

ALUMEGA

APPLICATION INSTRUCTIONS



HP



HVG



JVG

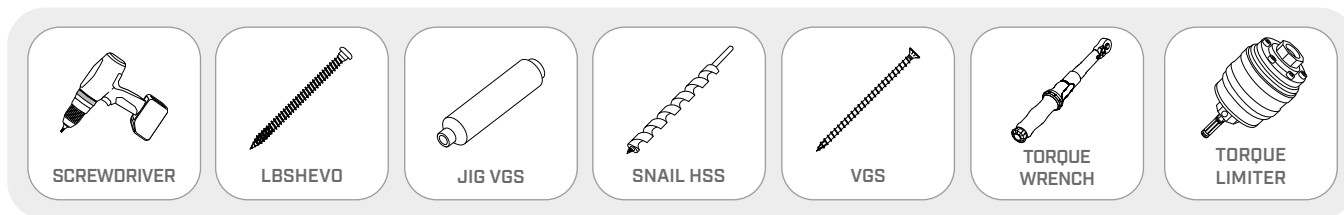


JS

CONTENTS

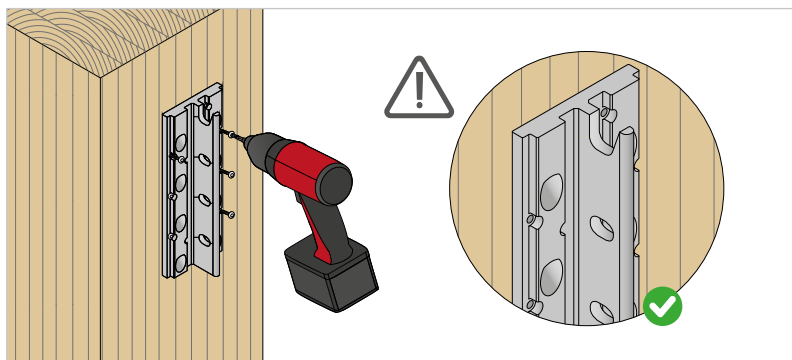
ALUMEGA HVG - JVG	3
CONNECTOR POSITIONING	3
PILOT AND PRE-DRILLED HOLE JIG VGS	3
OPTION 1 - VGS INSERTION AND TIGHTENING USING A TORQUE WRENCH	4
OPTION 2 – VGS INSERTION AND TIGHTENING USING A TORQUE LIMITER	5
ALUMEGA HVG	5
ALUMEGA JVG	5
ALUMEGA HP	6
CONNECTOR POSITIONING	6
PILOT HOLE JIG VGS	6
OPTION 1 - HBS PLATE INSERTION AND TIGHTENING USING A TORQUE WRENCH	7
OPTION 2 - HBS PLATE INSERTION AND TIGHTENING USING A TORQUE LIMITER	7
ALUMEGA JS	8
FASTENING WITH STA SMOOTH DOWELS	8
ROUTING	8
CONNECTOR POSITIONING	8
FASTENING	8
ALUMEGA JS	9
FASTENING WITH SBD SELF-DRILLING DOWELS	9
ROUTING	9
FASTENING	9
CONNECTOR POSITIONING AND FASTENING WITH LBSHEVO	9
MEGABOLT INSTALLATION	10
CUTTING THE CONNECTOR	11
ALUMEGA HP - HVG	11
CONNECTOR POSITIONING	11
ALUMEGA JVG - JS	11
INSTALLATION PRECAUTIONS	12
INSTALLATION OF SIDE-BY-SIDE CONNECTORS	13
JIGALUMEGA10	13
INSTALLATION OF SIDE-BY-SIDE CONNECTORS	14
JIGALUMEGA22	14
CHECKLIST - ALUMEGA INSTALLATION	15
REFERENCE TO SCREW AND DOWEL INSTALLATION INSTRUCTIONS	15

ALUMEGA HVG - JVG



CONNECTOR POSITIONING

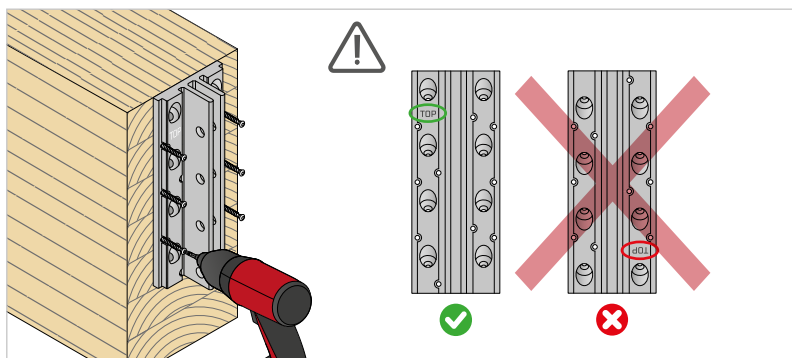
ALUMEGA HVG



CODE	LBSHEVO Ø5 x 80 [pcs]
ALUMEGA240HVG	6
ALUMEGA360HVG	10
ALUMEGA480HVG	14
ALUMEGA600HVG	18
ALUMEGA720HVG	22
ALUMEGA840HVG	26

Position the **ALUMEGA HVG** connector with the upper countersink facing upwards and fasten it to the column or main beam using **LBSHEVO** Ø5 x 80 screws, using the two outer rows of holes.

ALUMEGA JVG

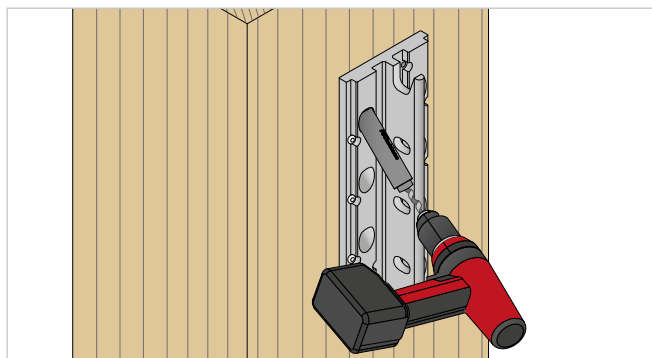


CODE	LBSHEVO Ø5 x 80 [pcs]
ALUMEGA240JVG	6
ALUMEGA360JVG	10
ALUMEGA480JVG	14
ALUMEGA600JVG	18
ALUMEGA720JVG	22
ALUMEGA840JVG	26

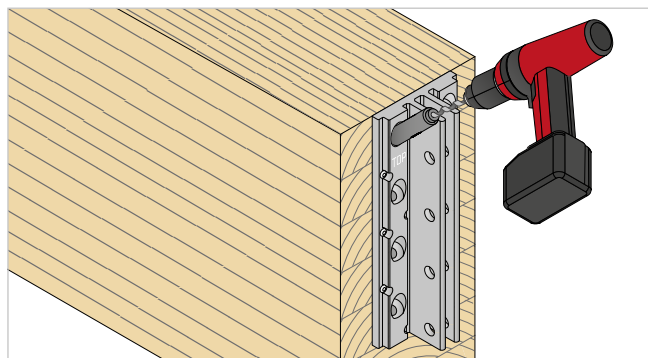
Position the **ALUMEGA JVG** connector on the secondary beam paying particular attention to the correct orientation with reference to the "TOP" marking on the connector. Fasten the **LBSHEVO** Ø5 x 80 screws using the two outer rows of holes.

PILOT AND PRE-DRILLED HOLE | JIG VGS

ALUMEGA HVG

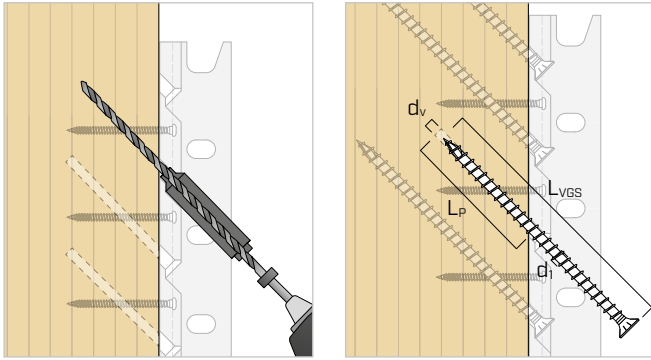


ALUMEGA JVG



Pilot holes and pre-drilling facilitate installation, ensure correct screw insertion and allow the screws to be positioned at the specified 45° angle.

