# **Connecting Systems**

for interior and exterior finishing, window construction, and wood structures



Connecting Your Ideas ...



Innovative solutions **Made in Austria Family Business since 1983 Your business** partner for interior and exterior design window construction wood structures



For 40 years, our teams have been committed to working with our clients to offer cutting-edge and innovative assembly solutions. Drawing inspiration from the expectations and developments in the wood industry, our family business has made it its mission to develop high-quality products for creating invisible, self-tightening, and detachable joints for wood and wood materials.

Our story began with the development of a twopart connector named Champ, which has proven its worth millions of times to this day. Shortly thereafter, Friedrich Knapp invented the lamelloid solutions with self-clamping sharp edges, Fast, Silver, and Sunny. This avant-garde technology has since inspired many.

In this new catalog, you will find these still-relevant solutions, as well as our new generation of connectors for furniture bodies in lamelloid form, the FIYU family, along with several other product innovations.

This documentation now brings together all of our assembly and fixing systems for interior fittings and joinery, as well as our range of products for exterior joinery, including, among others, the FIXclip product family for invisible fixing and sealing of glazing beads, and the RICON® product family for post-and-beam structural assemblies for curtain walls. This latest range of small timber connectors allows for the creation of joints in wood sections from 20 mm thickness, with a capacity for glazing loads up to 1100 kg. The RICON® series is also available in an all-stainless version for the construction of uncovered outdoor wood structures, ideal for pergolas, for example, and is also adaptable for hybrid joints between wood, concrete, and steel.

Let yourself be inspired and find new ideas for your projects. We wish you many creative ideas with Knapp's assembly solutions!

The Knapp family

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# KNAPP clamp connector for indoor and outdoor use



DEKLICK® 14

 $Clamp \ connector, available \ in \ 3 \ versions, for interior \ and \ exterior \ use, acoustic \ ceilings, \ wall \ panels, \ as \ well \ as \ furniture \ and \ interior \ design$ 

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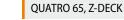


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# KNAPP solutions for fastening deck boards and cladding



Invisible fastening systems for decking, cladding and wall cladding panels, indoors or outdoors

**KNAPP Box sets and Mini Packs** 



KNAPP® Box Connector sets with accessories and/or templates presented in ready-to-use boxes

78

82

Clamp-free

Certifications

KNAPP® Mini Packs Small-quantity assortments of connectors

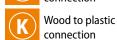
**Symbols:** these symbols can be found on every connectors' page in this brochure.



Wood to wood connection









Wood to concrete connection



Visible



Concealed



**Enabling prefabrication** in workshop



Horizontal assembly



Vertical assembly

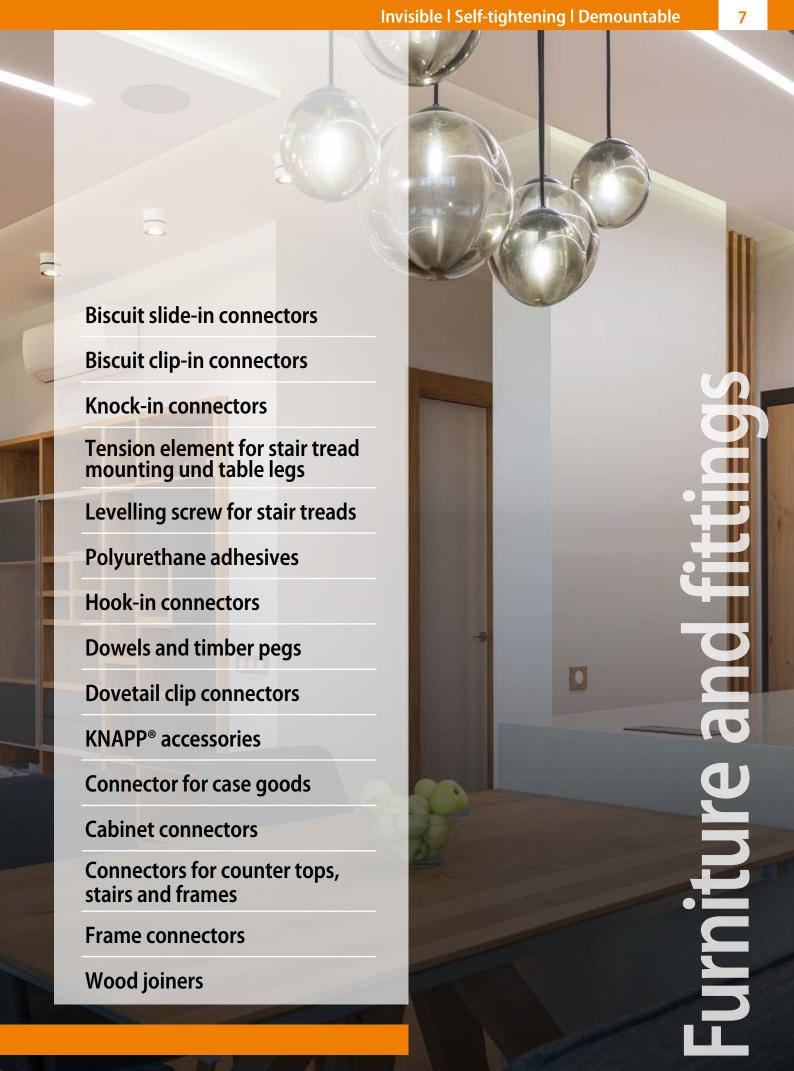




Assembly from all sides



Flush installation

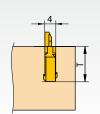


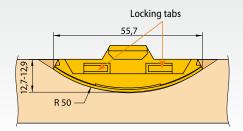
# **SUNNY**



# Slide-in biscuit connectors with integrated locking tab, plastic







**Applications:** Case goods, furniture, architectural millwork, shop fitting, clamping aid for miter joints and corners.

Advantages: Concealed, self-tightening biscuit connector with integrated locking tabs.

**Suitable materials:** All softwoods and board materials without laminate surfaces.

Installation: Cut slot with biscuit joiner (#20) according to groove depth T. Knock-in both connector halves opposite of one another,

following the radius of the biscuit cut using hammer and insertion tool.

**Mounting:** Using the cutting edges on the side of the workpieces, which trace the base of the milling cut along the radius.

Accessorie: Insert tool | Art.-No. K049/E











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Cut #20 biscuit slot

Insert, knock in

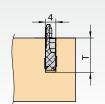
Knock-in with the insert tool

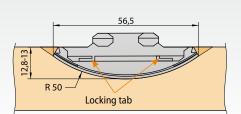
Assemble

# **SILVER**

# Slide-in biscuit connector with integrated locking tabs, alloy-diecast







Applications: Case goods, furniture, architectural millwork, shop fitting, clamping aid for miter joints and corners.

**Advantages:** Concealed, self-tightening, demountable connector with integrated locking tabs.

**Suitable materials:** All softwood board materials.

Installation: Cut slot with biscuit joiner (#20) according to groove depth T.

Knock into the biscuit slot with a hammer following the radius of the cut.  $\label{eq:cut-problem}$ 

**Mounting:** Using the cutting edges on the side of the workpieces, which trace the base of the milling cut along the radius.

Accessorie: Insert tool | Art.-No. K049/E



Cut #20 biscuit slot



Engage locking tabs (optional)



Insert, knock in



Knock-in with the insert tool



Assemble



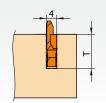
# **CHAMP**

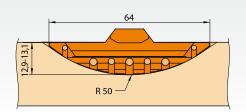
# Slide-in biscuit connector, glass fiber reinforced plastic











Tip: Moisten surface before gluing if wood is very dry.

**Applications:** Case goods, furniture, architectural millwork, shop fitting, clamping aid for miter joints and corners.

Advantages: Concealed, self-tightening, demountable.

Suitable materials: All wood and board materials.

Cut slot with biscuit joiner (#20) according to groove depth T. Installation:

Apply KNAPP®-ADHESIVE PU+ into slot and insert connector halves.

Mounting: By gluing with KNAPP®-ADHESIVE PU+. KNAPP®-ADHESIVE PU+ | Art.-No. Z011 Accessorie:











Cut #20 biscuit slot

Glue

Position with template

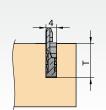
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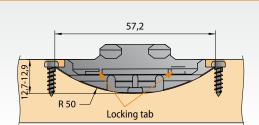
# **METAL**

# Slide-in biscuit connector, alloy-diecast

Art.-No. K026







Case goods, furniture, architectural millwork, shop fitting, door frames. **Applications:** 

Concealed, self-tightening, demountable connector with optional integrated locking Advantages:

tabs.

Suitable materials: All wood and board materials.

Cut slot with biscuit joiner (#20) according to groove depth T. Installation:

Insert both connector halfs into the biscuit cuts and mount by means of PH-screws.

Mounting: Screw in with PH-screws.

**Accessories:** PH-screw 3x13 mm | Art.-No. Z600, PH-screw 3x25 mm | Art.-No. Z601







**Engage locking tabs** (optional)



Screw in



Assemble

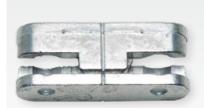


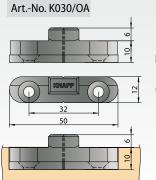


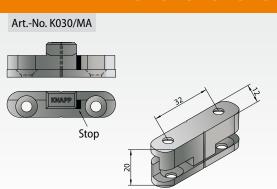
# **CHICO**

# Slide connector, alloy-diecast









**Applications:** Heavy furniture, case goods, panels.

Concealed, self tightening, demountable with integrated stop. Advantages:

All wood and board materials. Suitable materials:

Installation: Cut mortise with plunge router or CNC machine.

Screw in with CS Ø 4,5 mm. Mounting:













Cut #20 biscuit slot

Insert

Screw in a

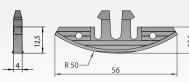
Screw in b

Assemble

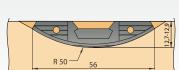
# **FAST**

# Clip-in biscuit connector, plastic









Case goods, furniture, architectural millwork, face frames, door and window casing, **Applications:** 

clamping device for miter joints and corners.

Advantages:  $Concealed, self-tightening, demountable \ connector, immediately \ load \ bearing.$ 

Suitable materials: All softwoods and board materials without laminated surfaces.

Cut slot with biscuit joiner (#20) according to groove depth T. Knock-in both connector Installation: halves following the radius of the biscuit cut using hammer and insertion tool.

Using the cutting edges on the side of the workpieces, which trace the base of the milling cut along

Mounting: the radius - Optionally, glue prior to insertion with KNAPP®-ADHESIVE PU+ for a stronger hold.

Insert tool | Art.-No. K049/E **Accessories:** 







Insert, knock in



Knock-in with the insert tool



Assemble





# **FIYU**®

# **Knock-and-plug cabinet in connector**

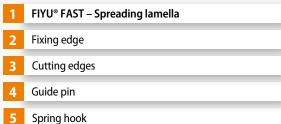
# FIYU® FAST

Art.-Nr. K855

+ Grub screw 6x12 mm (optional) | Art.-No. Z428

#### **Benefits:**

- I Plug-in connection on tongue and groove basis for immediate stability
- I Tight and precise guidance
- I Manual and industrial processing
- Stackable
- I High clamping force and 100% perfect fit
- I Safety due to high load capacity
- I Loadable in two directions





# pin 9 Slots for guide pins phook 10 Grub screw 6x12 mm (optional)

# FIYU® LOCK

Art.-No. K856

= FIYU® LOCK plug-in part | Art.-No. K856/S

+ Tensioning screw M5x13 mm | Art.-No. K857

Art.-No. K859

= FIYU® LOCK receiving element + plug-in part | Art.-No. K856/A + Art.-No. K856/S

+ Tensioning screw M5x13 mm | Art.-No. K857

# **Benefits:**

- I For 16 mm material thickness and above
- 12 in 1 system, push-fit or sliding connection
- I Retrofitting installation of shelves as shelf supports
- I Flexible assembly sequence
- | Quick and easy disassembly
- I Mechanically interlocked

| 1 | FIYU® LOCK – plug-in part  |
|---|----------------------------|
| 2 | Cutting edge               |
| 3 | Spring lamella (3,6 mm)    |
| 4 | Hole for optional fixation |
|   |                            |



| Applications:       | For cabinet units, fixed shelves, mitre-cut junctions and intermediate uprights, or for fixing trim, removable covers and surface-mounted mouldings. |  |
|---------------------|--|--|
| Advantages:         | Concealed, self-tightening, re-assemblable tongue and groove connector, immediately ready for use.   |  |
| Suitable materials: | All softwood and uncoated plastic materials (FIYU® FAST); All woods, synthetic materials (FIYU® LOCK).   |  |
| Installation:       | With CNC, flat dowel machine, adjust depth setting accurately.   |  |
| Mounting:           | insert plug-in part and holding part into milled groove, and clip the components together.   |  |
| Accessories:        | Grub screw FIYU® 6x12 mm (FIYU® FAST )   ArtNo. Z428, Tensioning screw M5x13 mm (FIYU® LOCK)   ArtNo. K857, Allen key with ball end   ArtNo. K647    |  |

# FIYU® – easy to connect, safe, fast and reversible

FIYU® - the connectors with cutting edges have clever details:

Thanks to well thought-out details, it not only connects securely and exceptionally quickly, it is also ideal for countless areas of application. It connects cabinand parts from an angle of 0 to 135°

The FIYU® LOCK is a particularly suitable solution for retrofitting shelves. It even holds all by itself - saving time and money. Optionally, the connector can fix the components with a tensioning screw.

FIYU® FAST is a self-tensioning cabinet and connector that can connect miter joints and 90° joints firmly and detachably. It can also be used as a gluing aid.

## Installation



Insert the connectors flush with the panel.

FIYU® FAST and FIYU® LOCK

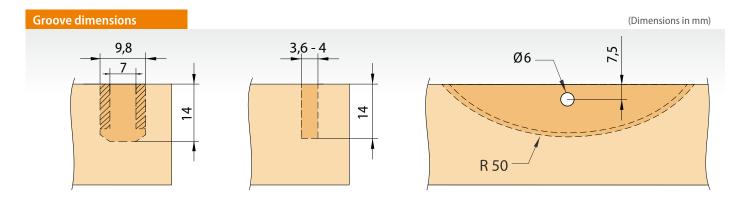


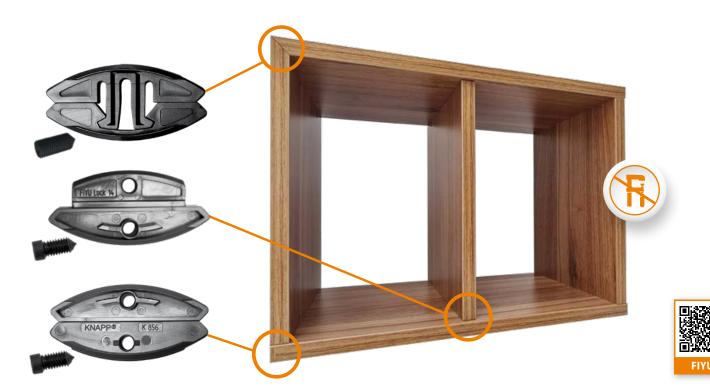
FIYU® LOCK





Assemble the components by fitting them together using hand pressure or a rubber hammer.



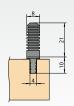


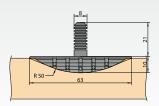
# **CLIPS**

# Clip-in biscuit connector, plastic

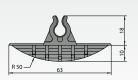












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Tip: Moisten surface before gluing if wood is very dry.

Cabinets, case goods, removable panels, toe kicks, miter joints, shop fittings. **Applications:** 

Advantages: Self-tightening, demountable connector, adjustable (with or without gap).

Suitable materials: All wood and board materials.

Cut slot with biscuit joiner (#20) according to groove depth T.10, apply KNAPP®-Installation:

Insert

ADHESIVE PU+ into biscuit cut and insert connector halves.

Mounting: With KNAPP®-ADHESIVE PU+.

Accessories: KNAPP®-ADHESIVE PU+ | Art.-No. Z011





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Cut #20 biscuit slot

Glue

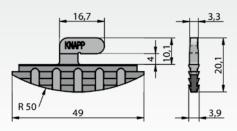
Assemble

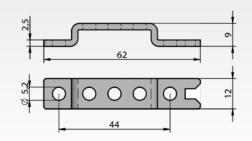
**KOMBI** 

# biscuit connector, alu/zinc diecast

Art.-No. K614







**Applications:** Architectural millwork, wall/facade paneling and cladding.

Advantages: Concealed, self-tightening biscuit connector.

Suitable materials: All wood and board materials.

Installation: Cut slot with biscuit joiner (#20) adjusting depth to 10 mm.

Mounting: install with PH-screws Ø 3x25 mm or glue with KNAPP-ADHESIVE PU+.

PH-screw 3x13 mm | Art.-No. Z600, PH-screw 3x25 mm | Art.-No. Z601, CS stainless steel screw A2 4,5x35 mm | Art.-No. Z409, Accessories:

KNAPP® Adhesive PU+ | Art.-No. Z011



Positioning



Mount KOMBI bracket with screws



Simply hook in the components



Can be detached if needed



# **DEKLICK®**



# **Clamp connector**

## **Benefits:**

- | Quick clipping on can be mounted vertically and horizontally
- I Prefabrication and tool-free assembly
- I Flexible joints design
- Stable particularly high load-bearing capacity using KNAPP®-KLEBER PU+
- | Quick assembly joint immediately loadable after it has been plugged together
- I Can be dismantled several times
- I To be screwed-on or glued



# **DEKLICK®** versions

Art.-No. K010/Set black

- = DEKLICK® lamellar clamp | Art.-No. K011/S
- + DEKLICK® block | Art.-No. K010/S

Removable version, black (F<sub>max</sub> = 8 kg)



# Art.-No. K010/Set grey

- = DEKLICK® lamellar clamp | Art.-No. K011/G
- + DEKLICK® block | Art.-No. K010/G

Extra grip version, grey  $(F_{max} = 20 \text{ kg})$ 



## Art.-No. K012/Set black

- = DEKLICK® screw clamp| Art.-No. K012/S
- + Bloc DEKLICK® | Art.-No. K010/S

Screw clamp version, black  $(F_{max} = 8 \text{ kg})$ 



- 1 DEKLICK® clamp
- 2 Lamellar bar for gluing
- 3 Positioning lug
- 4 Stop pin for transverse fixation
- 5 Clamp hook with clip function

- 6 DEKLICK® block
- 7 Block coupling profile
- 8 Fixing screw
- 9 Crosswise holes for screw connection
- 10 Stop and latching lugs





| Applications: | For interior and exterior use, acoustic ceilings, wall panels as well as furniture and interior fittings.   |  |  |
|---------------|---|--|--|
| Advantages:   | 3 variants for controlled resistance and more possible uses.  |  |  |
| Materials:    | POM -acetal plastic- (resilient) and polyamide (UV and weather resistant, recyclable).  |  |  |
| Installation: | Cordless screwdriver, flat dowel machine, CNC milling machine, various milling machines, profile milling cutter for block strip and decorative strip.   |  |  |
| Mounting:     | Position, screw (e.g. SK stainless steel screw 5x50 mm), clip on, glue (KNAPP® adhesive PU+) and clip on.   |  |  |
| Accessories:  | CS screw inox A2 5x50 mm   ArtNo. Z950, CS screw inox A2 4,5x35 mm   ArtNo. Z409, CS-screw 4x16 mm   ArtNo. Z422, EURO-screw 6,3x10 mm   ArtNo. Z510, Square nut M6 DIN 562   ArtNo. Z896, Torx Bit T15   ArtNo. Z411, Torx Bit T25   ArtNo. Z412, Milling cutter DEKLICK®   ArtNo. Z658, DEKLICK® shank milling cutter for block rail   ArtNo. Z893, Cutting head for DEKLICK® H 20/4 with Ø30 mm borehole   ArtNo. Z894, KNAPP®-ADHESIVE PU+   ArtNo. Z011. |  |  |

# **DEKLICK®** clamp connector

For indoor and outdoor use - 3 versions: screw clamp, removable, and extra grip

# **DEKLICK®** – Solution for elegant walls and ceilings



#### **Acoustic ceilings**

For invisible fastening, DEKLICK® combines a block or a block rail milled from wood as a base with a clamp as a counterpart which is simply clipped on and locks securely in place in a two-steps process.



#### **Decorative walls**

DEKLICK® block has both lateral and axial holes so that it meets a wide variety of screw connection requirements. With a centre screw connection in the axial direction, the connection is automatically aligned in the direction of alignment.



# Wall cladding

The screw clamp version of DEKLICK® is used for quick fastening. However, it offers additional processing possibilities. The clamps can be attached directly to the construction elements with EURO-screws, or in the 32 mm raster.









 $A coustic ceiling, training \, room, \, Knapp \, GmbH \, (Austria) \, {}^{\text{I}} \, Design \, in \, white \, glazed \, fir \, with \, DEKLICK^{\circ} \, clamp \, connector.$ 

#### Installation on a wooden block rail - Final width ± 60 mm



As an alternative to the DEKLICK® blocks, it is possible to fix the clamp to a wooden milled block rail (milling cutter available on request).



The milled block rail is screwed onto the load-bearing structure and placed in position. The clamps are easy and flexible to move along the length of



the block rail or are perfectly fixable if necessary. Assembly with block rails is ideal for large surfaces.

Pairing blocks, for easy assembly of several elements



Join the blocks and screw them together with Ø4 mm CS-screws.

# DEKLICK® shank milling cutter for block rail





# Milling cutter DEKLICK®





## Grooving cutter for DEKLICK® H 20/4 with Ø30 mm borehole



# Lamellar DEKLICK® installation with wooden block rail



Position the block strip and screw it in place.



Clip the clip onto the block strip.



Mill 4x12 mm grooves and fill KNAPP® Adhesive PU+ into the groove or apply to the slat bar.



Attach the slats to the clamp. Allow the adhesive to bond.

#### Lamellar DEKLICK® installation with wooden block



Position and fix the block onto the base with screw.



Clip the clamp onto the block.



Mill a 2-level groove and fill it with KNAPP® Adhesive PU+ or apply the adhesive on the block rail. Clip the workpiece onto the clamp.



Clip the decorative wooden strips over the clamps and allow the glue to harden.

#### **Safety advice:**

If necessary, attach additional fasteners to ceilings or and elements. Observe the general building regulations in your application project.

# Installing DEKLICK® screw clamp directly to the wall



Position DEKLICK® screw clamp using the screw holes.



For fixing to wood-concrete or screw directly to the wall.

# Panel installation with clamp screw



Pre-drill a Ø 5 mm hole for the EURO-screw.



Screw down.

# Installing the screw clamp with fixed or adjustable positioning



Fasten with Ø 4 mm CS-screws.



Adjust ± 2 mm.

# Screw clamp installation with block and block strip



DEKLICK® block (extra grip) with screw clamp.



Block rail with lamellar clamp.



Art.-No. Z336

easy-con® M8-16-25

**Applications:** Table leg to table tops and stair tread to stringer connections.

**Advantages:** Non-visible, demountable, self-tightening, strong.

Suitable materials: All wood materials (solid and composite).

**Traction strength:** 3 kN

Installation:Pre-drill holes and insert connector pieces.Mounting:Attach both components and tighten set screw.



Example of table leg to table top connection

#### Stair installation: Tread can be mounted both on top or on the side of the stringer



Screw-in threaded insert (SW 10)



Insert clamping elements in holes



Tighten elements (SW 4)



Stair steps attached and secured, connected with easy-con®





# **TREPPO**













**Applications:** Stair tread assembly for new construction and renovations.

Advantages: Height-adjustable mounting screw for steps to compensate for height diff erences with concrete steps.

**Suitable materials:** Wood stair treads attached to concrete, stone, and metal.

Installation: Concrete Ø 14 mm and If wood Ø 6 mm drilling. Bonding with KNAPP®-ADHESIVE PM+ in the borehole.

**Mounting:** By gluing into the holes with KNAPP®-ADHESIVE PM+.

Accessories: KNAPP®-ADHESIVE PM+ | Art.-No. Z010

#### Installation











Glue and insert

Transfer bore holes

Glue and assemble

# One-component polyurethane adhesives Connectors.com ADHESIVE Connectors.com Conn

NEW glass fibre reinforced KNAPP®-ADHESIVE PU+ Fibre reinforced

I Glass fibre reinforced
I High strength

I Viscoplastic adhesive joint

# **KNAPP®-ADHESIVE PU+**

I For thin adhesive joints
I For smooth surfaces

I Semi-hard adhesive joint

#### **KNAPP®-ADHESIVE PM+**

- I Joint-filling for thick adhesive joints
- I Foams only lightly
- Strong elastic adhesive joint

| Article     | KNAPP®-ADHESIVE <b>PU+</b> Fibre reinforced (Z012)   | KNAPP®-ADHESIVE PU+<br>(Z011)   | KNAPP®-ADHESIVE PM+<br>(Z010)  |
|-------------|--|---|--|
| Application | Craftsmanship, stairs, window, and door construction for universal assembly adhesives in industry and trade, renovations, and overhead installations.  | From furniture to window production on smooth surfaces.   | For assembly work on uneven surfaces.  |
| Properties  | Newly developed polyurethane-based construction adhesive, has a particularly force-reinforcing effect thanks to fibreglass fibres, water-resistant according to EN 204 class D4.   | Easy to use one-component polyurethane adhesive, water-resistant according to EN 204 Class D4.  | Easy to use, all purpose, one component polyurethane adhesive, joint-filling, water-resistant according to EN 204 class D4.  |
| Processing  | Apply on one side, swells during curing, skin forming time approx. 7 min, functional strength after approx. 20 min, curing time approx. 24 h, processing temperature min. +7 °C, material humidity <8%, bonding tests recommended. | Apply on one side, swells during curing, skin forming time approx. 10 min, functional strength after approx. 20 min, curing time approx. 24 h, processing temperature min. +7 °C, material humidity 8-18%, bonding tests recommended. | Apply on one side, swells during curing, skin forming time approx. 7 min, functional strength after approx. 20 min, curing time approx. 24 h, processing temperature min. +7 °C, material humidity 8-18%, bonding tests recommended. |
| Materials   | Various wood and building materials and ceramics. Gluing of wood e.g. larch and metals e.g. aluminium, copper, brass, thermosets and thermoplastics. Colour: transparent-opaque.   | Various types of wood and building materials, as well as plastics, stone, ceramics, metal and KNAPP® connectors, e.g. TREPPO (2-3 cartridges for 100 drill holes). Colour: beige.   | A wide variety of wood materials, as well as plastics, stone, metal and all the recommended KNAPP® connectors. Colour: white.  |

High bonding strength for end grain gluing. Can be subsequently powder-coated (30 min/+200°C) Polyurethane adhesive - also suitable for sauna construction - Resistant to permanent temperatures up to 120°C. By using spray mist, the curing time is reduced by 50%.

**Bonding** 

Apply to clean, grease- and dust-free surfaces. General processing instructions in the Technical and Safety Data Sheet for download.







KNAPP®-ADHESIVE PU+ is recommended for:



KNAPP®-ADHESIVE PM+ is recommended for TREPPO:



# **DUO 30, DUO 35**

# Panel / Hook-in connectors made of steel

#### **Benefits:**

- I Easy to mount, concealed and immediately load bearing
- Shallow drilling depth only 3 mm
- Available in Ø 30 and 35 mm
- Optionally mL / oL (with / without sideways tolerance)
- Installed with standard CS-screws or EURO-screws
- Latch the connection with optional locking clip



HK I WE F

Installation example: Fixing of door panel linings, water discharges, decorative parts.

# **DUO 30 mL**

Art.-No. K070



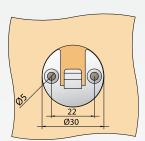
CS-screws 3,5x16 mm (not included) Art.-No. Z502

# DUO 30 oL

Art.-No. K074



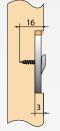




Hooking way 15 mm Drilling depth 3 mm

Installation example:

Handrail mounting





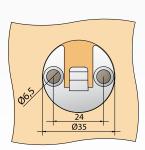
**DUO 35 mL** 

Art.-No. K061



DUO 35 oL

Art.-No. K062



Hooking way 12 mm Drilling depth 3 mm



Optimized for CNC-processing: Euro-screws 6x10 mm

**Accessories:** 

**Applications:** Facades and windows, staircases and handrails, cabinet end panels, door and window casing.

Advantages: Concealed, self-tightening, demountable connector which allows shrinkage and expansion moving

(mL = with tolerances) or for exact placing (oL = with no tolerances).

Suitable materials: All kinds of wood and particle boards.

**Installation:** Drill 3 mm deep holes using the KNAPP® Forstner Bit Ø 30/35 mm with drilling jig or with CNC equipment.

Mounting: Mount DUO 30 with (suggested) CS-screws 3,5x16 mm / DUO 35 with (suggested) Euro-screws 6x10 mm.

Screws length depends on application.

KNAPP® Forstner Bit (Ø 30/35 mm, adjustable depth gauge) | Art.-No. Z070 / Art.-No. Z071

Center punch DUO 30/35 | Art.-No. K071 / Art.-No. K069,

Handrail punch DUO 30 | Art.-No. K075

Adjustable boring template DUO 30/35 | Art.-No. K563.



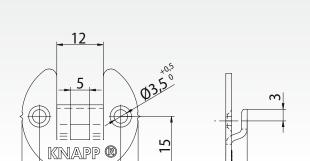
# DUO 30 inox A5

# The inox A5 suspension hook connector

21

Ø30-0.3

Art.-No. K350

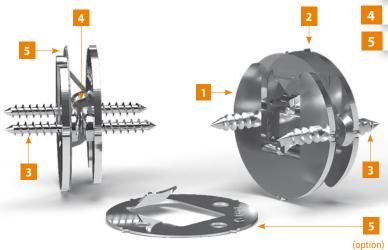


# **Benefits:**

- I Precise and invisible
- I Extremely weatherproof
- I High degree of corrosion resistance (A5)
- I Immediate tensile strength, demountable
- | Easy to install simple positioning and mechanical retention in the drill hole thanks to the holding tips
- I Easy to fit together without additional tools



- Positioning and holding tips
- Fix with PH screws 3x13 mm (A2)
- Dovetail hook
- Locking clip (A2)





For façades, wall and ceiling cladding, panels, mouldings (ship and yacht building, sauna construction, outdoor), **Applications:** 

and constructions that require a high degree of weathering and corrosion resistance.

Advantages: Corrosion resistance (A5)

Suitable materials: All woods, wood-based materials and plastics

Screw in with PH screws Installation:

TCT Forstner drill bit 30 with adjustable brad point, bench drill or CNC

5,5

Mounting: Position, press in and screw or glue together

Locking clip inox (A2)| Art.-No. K121, Centre punch DUO 30 | Art.-No. K071

PH-screw inox A2 3x13 mm | Art.-No. Z631

TCT Forstner drill bit 30 with adjustable brad point (Ø 30 mm) | Art.-No. Z070

Drilling template suitable for DUO 30 | Art.-No. K563



# Installing DUO 30 inox A5



**Accessories:** 

Drilling with template or according to mark



Mark counter part drilling position with centre punch



Install the locking clip to secure the assembly



Position the connector using the holding tips



Secure with PH screws



Assemble

# **UNO 30**

# 

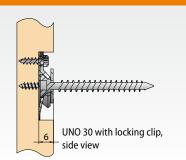
## Stainless steel A2 hook connector with optional locking clip

Art.-No. K120/B UNO 30 inox set UNO 30

Art.-No. K120 UNO 30 garniture (with CS-holding screw 5x50 mm)

PH-screw inox A2 3x13 mm CS-holding screw A2 5x50 mm

Additional screw lengths available upon request



Applications: Paneling, facades, handrails, furniture (use with or without locking clip).

Advantages: Concealed, self tightening, demountable connector for 30 mm drills.

Suitable materials: All wood materials including concrete and drywall with use of wall anchor.

Installation: Drill a 7 mm deep hole using the KNAPP Forstner Bit Ø 30 mm using center punch and drilling jig or with CNC.

Mounting: Screw-fastening with PH-screw Ø 3.5 mm, only 6 mm recess depth.

KNAPP® Forstner bit with adjustable depth stop (Ø 30 mm) | Art.-No. Z070

Accessories: Center punch UNO 30 | Art.-No. K073

Adjustable boring template UNO 30 | Art.-No. K563















Drill with jig

or according to mark

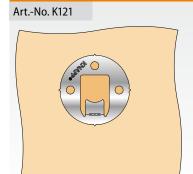
Screw in the connector part

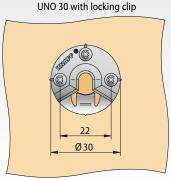
Mark counter part with center punch

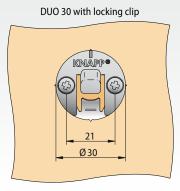
Install with screws

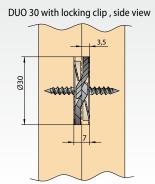
# Locking clip

# Spring steel locking clip for DUO 30 inox and UNO 30









**Applications:** For securing joints in the opposite direction to assembly.

**Mounting:** Insert beneath DUO 30, DUO 30 inox A5 or UNO 30 bracket prior to mounting with screws.

Advantages: Locking clip holds up to 24 kg (failure load approx. 73 kg).

Ø8mm

Ø 10,5 mm

Ø 10 mm

# **TUCK**

# 

# Spring steel dowels

Art.-No. Z5052 Art.-No. Z5053 Art.-No. Z5055 Art.-No. Z5055B Art.-No. Z5055A 6x25 mm 8x35 mm 10x32 mm 10x16 mm 10x28 mm 8,8 11,5 10,8 32 Drillhole Drillhole Drillhole Drillhole Drillhole

**Applications:** Cabinets, case goods, architectural millwork, shop fitting. Anywhere standard wood dowels are used.

Advantages: Concealed, self-tightening compression dowel, immediately load bearing.

Suitable materials: All kind of wood materials (solid and composite). Installation: Dowel drilling jig, Doweling joiner, CNC drilling.

Mounting: Insert or screw on the TUCK.













Ø 10 mm

Drill with doweling machine

or doweling joiner

Knock in

Assemble or screw

Ø6mm

# **MILLER DOWEL**

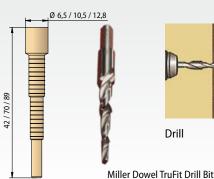
# Timber pegs for natural wooden furniture

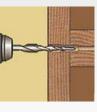
Art.-No. Check online-store

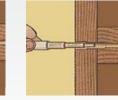
Miller Dowel Mini-X: Ø 6,5x42 mm

Miller Dowel 1x: Ø 10,5x70 mm

Miller Dowel 2x: Ø 12,8x89 mm









Drill

Apply wood glue and position

Knock in

**Applications:** For connecting ecologically decorative furniture.

Advantages: Easy installation, decorative design, and ECO - friendly material.

Suitable materials: Solid wood, plywood, MDF.

Installation: Drill with custom stepped drill bit, apply adhesive in borehole and insert dowel.

Mounting: Drill and knock in.

MILLER® TruFit Drill Bit | Art.-No. Z01D, Z02D, Z03D (check online-store). **Accessories:** 











Case goods

Load bearing connections Frame connections

# **KNAPP®-DOWEL**

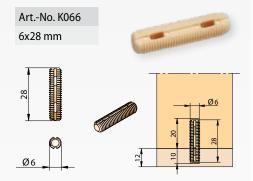
# Selftightening plastic dowels

# 

#### **Benefits:**

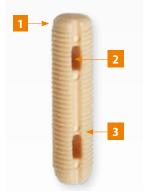
- | Effective prefabrication doweling jig or automatic doweling machine
- | Fast installation connection can be used immediately after insertion
- Design channel along dowel allows for smooth distribution of adhesive and prevents surface from bulging
- No shrinking or swelling will occur, thus no risk of breaking or splitting as with wooden dowels
- Weather resistant high quality polyacetal (POM) plastic for interior and exterior use
- Strong hold through additional bonding with KNAPP® ADHESIVE PU+

# KNAPP®-DOWEL 6 mm



**Tip:** Moisten the surface of very dry wood before gluing.

KNAPP®-DOWEL 8 mm



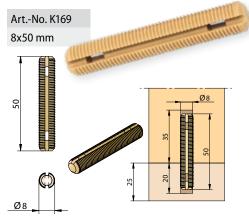
- 1 High strength and weather-resistant plastic.
- 2 Slots and longitudinal channels ensure anchoring in tension when using KNAPP®-Adhesive PU+, The adhesive creates a force-locking connection between the components during curing.
- Threaded design allows for quick installation and unscrewing of KNAPP® Dowel if necessary.

# Art.-No. K067 8x36 mm



# Applications: Case goods, furniture, architectural millwork and shop fitting, windows. Wherever wood dowels can be used. Advantages: UV-resistant, self-tightening dowel. Suitable materials: All kind of wood materials (solid and composite). Drill holes with doweling jig or doweling joiner. Insert by hand with hammer or automated dowel insertion machine. Optionally, insert adhesive before inserting dowel. Mounting: Gluing with KNAPP®-ADHESIVE PU+. Accessories: KNAPP®-ADHESIVE PU+ | Art.-No. Z011

# KNAPP®-DOWEL 8 mm



# Tourillons KNAPP®

#### Installation



Drill with doweling machine



or doweling joiner



Glue



Knock in



Assemble

# Application: Panel materials and example of processing dowel insertion tools



Serial installation of KNAPP® dowels with the dowel insertion machine GANNOMAT Selekta.



Drilling machine GANNOMAT Optima



Dowel inserter **GANNOMAT Selekta** 

KNAPP®-Dowels are also used for wooden windows and doors. Find more details about this application on page 67 and on our website.

Other machine suggestions for the installation of our connectors on page 30.



# Outdoor and indoor areas applications: wooden windows, boat, garden furniture, laboratory equipment, door frames















Glue **Boat building** Drill Assemble

Outdoor furniture

Door frames

# **QUICK-SET**



**Applications:** Furniture, architectural millwork, shop fitting. Wherever wooden dowels are used.

Advantages: Concealed, self-tightening, no glue necessary. Suitable materials: All kind of wood materials (solid and composite). Installation: Drill holes with doweling jig or doweling joiner.

Screw-in threaded stud, then insert plastic sleeve on counter part and insert threaded stud into plastic sleeve. Mounting:



Drill with doweling machine



or doweling joiner



Screw-in metal stud



Insert plastic sleeve



Insert plastic sleeve



# **KLICK**

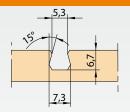
# Snap-in dovetail connector, plastic

Art.-No. K045









Furniture, shopfitting, conceal mouldings or cleats, trims and mitered corners, **Applications:** decorative inserts, ceilings, yacht interiors as well as gluing aid.

Advantages: Concealed, self-tightening, demountable.

Suitable materials: All kind of wood materials (solid and composite).

Use a router table or CNC to make dovetail router and snap KLICK into groove. Installation:

Can also be used in combination with KLICKpro.

Mounting: By hooking into the dovetail groove.

TCT router bits - with Ø 6 mm; Ø 6,35 mm and Ø 8 mm shank | Art.-No. K045/F; **Accessories:** 

K048/F; K046/F



H) (I) (S) (S) (S)

#### Installation







Insert



Position/adjust



Snap-in



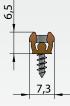


**sKLICK** 

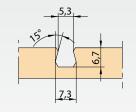
# Screw-on dovetail connector, plastic incl. PH-screws 3×13 mm

Art.-No. K048









Furniture, fittings, fixing mouldings or cleats, decorative inserts, ceilings, yacht **Applications:** 

interiors as well as gluing aid.

Advantages: Selftightening, demountable connector for any angles 0-90°.

Suitable materials: All kind of wood materials (solid and composite).

With router, circular saw, portable router or CNC, with the original TCT ROUTER, Installation:

full-length or spot router - can be combined with KLICKpro.

Mounting: By fastening with screw.

TCT router bits - with Ø 6 mm; Ø 6,35 mm and Ø 8 mm shank | Art.-No. K045/F; **Accessories:** 

K048/F; K046/F, PH screw 3x13 mm | Art.-No. Z600

#### Installation



Route groove



Screw-on



Adjust position



Snap-in



(H) (1) (%) (%) (%)

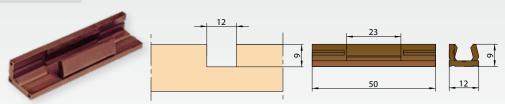




# **KLICKpro**

# Dovetail adapter, plastic





**Applications:** Concealed mounting of filler panels, covers and moldings.

Advantages: Concealed adapter, selftightening dovetail housing suitable for KLICK ou sKLICK.

Suitable materials: All kind of wood materials (solid and composite).

Cut either groove or rebate (9x12 mm by using a spindle moulder or CNC) or Installation:

install KLICKpro surface mounted.

Mounting: Fixed KLICKpro by either screwing, nailing or gluing.



#### Installation











Route groove

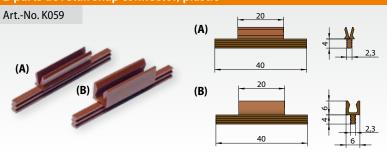
Mount with screws or nails

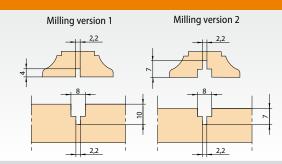
Snap together

Combinaison sKLICK and KLICKpro

# miniKLICK

# 2-parts dovetail snap connector, plastic





**Applications:** Concealed mounting of small moldings and glazing beads e.g. interior doors.

Advantages: Invisible, self-tightening, removable, space-saving. Suitable materials: All kind of wood materials (solid and composite).

Installation: With spindle moulder and original KNAPP® cutting saw blade (2.2-6×120 mm, with Ø 30 bore).

Mounting: Gluing into pre-cutted groove with KNAPP®-ADHESIVE PU+.

miniKLICK grooving 120 mm saw blade, Ø 30 mm drillhole | Art.-No. Z065 (other Ø on request)

Insert tool miniKLICK | Art.-No. K068 **Accessories:** 

Insert

KNAPP®-ADHESIVE PU+ | Art.-No. Z011



Route groove











Snap together

Glue (Option)

#### Installation: soulevant coulissant MACO-InfinityView







A glass fiber reinforced plastic core, which is covered on the outside with an aluminium shell and on the inside with a wooden frame.

The miniKlick ensures the optimal connection of the wooden sash frame with the glass fiber reinforced plastic core.

# **Accessories**

# Lock

Art.-No. K121 Locking clip (A2)

For securing joists in the opposite direction to insertion, use in combination with UNO 30, DUO 30 and DUO 30 inox A5

#### **Insert Tool**

Art.-No. K049/E Insert tool for driving in KNAPP® connectors (SUNNY, SILVER, FAST and FIYU®)



## Allen key with ball end

Art.-No. Z647 To fasten FIYU® tensionning screws M5x13 mm



# Center punches DUO 30/35

| ArtNo. K071 | Center punch DUO 30   |
|-------------|-----------------------|
| ArtNo. K075 | Handrail punch DUO 30 |

Art.-No. K069 Center punch DUO 35 with Ø5 mm for pre-drilling holes for Euro-screws



# Center punch UNO 30

Art.-No. K073 Transfer center mark to opposing wood component when using UNO 30



# Square nut DEKLICK®

Art.-No. Z896 Square nut M6 DIN 562, zinc-coated steel



# KNAPP® Forstner bit Ø 30 mm/35 mm

Art.-No. Z072 Forstner bit with adjustable depth stop and adjustable centering point

(for UNO 30, DUO 30 and DUO 30 inox A5)

Art.-No. Z071 Forstner bit with adjustable depth stop (for DUO 35)



## KLICK dovetail router bit and 2 flute straight router bit

| ArtNo. K045/F  | KLICK router bit with Ø 6 mm shank (to route dovetail KLICK and sKLICK)    |
|----------------|--|
| ArtNo. K046/F  | KLICK router bit with Ø 8 mm shank (to route dovetail KLICK and sKLICK)    |
| ArtNo. K048/FQ | KLICK router bit with Ø 6,35 mm shank (to route dovetail KLICK and sKLICK) |

Art.-No. Z066 2 Flute straight router bit Ø 15 mm, 25 mm length, with Ø 8 mm shank (for CONTRA 800, DUO-System)



# Accessories

| Accessorie    | _3   |          |
|---------------|--|----------|
| Routing tools |  | Tilging. |
| ArtNo. Z658   | Milling cutter DEKLICK® with profiling knives                                      |          |
| ArtNo. Z893   | Shank profiling cutter DEKLICK®  |          |
| ArtNo. Z065   | miniKLICK grooving saw blade 2.2-6 x 120 mm with Ø 30 mm bore (other Ø on request) |          |
|               |  |          |
| ArtNo. Z894   | Grooving cutter DEKLICK® h20/4 with Ø 30 mm bore (other Ø on request)              |          |
|               |  |          |

| Adjustable dri | ll jig   |   | The state of the s |
|----------------|--|---|--|
| ArtNo. K563    | Drilling jig suitable for KNAPP® Forstner bit Ø 30-35 mm         |   | Million .  |
|                | to drill holes for DUO 30, DUO 35 and UNO 30                     |   |  |
|                |  |   |  |
| Vis            |  |   | America  |
| ArtNo. Z510    | Euro screw 6.3x10 mm (for CONTRA, DUO35 and DEKLICK®)            | * | Protect  |
| ArtNo. Z426    | Euro screw 6,3x11 mm   | * | ( Internal P   |
| ArtNo. Z427    | Euro screw 6.3x14 mm   |   | 1014441  |
| ArtNo. Z518    | Euro screw 6,3x30 mm (for CONTRA)                                |   |  |
| ArtNo. Z600    | PH-screw 3x13 mm (for METAL, UNO 30 and sKLICK)                  | × | A Comme  |
| ArtNo. Z601    | PH-screw 3x25 mm (for METAL)                                     | × | C-mmmmm-   |
| ArtNo. Z502    | CS-screw 3.5x16 mm (for DUO 30)                                  | * | (Jum)  |
| ArtNo. Z422    | CS-screw 4x16 mm (for CONTRA and DEKLICK®)                       | * | 4) -01115-   |
| ArtNo. Z423    | CS-screw 4x40 mm (for CONTRA)                                    | * | 1-mmmmm-   |
| ArtNo. Z409    | CS-screw inox A2 4.5x35 mm (for KOMBI and DEKLICK®)              | * | 3 Taxanananan  |
| ArtNo. Z514    | CS-screw inox A2 5x25 mm with cutter tip (for QUATRO and UNO 30) | * | 1) Marrier   |
| ArtNo. Z515    | CS-screw inox A2 5x30 mm with cutter tip (for QUATRO and UNO 30) | * | 1) Orderstone  |
| ArtNo. Z950    | CS-screw inox A2 RICON® 5x50 mm (for DEKLICK® and UNO 30)        |   | No similimi  |
| ArtNo. K857    | Tensionning screw M5x13 mm (for FIYU® LOCK)                      | • |  |
| ArtNo. Z428    | