex problems from small residential buildings to multi-storey buildings. These solutions offer the opportunity for designers and builders to break the mould and find innovative solutions.

- 10 ALU START
- 11 SLOT
- 12 SLOT
- 13 SPIDER/PILLAR
- 14 X-RAD

#### **SELF-DRILLING SCREWS**

The self-tapping product range of screws that provide an optimal solution to satisfy the design requirements regardless of the type of external action.

- 15 HBS/TBS screws
- 16 VGZ screws

## **SPIDER**



## CONNECTION AND REINFORCEMENT SYSTEM FOR COLUMNS AND FLOORS



#### **MULTI-STOREY BUILDINGS**

It allows the construction of multi-storey buildings with a column-to-floor structure. Certified, calculated and optimised for glulam, LVL, steel and reinforced concrete columns. New architectural and structural horizons.

#### COLUMN-TO-COLUMN

The steel core of the system prevents the CLT panels from being crushed and allows more than 5000 kN of vertical load to be transferred between the columns.

#### REINFORCEMENT SYSTEM FOR CLT

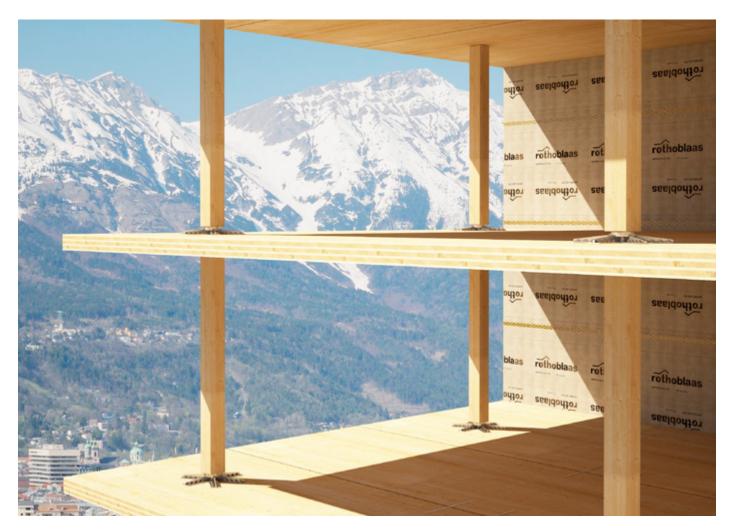
The arms of the system ensure the punching shear reinforcement of the CLT panels, allowing exceptional shear strength values. Column spacing greater than 7,0 x 7,0 m structural mesh.

FOCUS	multi-storey buildings
COLUMNS	from 200 x 200 mm to 280 x 280 mm
STRUCTURAL MESH	greater than 7,0 x 7,0 m
STRENGTH	R <sub>k</sub> compression greater than 5000 kN

#### **VIDEO**

Scan the QR Code and watch the video on our YouTube channel





## **I** PILLAR

## COLUMN-TO-FLOOR CONNECTION SYSTEM







FOCUS	multi-storey buildings
COLUMNS	from 200 x 200 mm to 280 x 280 mm
STRUCTURAL MESH	up to 3,5 x 7,0 m
STRENGTH	R <sub>k</sub> compression greater than 5000 kN







## **I** XEPOX

## TWO COMPONENTS EPOXY ADHESIVE



FOCUS	structural gluing
TYPES	joints with rods, joints with perforated or sandblasted plates
RANGE	5 products to adapt to all installation requirements
APPLICATION	applicable by spray, brush, percolation or spatula depending on viscosity







## **VGU**

#### 45° WASHER FOR VGS



FOCUS	45° steel-to-timber joints
PLATE THICKNESS	from 3,0 to 20,0 mm
PLATE HOLES	slotted
WASHER HOLE	9,0   11,0   13,0 mm



## X-RAD

## X-RAD CONNECTION SYSTEM









#### **REVOLUTIONARY**

A radical innovation in timber constructions. It redefines the standard for cutting, transportation, assembling and resistance of the panels. X-RAD offers excellent static and seismic performance.

#### **PATENTED**

Handling and assembly of ultra-rapid CLT walls and floors. Drastic reduction of assembly time, construction site errors and risk of injury.

#### STRUCTURAL SAFETY

Ideal connection system for seismic design with tested and certified ductility values (CE - ETA-15/0632).

FOCUS	complete construction system for CLT buildings
COMPONENTS	X-ONE, X-PLATE, X-SEAL
STRENGTH	in all directions in the panel plane
ADVANTAGES	complete, simple, fast and accurate

#### **VIDEO**

Scan the QR Code and watch the video on our YouTube channel





## I X-ONE

#### UNIVERSAL CONNECTOR FOR CLT PANELS







FOCUS	CLT walls and floors fastening
CLT PANELS	from 100 to 200 mm
STRENGTH	R <sub>K</sub> up to 280 kN
FASTENERS	X-VGS





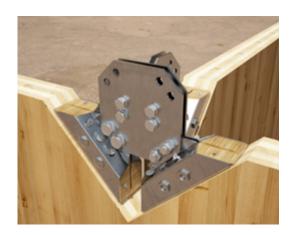


## **X-PLATE**

#### CONNECTION PLATES FOR X-RAD SYSTEM



FOCUS	connection between X-ONE connectors in timber-to-timber and timber-to-concrete configurations
CLT PANELS	from 100 to 200 mm
THICKNESS	5,0   6,0 mm
FASTENERS	X-BOLT, MGS, EPO-FIX PLUS







## X-SEAL

## COMPONENT FOR THERMAL AND ACOUSTIC INSULATION OF THE X-RAD DETAIL



FOCUS	X-RAD node thermal acoustic insulation
CLT PANELS	from 100 to 200 mm
MATERIAL	rock wool and aluminium coating
PERFORMANCE	acoustic behaviour tested in the Flanksound Project



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## **ALU START**







#### CE MARK ACCORDING TO ETA

The profile is capable of transferring shear, tensile and compressive forces into the foundation. The strengths are tested, calculated and certified according to specific ETA.

#### RISE FROM THE FOUNDATION

The profile allows to eliminates contact between the timber panels (CLT or TIMBER FRAME) and the concrete substructure. Excellent durability of the building connection to the ground.

#### SUPPORT SURFACE LEVELLING

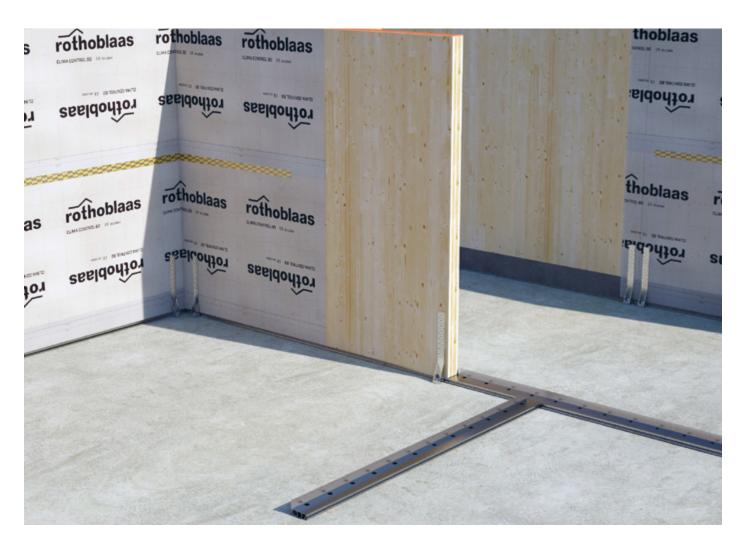
Thanks to the special assembly templates, the supporting surface level is easy to adjust. The "levelling" of the entire building is simple, precise and fast.

FOCUS	raising and levelling of CLT panels
WIDTH	from 100 to 160 mm
STRENGTH	in all stress directions
FASTENERS	LBA, LBS, SKR-E, AB1, VIN-FIX PRO, EPO-FIX PLUS

#### **VIDEO**

Scan the QR Code and watch the video on our YouTube channel





## I PROTECT

## SELF-ADHESIVE BUTYL BAND, CAN BE PLASTERED





FOCUS	waterproofing and sealing of ground connection and window/door frames
MATERIAL	adhesive butyl compound with polypropylene (PP) fabric support, and release liner
DIMENSIONS	330 mm x 10 m   500 mm x 10 m
THICKNESS	1 mm



# EN 13707 EN 13969 EN 14967

## I GROUND BAND

## SELF-ADHESIVE BITUMINOUS MEMBRANE



FOCUS	self-sealing and self-adhesive
MATERIAL	bituminous compound spread on high density polyethylene film (PE) and release liner
DIMENSIONS	200 mm x 20 m   500 mm x 20 m   1000 mm x 20 m
THICKNESS	1,5 mm



## **I CONNECT BAND**

## SEALING WALL BARRIER FOR IRREGULAR **FOUNDATIONS**





20 13

FOCUS	waterproofing of ground connection with irregular surfaces
MATERIAL	EPDM with self-expanding tapes made of impregnated polyurethane foam
DIMENSIONS	100 mm x 25 m   250 mm x 25 m

Get the most out of our solutions, thanks to the support of our highly qualified **TECHNICAL CONSULTANTS**, always available to designers, technicians and installers.

www.rothoblaas.com/technical-support





## I TITAN S

#### ANGLE BRACKET FOR SHEAR AND TENSILE FORCES





#### HOLES FOR HBS PLATE

Fastening with HBS PLATE Ø8 screws using a screwdriver makes installation easy and fast and allows you to work safely and comfortably.

#### 85 kN SHEAR

Exceptional shear strengths. Up to 85,9 kN on concrete (with TCW washer). Up to 60,0 kN on timber.

#### 75 kN TENSILE

On concrete, the TCS angle bracket with TCW washer provides excellent tensile strength.  $R_{1,k}$  up to 75,9 kN characteristic values.

FOCUS	shear and tensile joints	
HEIGHT	.30 mm	
THICKNESS	3,0 mm	
FASTENERS	HBS PLATE, VIN-FIX PRO, EPO-FIX PLUS, SKR, AB1	



## I HBS PLATE EVO

#### PAN HEAD SCREW FOR PLATES











FOCUS	corrosiveness class C4	
HEAD	shoulder for plate	
DIAMETER	from 5,0 to 10,0 mm	
LENGTH	from 40 to 180 mm	









## **LBS**

#### ROUND HEAD SCREW FOR PLATES



FOCUS	screw for perforated plates	
HEAD	round with cylindrical underhead	
DIAMETER	5,0   7,0 mm	
LENGTH	from 25 to 100 mm	











## **I** EPO-FIX PLUS

HIGH-PERFORMANCE EPOXY CHEMICAL **ANCHOR** 



FOCUS	cracked, non-cracked concrete and seismic category C2	
MATERIAL	epoxy resin	
FORMAT	385 ml	
ADVANTAGES	suitable for dry, wet concrete or submerged holes. High mechanical performance	



## WHT PLATE C CONCRETE

## PLATES FOR TENSILE LOADS





#### TWO VERSIONS

WHT PLATE 440, ideal for framed structures (platform frame); WHT PLATE 540, ideal for CLT panel structures (Cross Laminated Timber).

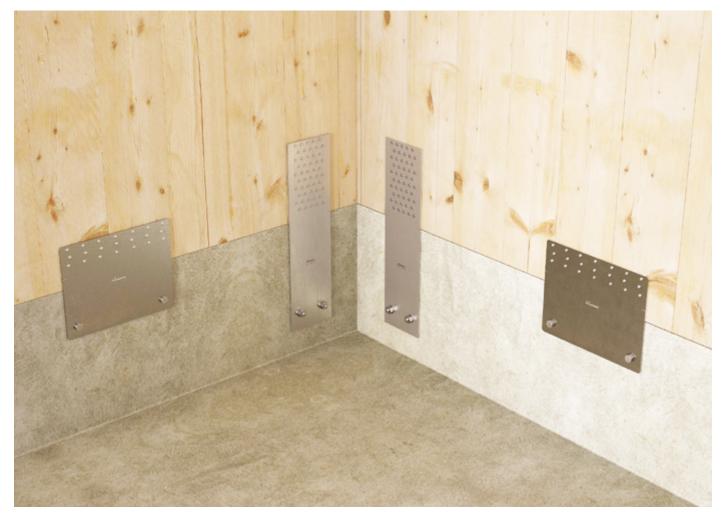
#### **PLANAR JOINTS**

Ideal for realizing distributed connections under tensile stress between the CLT (Cross Laminated Timber) panels and framed structures (platform frame) to and the concrete understructure.

#### QUALITY

The high tensile strength allows to optimize the number of plates installed, ensuring remarkable time saving. Values calculated and certified according to CE marking.

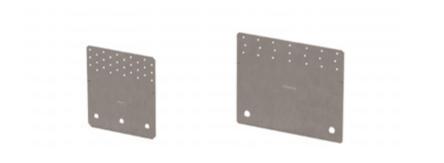
FOCUS	tensile joints on concrete	
HEIGHT	440   540 mm	
THICKNESS	3,0 mm	
FASTENERS	LBA, LBS, SKR, VIN-FIX PRO, EPO-FIX PLUS	



## I TITAN PLATE C CONCRETE

## PLATES FOR SHEAR LOADS





FOCUS	shear joints on concrete	
HEIGHT	200   300 mm	
THICKNESS	3.0   4.0 mm	
FASTENERS	LBA, LBS, VIN-FIX PRO, EPO-FIX PLUS, AB1, SKR	



## SKR-E

## SCREW ANCHOR FOR CONCRETE CE1



FOCUS	screw for concrete	
HEAD	hexagonal head with mock washer	
DIAMETER	from 8 to 16 mm	
LENGTH	from 80 to 290 mm	

## AB1

## **HEAVY DUTY EXPANSION ANCHOR CE1**



FOCUS	cracked, non-cracked concrete and seismic category C1 and C2	
DIAMETER	rom M8 to M16	
LENGTH	from 75 to 180 mm	
ADVANTAGES	through fastening with torque-controlled expansion	







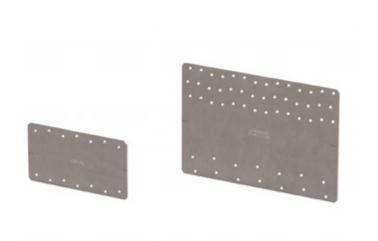




## TITAN PLATE T TIMBER

## PLATES FOR SHEAR LOADS





#### TIMBER-TO-TIMBER

These plates are ideal for the flat connection of the timber platform beams to load-bearing timber panels.