PILOT HOLE

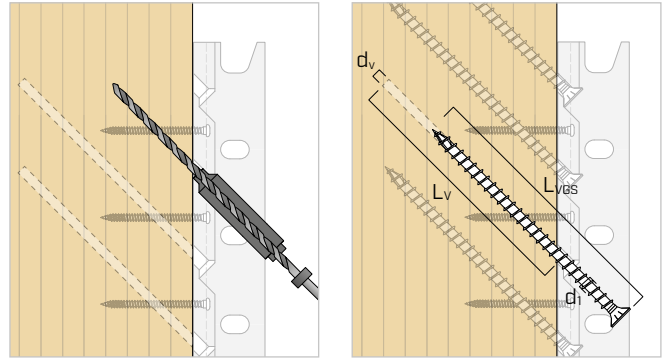


Softwood and softwood LVL - pilot hole

CODE	ρ_k [kg/m ³]	d_1 [mm]	d_v [mm]	L_p [mm]
JIGVGS9	< 550	9,0	5,0	50

Select the appropriate **JIG VGS** jig according to the material: for softwood and softwood LVL, a 50 mm long pilot hole is recommended, while for hardwood and beech LVL, pre-drilling for the full screw length is recommended. The use of a **SNAIL HSS** drill bit is also recommended.

PRE-DRILLING HOLE

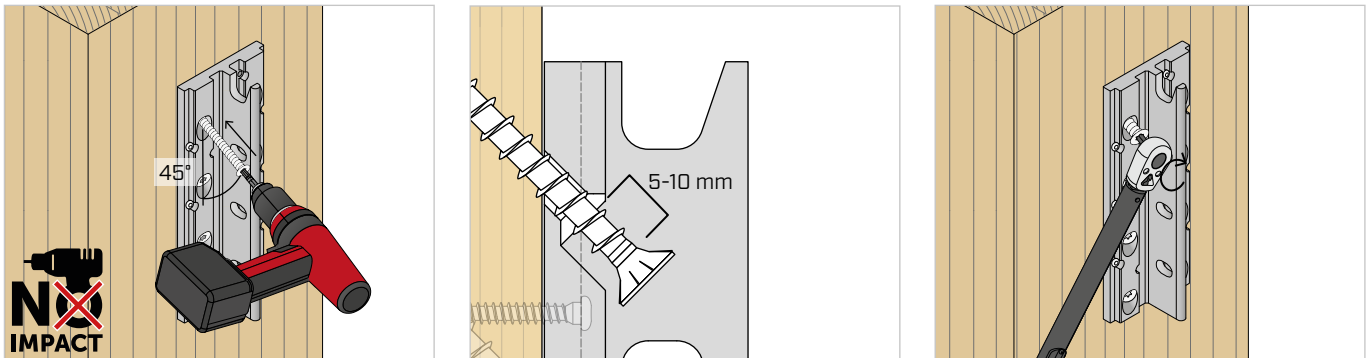


Hardwood and beech LVL - pre-drilling

CODE	ρ_k [kg/m ³]	d_1 [mm]	d_v [mm]	L_v [mm]
JIGVGSH9	≥ 550	9,0	6,0	$L_v = L_{VGS}$

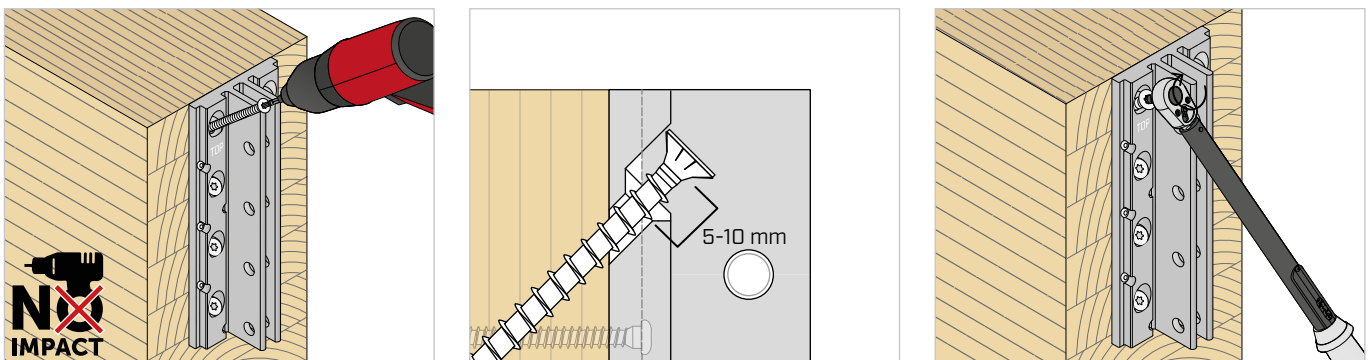
OPTION 1 - VGS INSERTION AND TIGHTENING USING A TORQUE WRENCH

ALUMEGA HVG



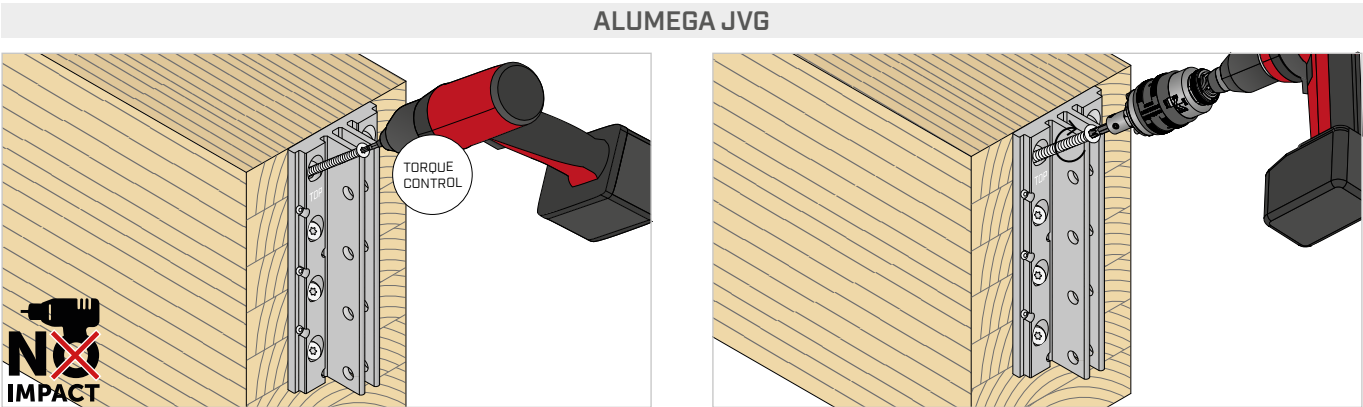
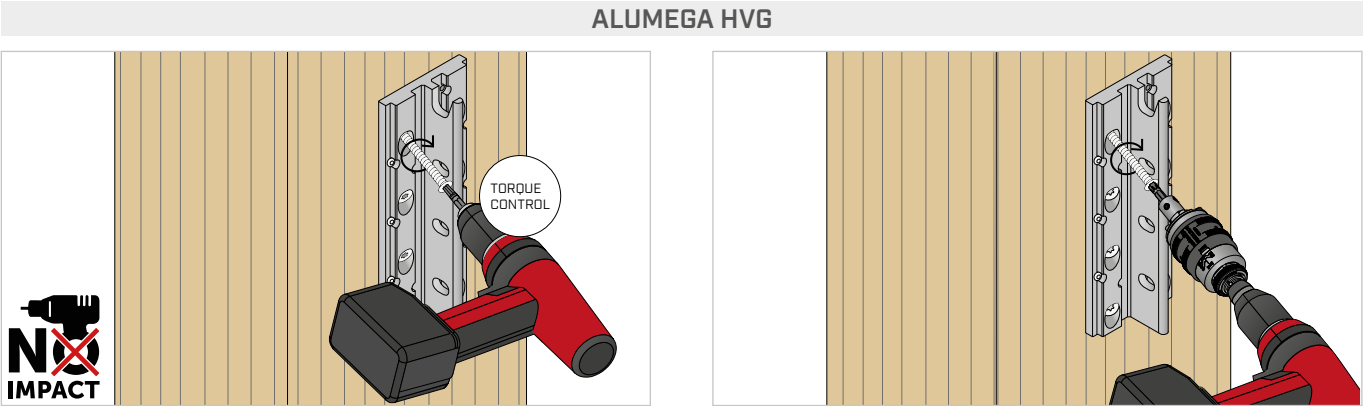
The use of non-impact drivers is recommended. Drive the **VGS** screw in one continuous operation, stopping approximately 5–10 mm from the plate. Complete tightening using the **BEAR** torque wrench. Repeat the procedure for all **VGS** screws.

ALUMEGA JVG



The use of non-impact drivers is recommended. Drive the **VGS** screw in one continuous operation, stopping approximately 5–10 mm from the plate. Complete tightening using the **BEAR** torque wrench. Repeat the procedure for all **VGS** screws.

OPTION 2 – VGS INSERTION AND TIGHTENING USING A TORQUE LIMITER



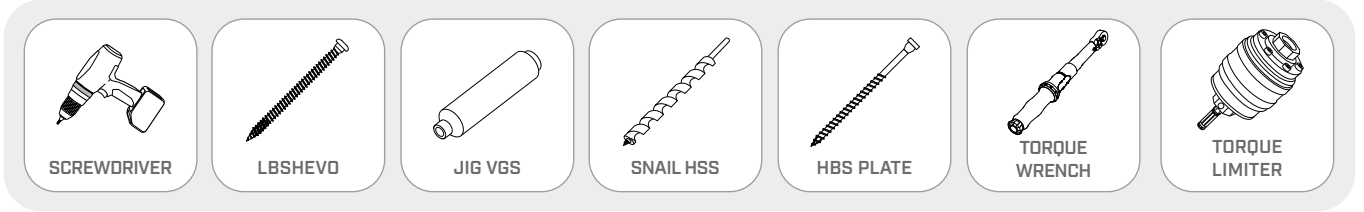
We recommend the use of screwdrivers with integrated torque control or non-pulse screw guns/impact wrenches with **TORQUE LIMITER** application.

RECOMMENDED TIGHTENING TORQUE				
VGS	d ₁ [mm]	L _{ins} [mm]	M _{ins,rec,min} [*] [Nm]	M _{ins,rec,max} [*] [Nm]
Ø9	9,0	160 ≤ L _{ins} ≤ 200	7	13
		200 < L _{ins} ≤ 300	13	20

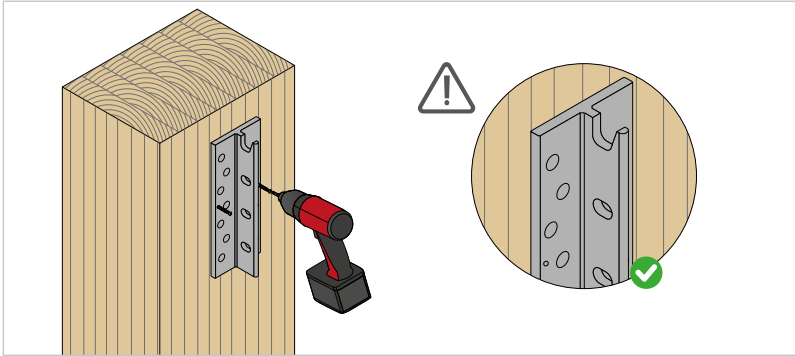
*A tightening torque range is provided according to the screw insertion length L_{ins}, within which effective screw installation is ensured without compromising screw performance. To avoid overtorque, the minimum tightening torque (M_{ins,rec,min}) must be applied. If the screw cannot be inserted, the tightening torque may be increased (M_{ins,rec,max}).

⚠ Use low RPM screwdrivers with high torque capacity.

ALUMEGA HP



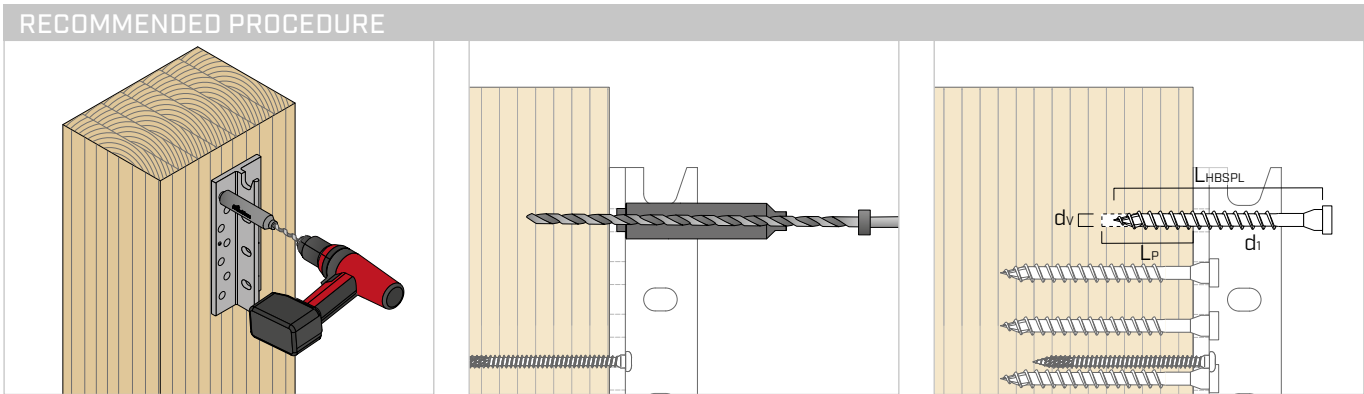
CONNECTOR POSITIONING



CODE	LBSHEVO Ø5 x 80
	[pcs]
ALUMEGA240HP	2
ALUMEGA360HP	2
ALUMEGA480HP	4
ALUMEGA600HP	4
ALUMEGA720HP	6
ALUMEGA840HP	6

Position the **ALUMEGA HP** connector with the upper countersink facing upwards and fasten it to the column or main beam using **LBSHEVO** Ø5 x 80 screws.

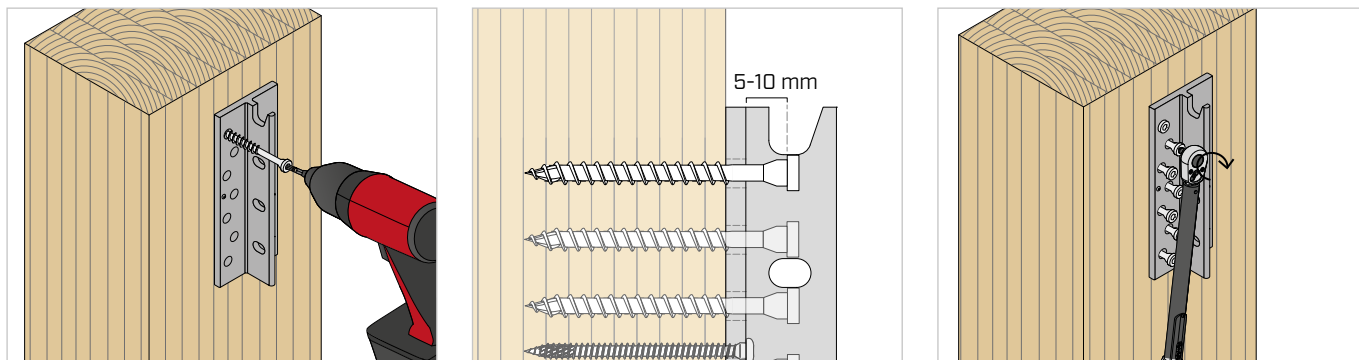
PILOT HOLE | JIG VGS



The pilot hole, recommended to ensure correct screw centring, can be drilled using either of the two options shown in the table. These instructions apply to softwood, softwood LVL, hardwood and beech LVL.

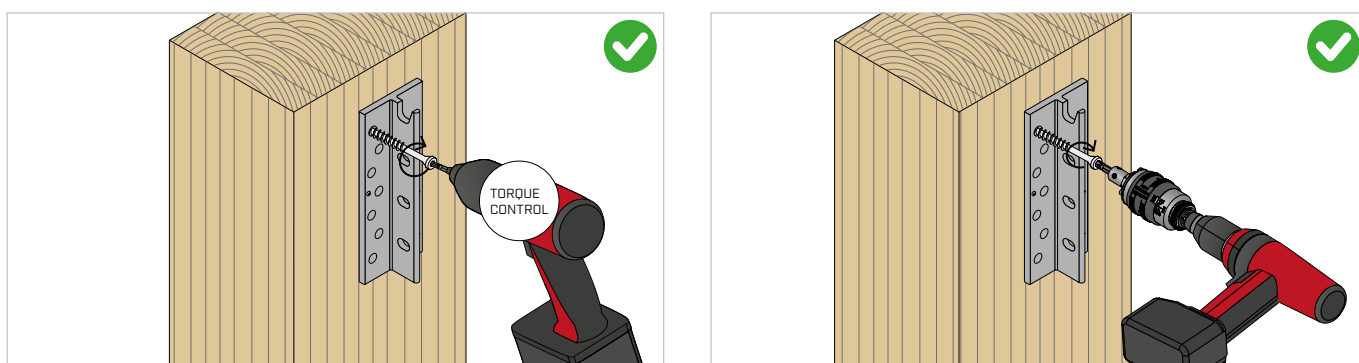
CODE	d ₁ [mm]	d _v [mm]	L _p [mm]
JIGVGS9	10,0	5,0	50
JIGVGSH9		6,0	50

OPTION 1 - HBS PLATE INSERTION AND TIGHTENING USING A TORQUE WRENCH



The use of non-impact drivers is recommended. Drive the **HBS PLATE** screw in one continuous operation, stopping approximately 5–10 mm from the plate. Complete tightening using the **BEAR** torque wrench. Repeat the procedure for all **HBS PLATE** screws.

OPTION 2 - HBS PLATE INSERTION AND TIGHTENING USING A TORQUE LIMITER



We recommend the use of screwdrivers with integrated torque control or non-pulse screw guns/impact wrenches with **TORQUE LIMITER** application.

RECOMMENDED TIGHTENING TORQUE

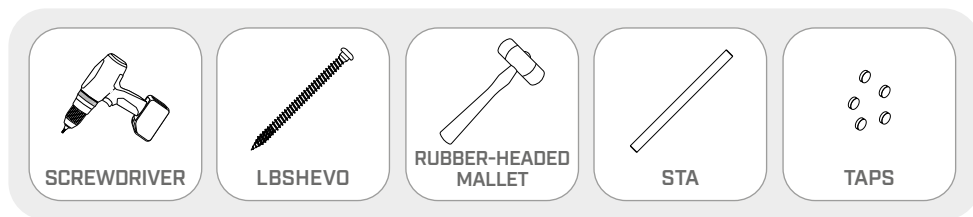
HBS PLATE	d_1 [mm]	L_{ins} [mm]	$M_{ins,rec,min}^*$ [Nm]	$M_{ins,rec,max}^*$ [Nm]
Ø10	10,0	$100 \leq L_{ins} \leq 120$	10	20
		$120 < L_{ins} \leq 180$	20	30

*A tightening torque range is provided according to the screw insertion length L_{ins} , within which effective screw installation is ensured without compromising screw performance. To avoid overtorque, the minimum tightening torque ($M_{ins,rec,min}$) must be applied. If the screw cannot be inserted, the tightening torque may be increased ($M_{ins,rec,max}$).

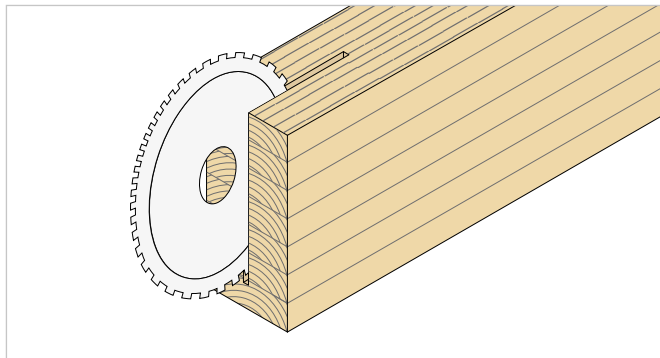
⚠ Use low RPM screwdrivers with high torque capacity.

ALUMEGA JS

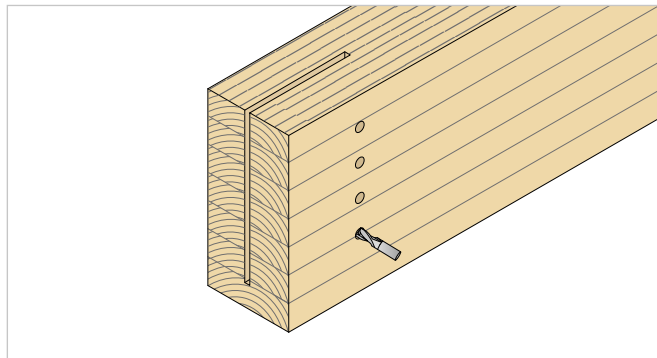
FASTENING WITH STA SMOOTH DOWELS



ROUTING

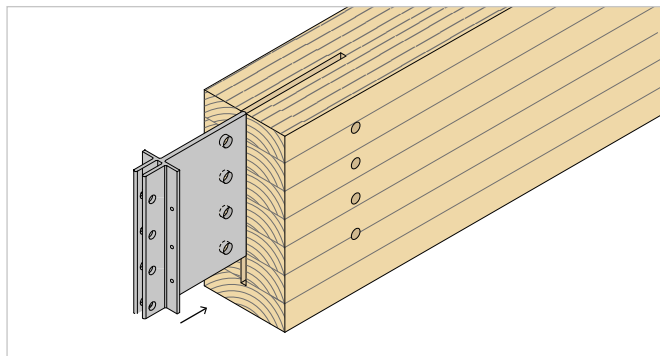


Machine a 12 mm wide slot in the secondary beam using a CNC machine.

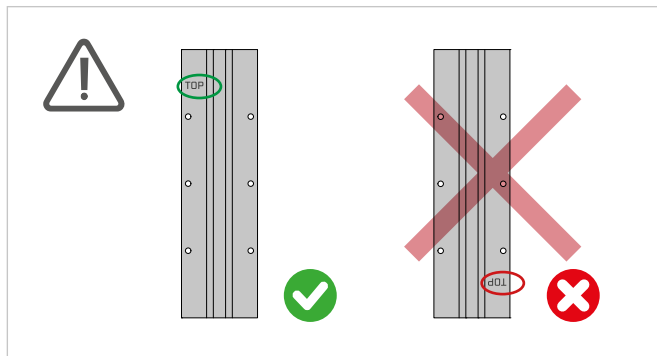


Pre-drill a Ø16 mm hole for the **STA** Ø16 dowel using a CNC machine.

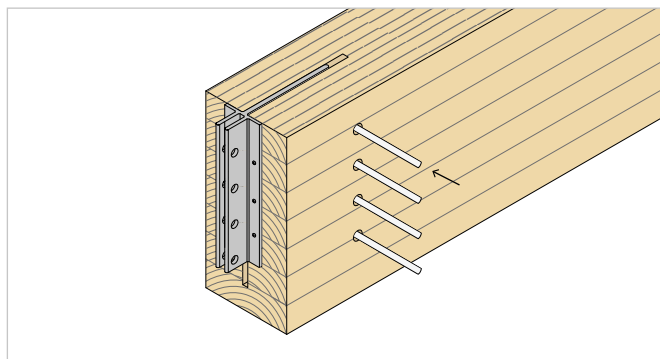
CONNECTOR POSITIONING



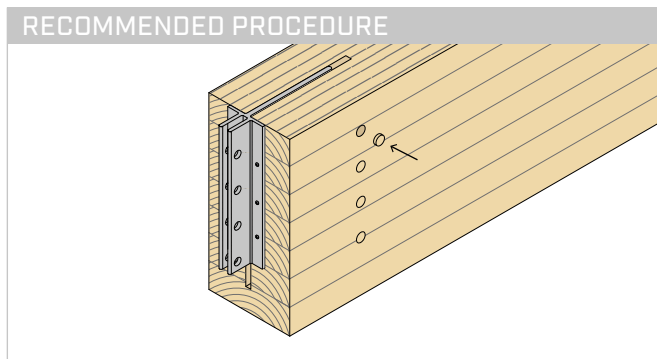
Position the **ALUMEGA JS** connector with the "TOP" marking facing upwards.



FASTENING



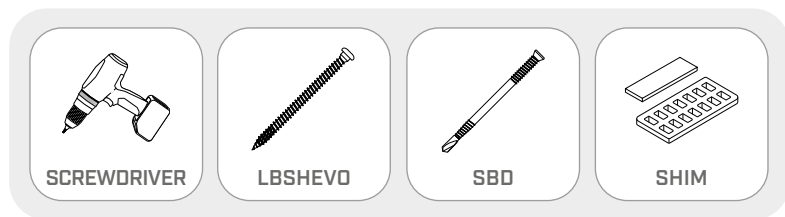
Drive the dowel into the hole using a hammer.



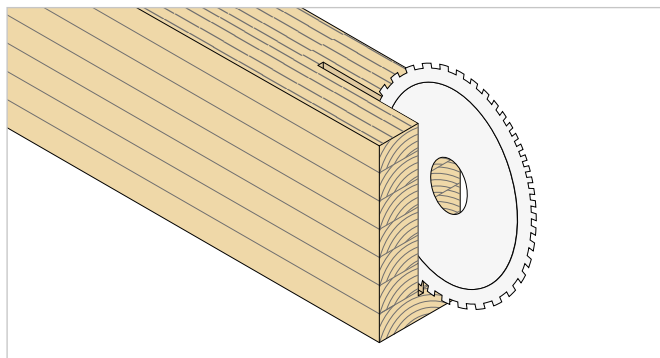
Seal with **TAPS** timber plugs.

ALUMEGA JS

FASTENING WITH SBD SELF-DRILLING DOWELS

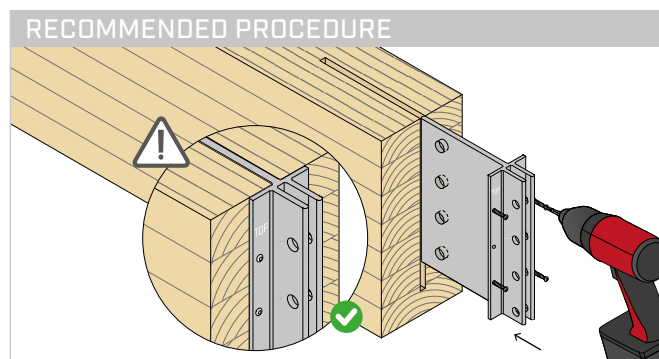


ROUTING



Machine a 12 mm wide slot in the secondary beam using a CNC machine.

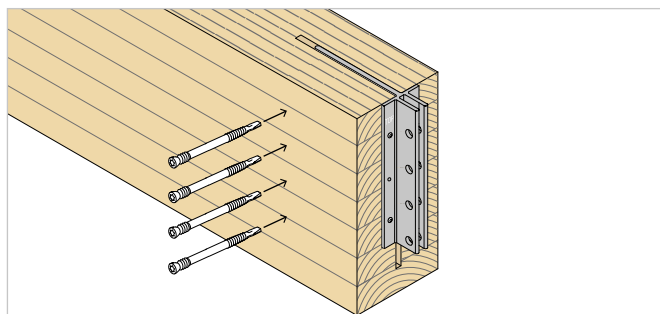
CONNECTOR POSITIONING AND FASTENING WITH LBSHEVO



Position the **ALUMEGA JS** connector with the "TOP" marking facing upwards and fasten it using **LBSHEVO** Ø5 x 80 screws.

CODE	LBSHEVO Ø5 x 80 [pcs]
ALUMEGA240JS	4
ALUMEGA360JS	4
ALUMEGA480JS	6
ALUMEGA600JS	6
ALUMEGA720JS	8
ALUMEGA840JS	8

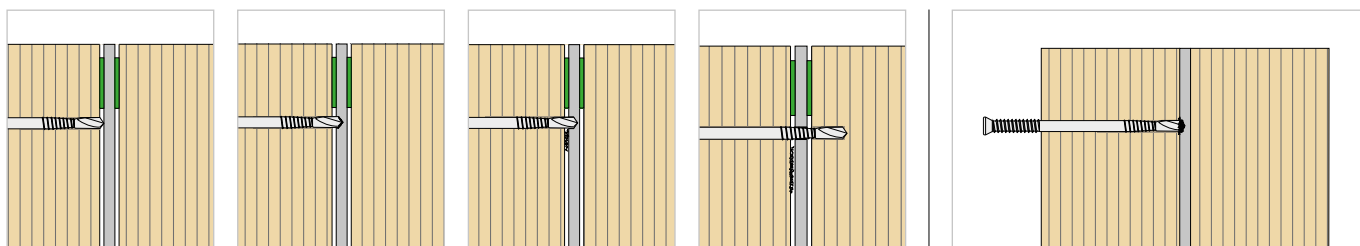
FASTENING



Insert the **SBD** Ø7.5 dowels as specified in the table.

	40 kg	25 kg
pressure to be applied	40 kg	25 kg
recommended screwdriver	Maffell A 18M BL	
recommended speed	1st gear (600-1000 rpm)	

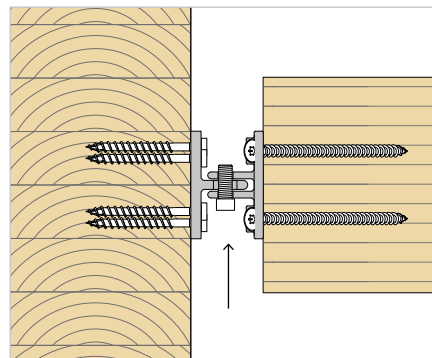
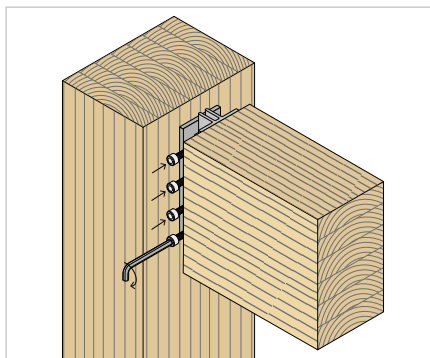
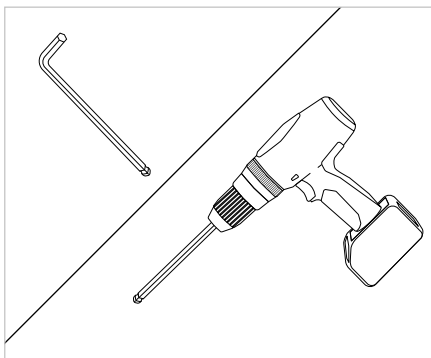
The 12 mm slot provides a clearance of approximately 2 mm on each side between the plate and the timber. The use of **SHIM** spacers is recommended to ensure correct centring of the plate and facilitate the removal of metal swarf during installation.



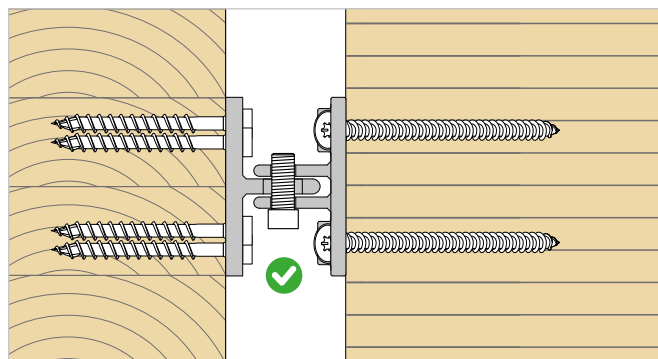
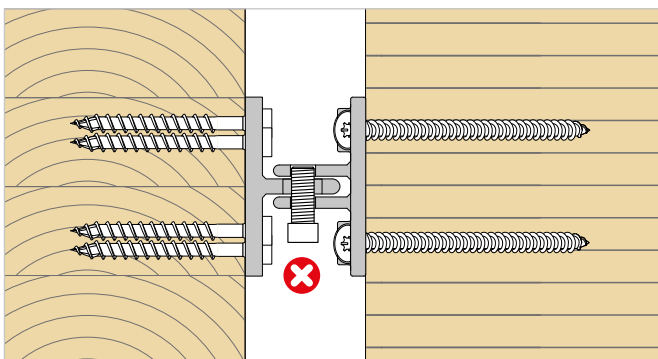
Slot oversized by 2 mm on each side and use of spacers.

Without **SHIM** spacers, the holes may become obstructed by metal swarf.

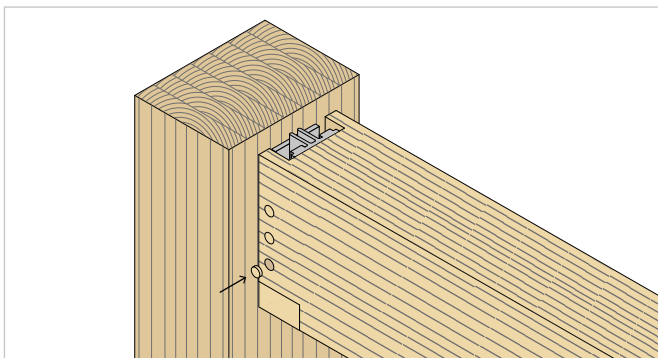
MEGABOLT INSTALLATION



Tighten the **MEGABOLT** bolts using a 10 mm hex key. Tightening can be carried out manually or, preferably, using a power driver. In the latter case, it is recommended to cut the 10 mm hex key (**HEX10L234**) and insert it directly into the chuck to make the operation easier and faster.

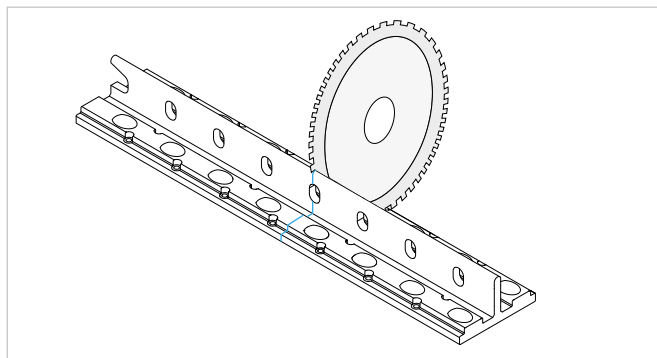
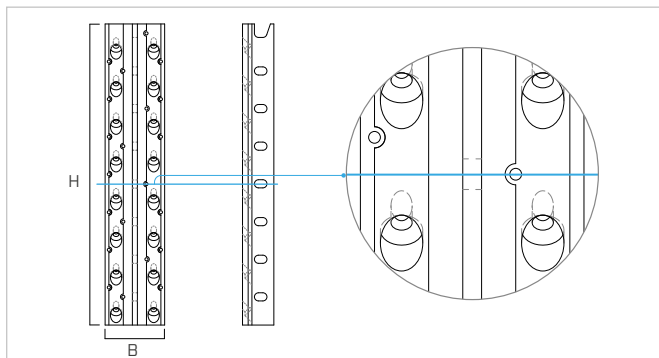


Do not exceed the recommended maximum tightening torque of ≤ 30 Nm, ensuring the bolt is fully inserted and the head is in full contact with the plate.



For concealed connections, drill $\varnothing 25$ mm holes for the **MEGABOLT** bolts in the secondary beam or column. It is recommended to use **TAPS** timber plugs with a diameter 1–2 mm smaller than the hole to facilitate insertion. For the different installation configurations, refer to the technical data sheet available at www.rothoblaas.com.

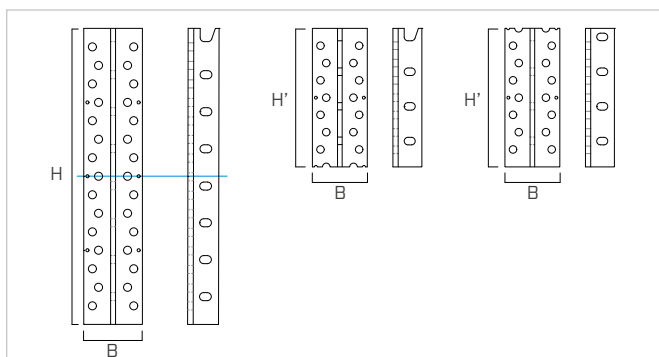
CUTTING THE CONNECTOR



Each **ALUMEGA** version is available in 6 standard heights. Thanks to the connector's modular geometry, height H can be adjusted by cutting, in accordance with the requirements of ETA-23/0824: minimum height 240 mm, maximum height 840 mm and 60 mm increments. When cutting, it is recommended to use the Ø5 holes for the **LBSHEVO** screws as reference points.

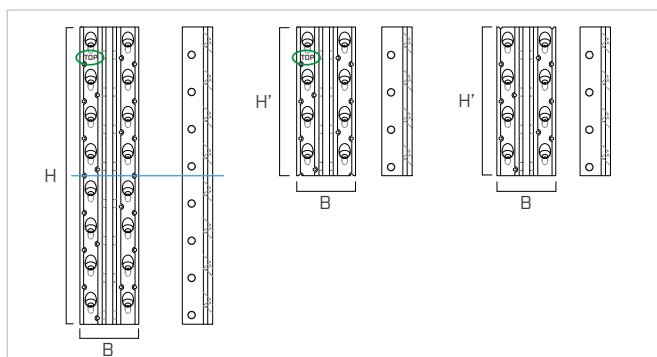
The lower section of the connector can be reused, provided it complies with the required minimum dimensions, or otherwise discarded.

ALUMEGA HP - HVG



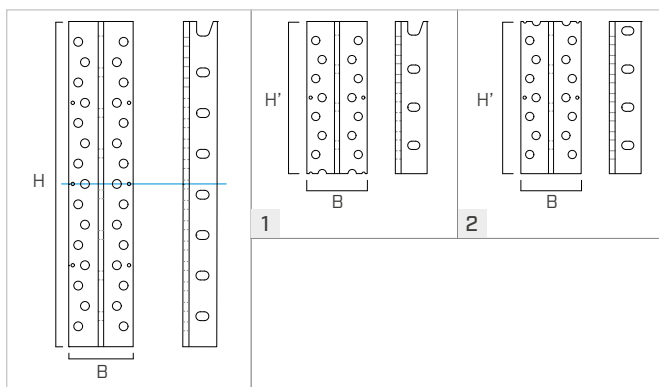
When **HP** and **HVG** connectors are cut, the upper countersink remains on the upper connector, while the lower section resulting from the cut is without a countersink. If the countersink needs to be recreated, it must be machined in accordance with the CAD drawings available at www.rothoblaas.com, without altering the geometry or functionality of the connector.

ALUMEGA JVG - JS

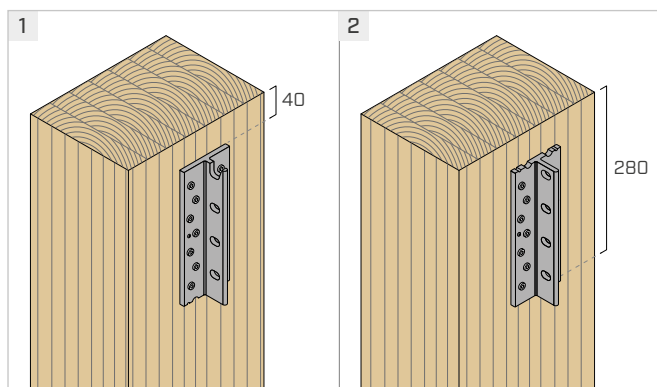


When **JVG** and **JS** connectors are cut, the "TOP" marking remains on the upper connector, while the lower section resulting from the cut is without a marking. During installation, carefully check that the lower connector is correctly oriented.

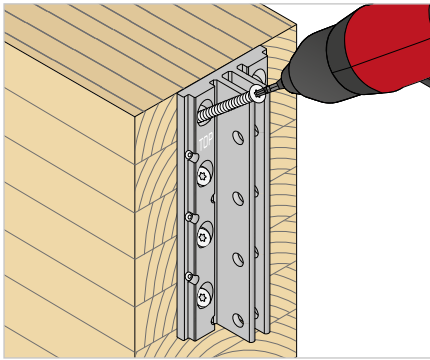
CONNECTOR POSITIONING



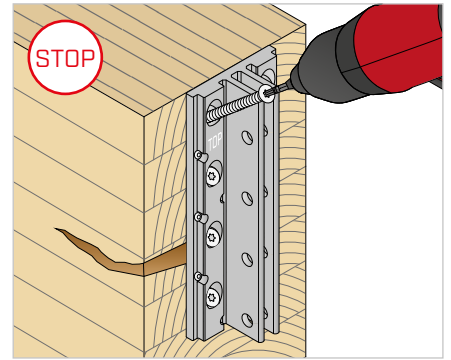
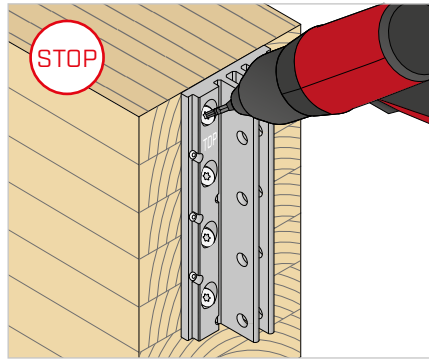
Cutting results in the loss of a few millimetres of material due to the blade thickness. It is recommended to position connector 1 with reference to the upper edge and connector 2 with reference to the lower edge. The images above show an example application using **ALUMEGA HP**.



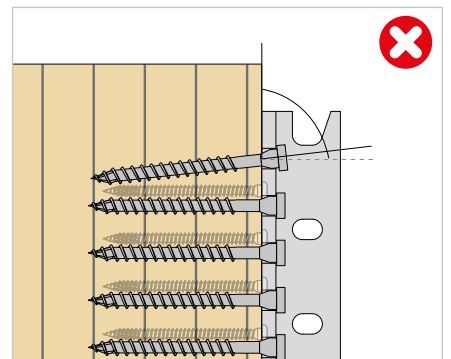
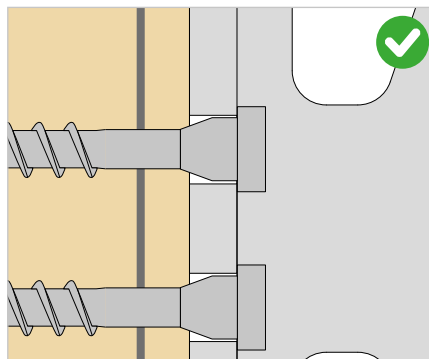
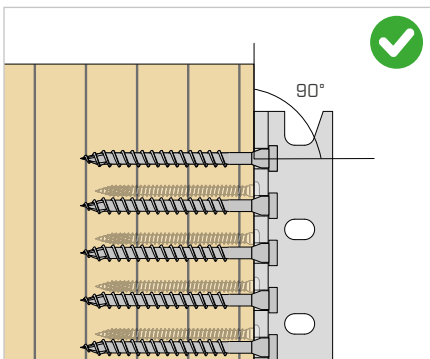
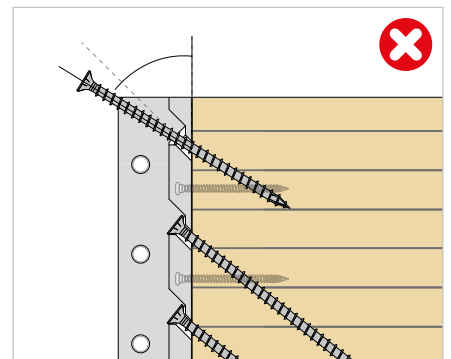
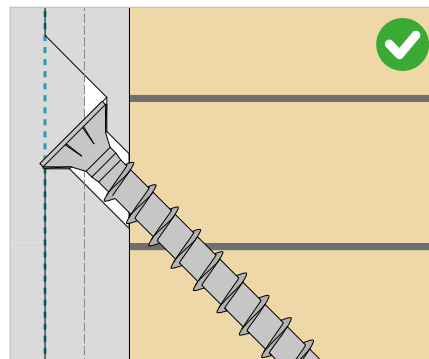
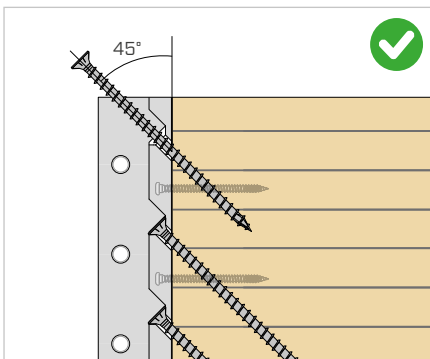
INSTALLATION PRECAUTIONS



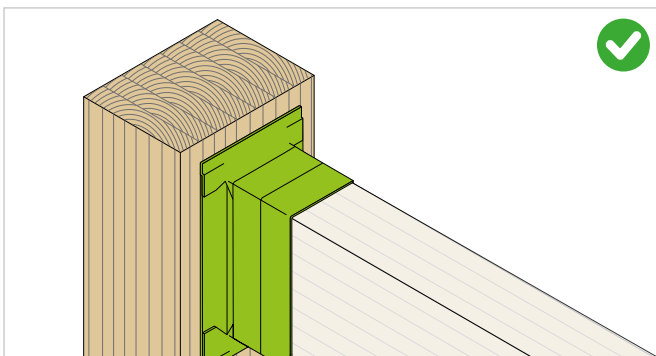
Install screws in one continuous stroke and stop when the screw head makes contact with the metal element.



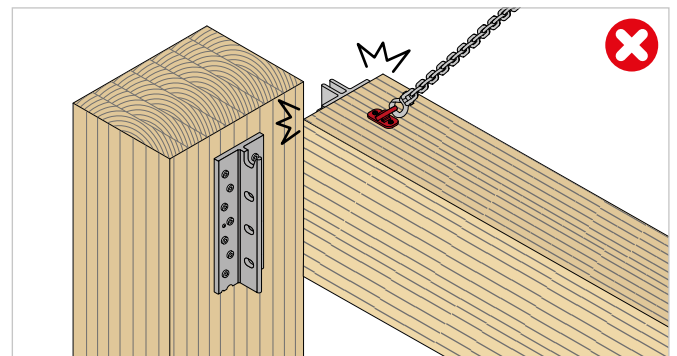
Stop installation if damage to the timber is noticed.



Observe the specified insertion angle and ensure full contact between the entire surface of the screw head and the metal element.



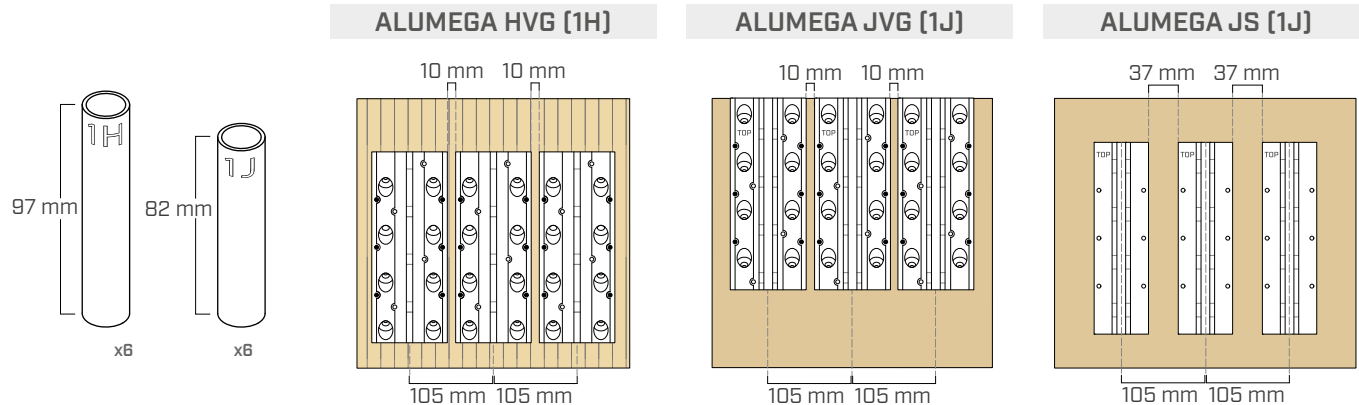
Sealing the connection with waterproof tape and applying a protective membrane to the beam limit moisture absorption by the timber during transport, storage and construction, helping to improve the durability of the connection. For further information, visit www.rothoblaas.com.



Avoid impacts or dynamic loads on the connection during transport and construction.

INSTALLATION OF SIDE-BY-SIDE CONNECTORS

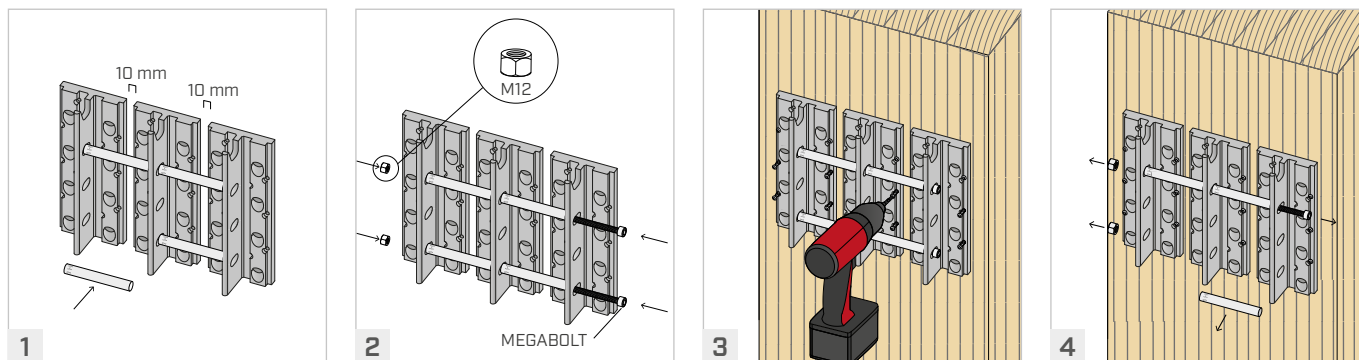
JIGALUMEGA10



CODE	description	
JIGALUMEGA10	jigs for installing ALUMEGA connectors	6 + 6

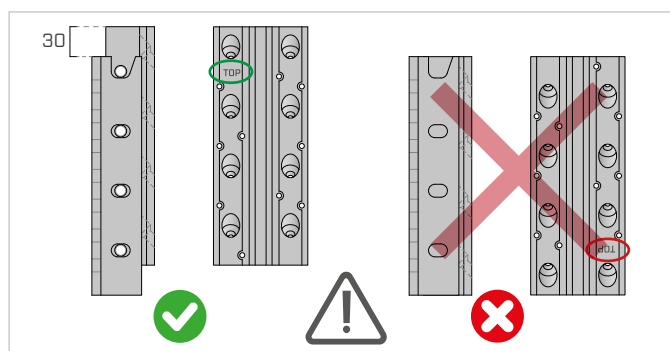
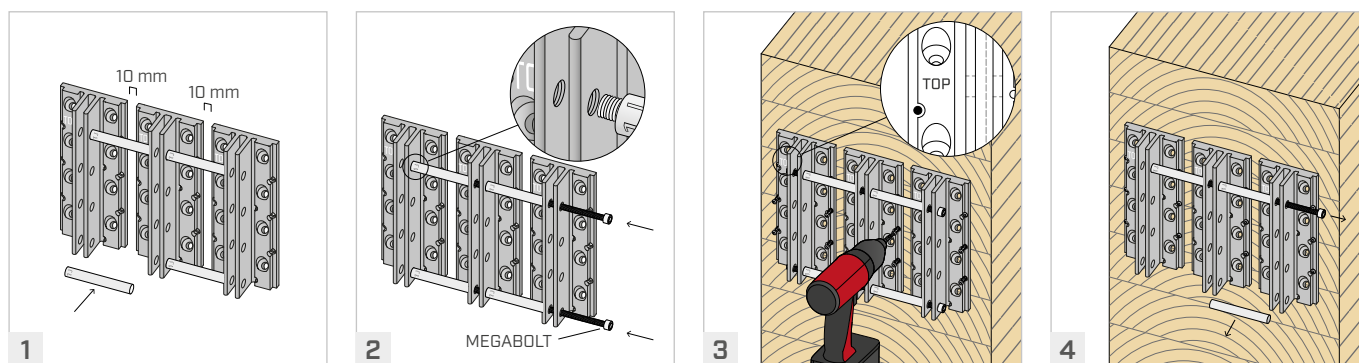
JIGALUMEGA10 | 1H

ALUMEGA HVG



JIGALUMEGA10 | 1J

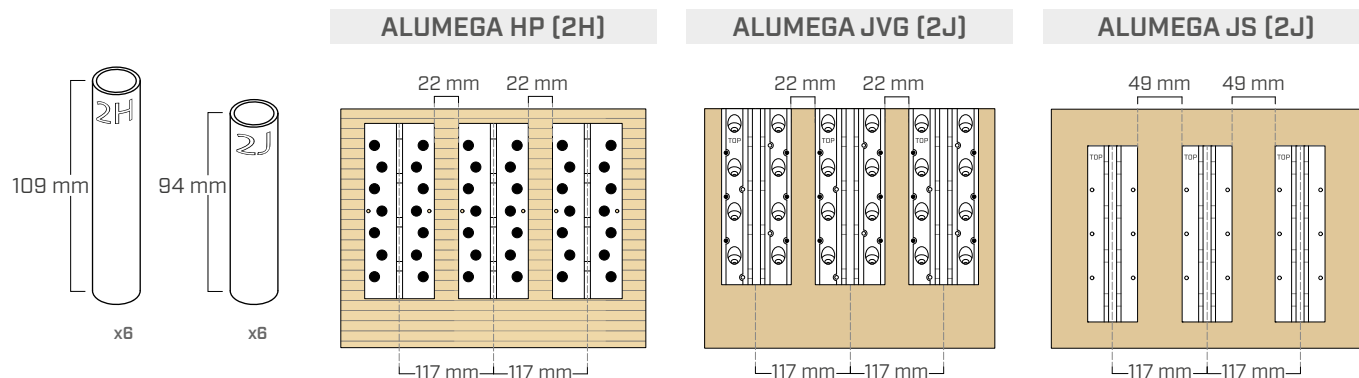
ALUMEGA JVG



- 1 Use **JIGALUMEGA** as a spacer between side-by-side connectors. Component H refers to the column/main beam (Header), while component J refers to the secondary beam (Joist).
- 2 Temporarily assemble the connectors using the **MEGABOLT** bolts (and M12 nuts for **HVG**).
- 3 Position the connectors on the timber element and fasten them using **LBSHEVO** screws.
- 4 Remove the **MEGABOLT** bolts, jig and any M12 nuts.

INSTALLATION OF SIDE-BY-SIDE CONNECTORS

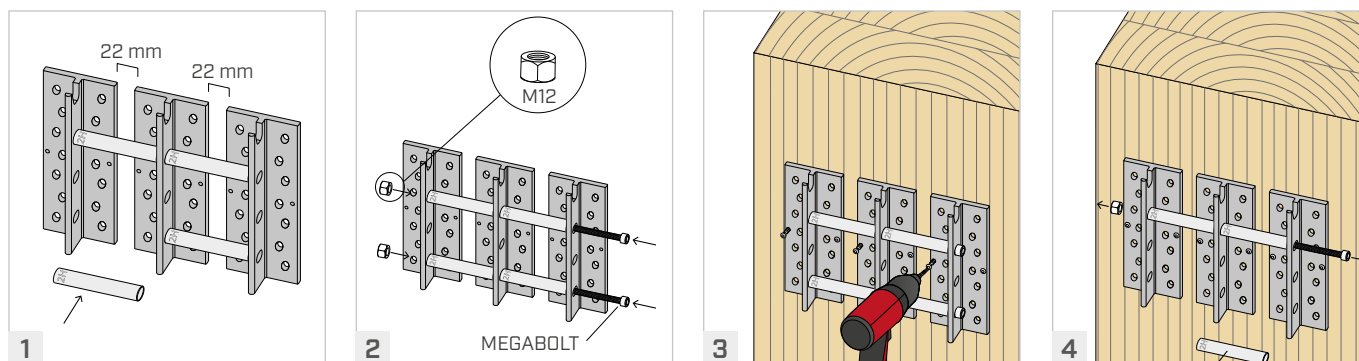
JIGALUMEGA22



CODE	description	
JIGALUMEGA22	jigs for installing ALUMEGA connectors	6 + 6

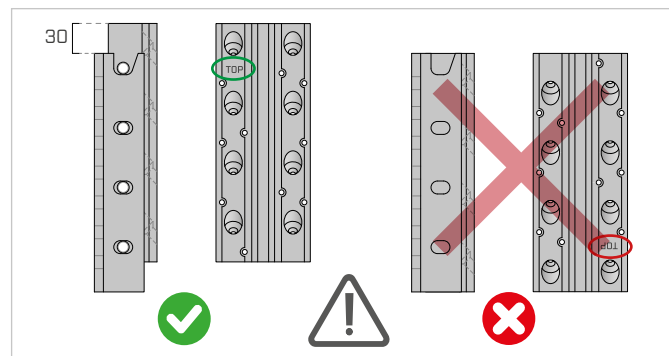
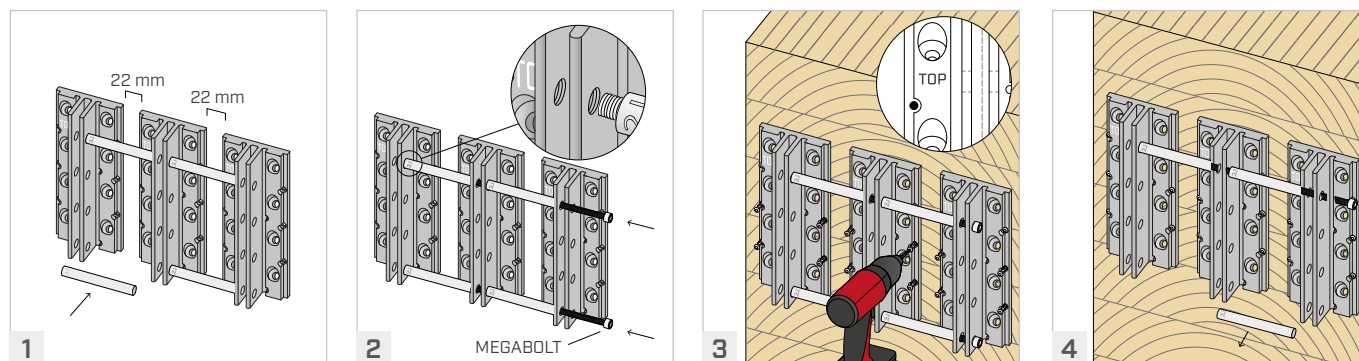
JIGALUMEGA22 | 2H

ALUMEGA HP



JIGALUMEGA22 | 2J

ALUMEGA JVG



- 1 Use **JIGALUMEGA** as a spacer between side-by-side connectors. Component H refers to the column/main beam (Header), while component J refers to the secondary beam (Joist).
- 2 Temporarily assemble the connectors using the **MEGABOLT** bolts (and M12 nuts for HP).
- 3 Position the connectors on the timber element and fasten them using **LBSHEVO** screws.
- 4 Remove the **MEGABOLT** bolts, jig and any M12 nuts.

CHECKLIST - ALUMEGA INSTALLATION

The following instructions provide a reference for verifying the correct installation of the ALUMEGA system and are intended for designers, installers and personnel involved in installation, inspection and checking activities. Where applicable, they apply to activities carried out both in the factory and on site.

REFERENCE TO SCREW AND DOWEL INSTALLATION INSTRUCTIONS

Step 1_Planning and preliminary checks

- ☐ The designer and/or installer must define the process and procedures for installing the connectors and associated fasteners in accordance with these instructions and the installation instructions available at www.rothoblaas.com.
- ☐ Installation personnel must be adequately trained and instructed in the correct installation procedures.
- ☐ Tools, equipment and driving methods must be specified for each fastener type and size.
- ☐ For fasteners requiring torque control, particularly VGS and HBS PLATE, the applied values must fall within the ranges specified in this document or in the relevant installation instructions.
- ☐ The condition of the supporting structural elements (timber, concrete and steel), including machining, pilot holes and routing, must comply with the design requirements and installation instructions.
- ☐ Methods must be defined for protecting the connection and timber elements against water ingress during transport, storage and construction.

Step 2_Installation checks and final inspection

- ☐ Installation, inspection and checking activities must be carried out in accordance with the applicable regulations in force and the Rothoblaas documents available at www.rothoblaas.com.
- ☐ Acceptance criteria and inspection procedures must be defined and documented.
- ☐ The timber elements, fasteners and connectors must be checked for damage before, during and after installation.
- ☐ The tightening torque values applied when driving the screws must fall within the ranges specified in this document and in the installation instructions for the relevant fasteners.
- ☐ Any non-conformities identified during installation must be recorded and managed in accordance with the applicable procedures. In the event of non-conformities or installation issues, preferably contact your Rothoblaas technical sales representative or the Rothoblaas technical consultancy service.
- ☐ Final installation and inspection documentation containing all key information relating to the installation must be prepared and retained.



MANUALS

VGS



Download the
installation manual
www.rothoblaas.com



MANUALS

HBS PLATE



Download the
installation manual
www.rothoblaas.com



MANUALS

LBSHEVO



Download the
installation manual
www.rothoblaas.com

All information reported in this document and the installation manual is to be considered as instructive and state-of-the-art. Rothoblaas accepts no liability for any printing, comprehension or interpretation errors and is not responsible for subsequent amendments or updates, including those of a regulatory or legislative nature.

APPLICATION INSTRUCTIONS

The complete installation instructions for VGS and HBS PLATE screws are available at www.rothoblaas.com.





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09-26

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