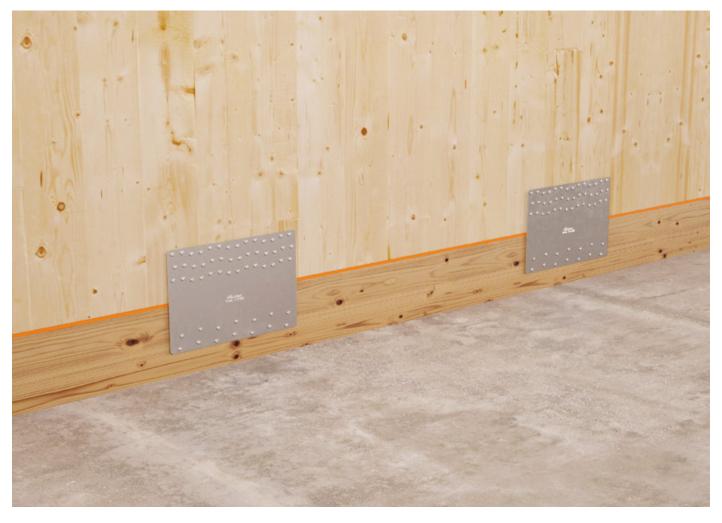
#### SHEAR PLATES

Shear strengths calculated with both partial and total fastening for solid timber, glulam and CLT.

#### CALCULATED AND CERTIFIED

CE marking according to European standard EN 14545. Available in 2 versions. TTP300 version ideal for CLT.

FOCUS	timber-to-timber shear joint	
HEIGHT	200   300 mm	
THICKNESS	3,0 mm	
FASTENERS	LBA, LBS	



## I TITAN N

#### ANGLE BRACKET FOR SHEAR AND TENSILE FORCES





FOCUS	shear and tensile joints	
HEIGHT	20 mm	
THICKNESS	3,0 mm	
FASTENERS	LBA, LBS, VIN-FIX PRO, EPO-FIX PLUS, SKR, AB1	



## **B**-s1, d0



## **BARRIER ALU**

## REFLECTIVE AIR VAPOUR BARRIER



FOCUS	waterproof, it completely blocks the passage of vapour and reflects heat internally
MASS PER UNIT AREA	from 100 to 200 g/m <sup>2</sup>
WATER VAPOUR TRANSMISSION	versions from Sd > 150 to Sd > 1500 m
SPECIAL	3,0 m versions with reaction to fire class B-s1, d0



# **C E** N 13984

## VAPORVLIES

## VAPOUR STOP CONTROL LAYER



FOCUS	it controls vapour and is easy to install thanks to its transparency
MASS PER UNIT AREA	from 100 to 120 g/m <sup>2</sup>
WATER VAPOUR TRANSMISSION	versions from Sd = 26 m to Sd = 30 m
SPECIAL	3,0 m versions



## SLOT

#### CONNECTOR FOR STRUCTURAL PANELS









#### MONOLITHIC PANEL

It allows very high stiff joints and can transfer exceptional shear stresses between the panels. Ideal for walls and floors.

#### **HANDY**

The wedge shape makes the insertion easy into the groove. The honeycomb geometry maximizes the resistance. Made of aluminium, it is light and easy to handle.

#### FAST INSTALLATION

Possibility of assembly with inclined auxiliary screws that make tightening between panels easy. Excellent performance: one connector can replace up to 60 screws with Ø6.

FOCUS	walls and floors joints
PANELS	thickness from 90 to 160 mm
STRENGTH	R <sub>v,k</sub> from 35 to 120 kN
FASTENERS	HBS

#### **VIDEO**

Scan the QR Code and watch the video on our YouTube channel





## I HBS EVO

#### COUNTERSUNK SCREW











FOCUS	corrosiveness class C4
HEAD	countersunk with under-head ribs
DIAMETER	from 5,0 to 8,0 mm
LENGTH	from 80 to 320 mm



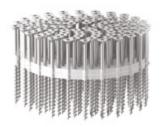






## I HBS COIL

## HBS BOUND SCREWS



FOCUS	HBS bound screw
HEAD	countersunk with under-head ribs
DIAMETER	from 4,0 to 6,0 mm
LENGTH	from 30 to 80 mm









## **VGZ**

#### FULL THREAD SCREW WITH CYLINDRICAL HEAD



FOCUS	45° connections, reinforcements and couplings
HEAD	cylindrical, countersunk
DIAMETER	5,3   5,6   7,0   9,0   11,0 mm
LENGTH	from 80 to 600 mm



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## I TITAN V

## ANGLE BRACKET FOR SHEAR AND TENSILE FORCES





FOCUS	shear and tensile joints
HEIGHT	120 mm
THICKNESS	4,0 mm
FASTENERS	LBA, LBS, VGS



## WHT

## ANGLE BRACKET FOR TENSILE LOADS





FOCUS	tensile joints
HEIGHT	from 340 to 740 mm
THICKNESS	3,0 mm
FASTENERS	LBA, LBS, VIN-FIX PRO, EPO-FIX PLUS



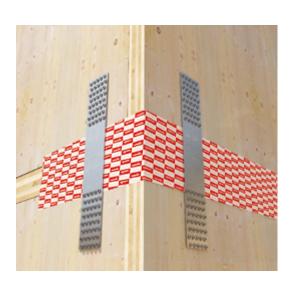
## WHT PLATE T TIMBER

## PLATES FOR TENSILE LOADS





FOCUS	tensile joints on timber
HEIGHT	from 600 to 820 mm
THICKNESS	from 3,0 to 5,0 mm
FASTENERS	HBS PLATE, HBS PLATE EVO

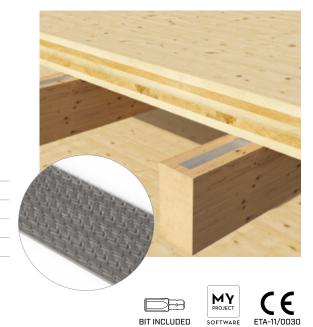


## **I SHARP METAL**

## STEEL HOOKED PLATES



FOCUS	timber-to-timber shear joint
LENGTH	1,2 and 5 m
THICKNESS	0,75 mm
FASTENERS	HBS, TBS, TBS MAX



## **TBS**

FLANGE HEAD SCREW



FOCUS	screw with built-in washer
HEAD	flange
DIAMETER	from 6,0 to 10,0 mm
LENGTH	from 40 to 520 mm



## I HBS HARDWOOD

COUNTERSUNK SCREW FOR HARDWOODS



FOCUS	hardwood screw
HEAD	60° taper with under-head ribs
DIAMETER	7,0 and 9,0 mm
LENGTH	from 80 to 240 mm









## **ENERGY EFFICIENCY IN CONSTRUCTION**

In recent years, there have been many innovations in the field of energy efficiency for timber house construction: the passive house has become a proven construction concept and can be applied by anyone, anywhere. At Rothoblaas we believe in developing passive architecture and invest in innovative solutions in order to sustain the growth of the sector and to offer quality products for the most ambitious projects.

The housing comfort of a timber building is defined above all by its airtightness and wind-proofing. The effective inner sealing layer ensures the airtightness of the envelope; the outer layer protects the insulation from the weather.



#### **FIRE RESISTANCE**

Fire resistance indicates the ability of a building element to maintain structural stability in a fire condition for a given period of time, while retaining the ability to compartmentalise smoke and hot gases generated by combustion. The fire resistance rating (REI) is expressed in minutes, during which resistance under the action of flames must be ensured: 15, 20, 30, 45, 60, 90, 120, 180, 240 and 360 minutes (e.g. REI 120). The characteristics that must be maintained for this time are the bearing capacity (R), the resistance to flames, gases and hot vapours of the part not directly exposed to fire (E) and the thermal insulation (I), i.e. the ability of the element to limit the transmission of heat to the side not exposed to fire.

# R load bearing ability of the building element to maintain structural stability under the action of fire E tightness ability of the construction element not to let flames, vapours and hot gases pass through to the side not exposed to fire ability of the construction element to limit heat transmission to the side not exposed to fire

#### **Environmental Product Declaration**

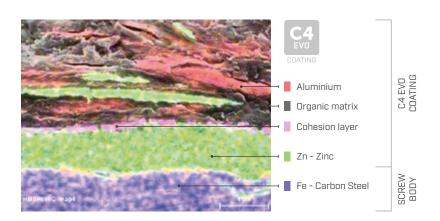
Environmental sustainability is an increasingly central issue in the construction sector and it has been taken into account in our company for a long time. This is why we have launched the internal **EPD** project, which culminates in declarations that quantify the environmental impact of a product's life cycle in order to allow a comparison between products having the same function. This is a voluntary initiative, not obligatory by law, which we have decided to implement firstly to know the environmental impact of our products, and secondly to allow the designer to have an accurate idea of the ecological footprint of the building he is constructing.



#### **C4 EVO COATING**

is a multilayer coating composed of:

- An external functional layer of epoxy matrix with aluminium flakes of around 15-20 µm, which gives the coating optimum resistance to mechanical and thermal stresses. The aluminium flakes also serve, when required, as sacrificial cathodes for the metal base of the screw.
- A central binding layer for the external functional layer.
- A internal layer of around 4 μm zinc microns which acts as an additional layer of corrosion resistance.



## I FLEXI BAND

#### UNIVERSAL SINGLE-SIDED HIGH-ADHESIVE TAPE







FOCUS	sealing of membranes and construction elements both indoor and outdoor, even on damp and porous surfaces
MATERIAL	polyethylene (PE) support, acrylic glue and reinforcing grid with release liner
DIMENSIONS	60 mm x 25 m   100 mm x 25 m   50/50 mm x 25 m 75/75 mm x 25 m
ADVANTAGES	very high adhesion on the most common building materials and fingerlifts in the 100 and 150 mm versions



# CERTIFIED COMPONENT

## **I SPEEDY BAND**

# UNIVERSAL SINGLE-SIDED TAPE WITHOUT RELEASE LAYER



FOCUS	sealing of membranes and construction elements both indoor and outdoor
MATERIAL	polyethylene (PE) support with acrylic glue and reinforcing grid
DIMENSIONS	60 mm x 25 m   300 mm x 25 m
ADVANTAGES	no separation liner to reduce waste and time



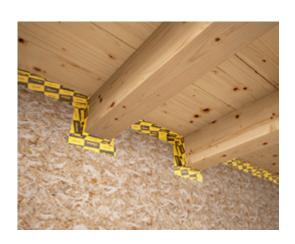
# COMPOSES

## **I SEAL BAND**

#### SINGLE-SIDED TAPE FOR INDOOR USE



FOCUS	sealing of membranes and construction elements in indoor environment
MATERIAL	hydrorepellant impregnated paper support, acrylic glue and release liner
DIMENSIONS	60 mm x 40 m
ADVANTAGES	available in version with pre-cut liner to facilitate placement in corners



AIR-TIGHTNESS AND WATERPROOFING are synonyms of building quality, durability and housing comfort. Discover our solutions on our website or request the catalogue from your trusted agent. www.rothoblaas.com



## I CLIMA CONTROL

#### MEMBRANE WITH VARIABLE DIFFUSION





FOCUS	waterproof, it regulates the passage of vapour thanks to the variable Sd
MASS PER UNIT AREA	from 80 to 160 g/m <sup>2</sup>
WATER VAPOUR TRANSMISSION	variable diffusion, between Sd = 0,2 and Sd = 5 m
SPECIAL	membrane with variable diffusion











## **I TRASPIR**

## HIGH PERFORMANCE BREATHABLE



FOCUS	waterproof, it allows the passage of vapour
MASS PER UNIT AREA	from 75 to 270 g/m <sup>2</sup>
WATER VAPOUR TRANSMISSION	Sd < 0,05 m
SPECIAL	versions with SINTEF, CSTB, BBA certification



# B-s1, d0 TRASPIR EVO 90 TRASPIR EVO 300

**CE** EN 13859-1/2

## I TRASPIR EVO

## HIGHLY BREATHABLE MONOLITHIC MEMBRANE



FOCUS	highly waterproof, it allows the passage of vapour
MASS PER UNIT AREA	from 90 to 360 g/m <sup>2</sup>
WATER VAPOUR TRANSMISSION	Sd < 0,2 m
SPECIAL	functional monolithic layer (EVO) for excellent durability



## XYLOFON

# HIGH PERFORMANCE RESILIENT SOUNDPROOFING PROFILE









MATERIAL	monolithic polyurethane mixture from 35 to 90 shore
THICKNESS	6,0 mm
DIMENSIONS	80 to 140 mm strips
APPLICABLE LINEAR LOAD	from 2,0 to 630 kN/m
SPECIAL	Flanksound Project research project with experimental results on CLT



## **I SILENT FLOOR**

## RESILIENT UNDERSCREED FOIL



FIELDS OF USE	underscreed
MATERIAL	elastoplastomeric bitumen coupled with polyester felt
ROLL DIMENSIONS	5,0 mm x 1,05 m x 10 m
DYNAMIC STIFFNESS S'	27 MN/m³
ΔLW *	28 dB

<sup>\*</sup> The load considered is  $m'=125 \text{ kg/m}^2$ .

## **I SILENT STEP**

# SUBSTRATE MADE OF POLYETHYLENE SERVING AS A VAPOUR BARRIER



FIELDS OF USE	underfloor
MATERIAL	NPE polyethylene with PE film
ROLL DIMENSIONS	2,0 mm x 1,0 m x 15 m
MASS PER UNIT AREA	100 g/m <sup>2</sup>
PROTECTION FROM RISING DAMP (Sd)	> 75 m



Our SOUNDPROOFING SOLUTIONS guarantee the highest standards in terms of soundproofing and housing comfort. Discover them on our website or ask your trusted agent for the catalogue.

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## VGZ HARDWOOD

#### FULLY THREADED SCREW FOR HARDWOODS

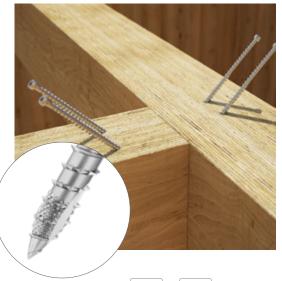








FOCUS	fastener for hardwood
HEAD	cylindrical, countersunk
DIAMETER	7,0   9,0 mm
LENGTH	from 140 to 320 mm









## ALUMAXI

## CONCEALED BRACKET WITH AND WITHOUT HOLES



FOCUS	concealed joints
TIMBER SECTIONS	from 160 x 432 mm to 280 x 1200 mm
STRENGTH	R <sub>v,k</sub> up to 345 kN
FASTENERS	LBA, LBS, SBD, STA, VIN-FIX PRO



# PROJECT



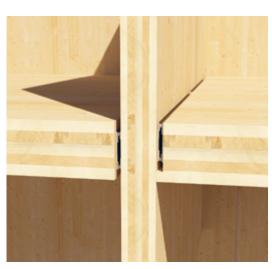


## LOCK T TIMBER

## CONCEALED HOOK TIMBER-TO-TIMBER CONNECTOR



FOCUS	joints that can be disassembled
TIMBER SECTIONS	from 35 x 80 mm to 200 x 440 mm
STRENGTH	R <sub>v,k</sub> up to 65 kN
FASTENERS	LBS



## I DISC FLAT

## REMOVABLE CONCEALED CONNECTOR







FOCUS	universal joints
TIMBER SECTIONS	from 100 x 100 mm to 280 x 280 mm
STRENGTH	R <sub>v</sub> over 60 kN, R <sub>ax</sub> over 100 kN
FASTENERS	LBS, KOS







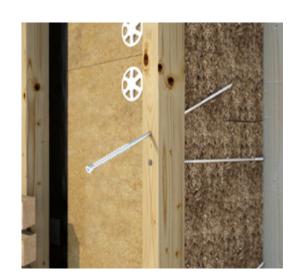


## DGZ

## DOUBLE THREADED SCREW FOR INSULATION LAYER



FOCUS	insulation package fasteners
HEAD	cylindrical, countersunk
DIAMETER	7,0   9,0 mm
LENGTH	from 220 to 520 mm



# BIT INCLUDED





## CTC

#### CONNECTOR FOR TIMBER-TO-CONCRETE FLOORS



FOCUS	CE marking, timber-to-concrete
HEAD	cylindrical, countersunk
DIAMETER	7,0   9,0 mm
LENGTH	160   240 mm



## **WASP**

## ANCHOR FOR TRANSPORTING PREFABRICATED **ELEMENTS AND CLT PANELS**



FOCUS	can be used for axial and transversal loads
MATERIAL	very high strength bright zinc plated carbon steel
DIMENSIONS	64 x 185 mm
ADVANTAGES	maximum capacity 1300 kg



## **GEKO**

PANEL PULLER



FOCUS	thanks to the fastening screws, GEKO can be installed quickly and easily. Its use leaves minimal traces on the element
MATERIAL	zinc plated steel plates. Zinc plated cast steel ratchet with ergonomic PVC handle
ADVANTAGES	the 360° rotating plates can be fixed in any position for easy application in all situations



## **CAP SUPER**

#### ROOFING SYSTEM FOR CONSTRUCTION SITES





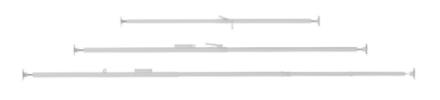
FOCUS	expandable tarpaulin system
DIMENSIONS	from 8,0x 8,0 m (extendable every metre)
MASS PER UNIT AREA	670 g/m <sup>2</sup>
THICKNESS	0,5 mm





## **GIRAFFE**

#### ASSEMBLY SUPPORT



FOCUS	precise length adjustment by means of the side handle
MATERIAL	GIR3000 and GIR4000 in zinc plated steel GIR2200 and GIR6000 in extruded aluminium 6060
DIMENSIONS	2200-3000-4000-6000 mm
ADVANTAGES	GIR3000 equipped with quick adjustment with automatic fastener



## **CONTAINER**

## PORTABLE STORAGE FOR THE WORKSITE



SIZES	up to 2,44 x 2,20 x 2,26 m
CAPACITY	450 - 630 kg
OPTIONAL EQUIPMENT	electrical system, shelving unit, tilting table
VERSIONS	purchasable / rentable



## I HERMETIC FOAM

# HIGH PERFORMING SOUNDPROOFING SEALING FOAM



FOCUS	elastic sealing for regular and irregular joints on the most common materials
MATERIAL	closed-cell polyurethane compound with high elasticity
FORMAT	750 ml
ADVANTAGES	tested for noise reduction up to 60 dB







## **S50**

## HIGHLY-RESISTANT POST BASE







FOCUS	exceptional compression strength
COLUMNS	starting from 120 x 120 mm
HEIGHT	120   180   240 mm
FASTENERS	HBS PLATE EVO, SKR, VIN-FIX PRO



## **I** ALU TERRACE

## ALUMINIUM PROFILE FOR PATIOS



FOCUS	excellent durability and strength
SECTIONS	53 x 30 mm and 60 x 50 mm
THICKNESS	1,8 mm   2,2 mm

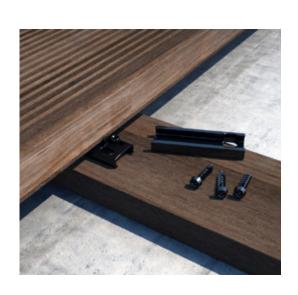


## TERRALOCK

## CONNECTOR FOR DECKING



FOCUS	extremely versatile joints and grooves
CLADDING	aluminium coating, grey, black
BOARDS	without grooving
JOINTS	from 2,0 to 10,0 mm
FASTENERS	KKTX520A4, KKAN430, KKF4520



## VGU PLATE T TIMBER

## PLATE FOR TENSILE LOADS





FOCUS	beam-column moment joints
TIMBER SECTIONS	from 120 x 120 mm to 280 x 400 mm
MOMENT STRENGTH	M <sub>k</sub> up to 20 kNm
FASTENERS	VGU, VGS









## X10

#### **CROSS-SHAPED POST BASE**



FOCUS	concealed joints
COLUMNS	from 120 x 120 mm to 240 x 240 mm
HEIGHT	adjustable from 50 to 200 mm
FASTENERS	SBD, STA, XEPOX, VIN-FIX PRO



## **B**-s1, d0 TRASPIR EVO UV 210 TRASPIR COLOR EVO UV



## TRASPIR EVO UV

## HIGHLY BREATHABLE MONOLITHIC MEMBRANE **RESISTANT TO UV RAYS**



FOCUS	highly waterproof, it allows the passage of vapour
MASS PER UNIT AREA	from 90 to 300 g/m <sup>2</sup>
WATER VAPOUR TRANSMISSION	Sd < 0,2 m
SPECIAL	functional monolithic layer (EVO) for excellent durability on facades with open joints



## I TOWER XL



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CEN/TS UNI 16415:2013 11578:2015 A+C

## SUPPORT FOR LIFELINE ON CLT, CONCRETE AND AERATED CONCRETE ROOFS

FOCUS	support suitable for installation on flat and inclined surfaces for PATROL lifeline or as single point in combi- nation with AOS01
MATERIAL	S235JR zinc plated steel
FIELD OF USE	min. CLT structure 100 mm min. concrete structure 100 mm aerated concrete structure in combination with TRAPO on trapezoidal steel metal sheet min. 0,75 mm



EN 795:2012 C

CEN/TS 16415:2013

UNI 11578:2015 C

## I PATROL KIT





FOCUS	convenient kit including terminals, dissipators, intermediate and rope for the construction of a of 10-15 or 25 m lifeline
MATERIAL	1.4301 stainless steel grade AISI304 - EN-AW 6082 aluminium
FIELD OF USE	usable on TOWER, TOWER XL, SHIELD, SHIELD 2.0, COPPO supports



CLASS A2

EN 13374

ΕN 14122-3

## RAILING GUARD

#### **VERTICAL AND SLOPED RAILINGS**



FOCUS	fast and easy to assemble. Modular system that can meet any design requirement
MATERIAL	aluminium alloy
FIELD OF USE	flat fastening   vertical fastening   self-supporting



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## **WING**



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UNI 11578/A:2015

## ANCHOR POINT FOR WORK AT HEIGHT AND IN SUSPENSION



FOCUS	extremely robust and reliable. Ideal for rope suspension work and protection against falling from height
MATERIAL	S355J2 zinc plated steel (powder coating) or 1.4404-A4 stainless steel grade AISI 316
FIELD OF USE	min. CLT structure 100 mm min. timber structure 100 x 160 mm min. concrete structure 158 mm min. steel structure 5 mm



EN 795:2012 A

UNI 11578:2015 A

## I HOOK EVO 2.0





FOCUS	versatile fastening according to the type of tiles on the roof
MATERIAL	1.4301 stainless steel grade AISI304
FIELD OF USE	min. timber structure 80 x 100 mm min. concrete structure 120 mm



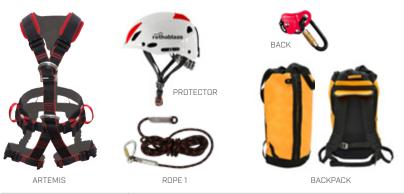
EN 361 EN 358 EN 813 EN 12277/A/C

EN 566 EN 795/B

EN 12841 A/B ANSI/ISEA Z359.15-2014

## PROFI

#### PROFESSIONAL WORKSITE KIT



equipped with professional accessories, it is suitable for **FOCUS** daily work at height



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#### **FASTENING**

Screws for timber | Plates and connectors | Anchors for concrete

#### AIRTIGHTNESS AND WATERPROOFING

Stops and barriers | Breathable | Sheaths | Tapes and profiles Sealants | Accessories

#### SOUNDPROOFING

Resilient profiles | Soundproofing layers | Sealants

#### **■ FALL PROTECTION**

Lifeline | Lifeline components | Single points | Collective protection and accesses | PPE | Fastening systems and accessories

#### **I TOOLS AND MACHINES**

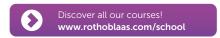
Carpentry tools | Measurement | Templates | Construction site protection | Transport and Lifting | Wood repair | Drill bits and cutters

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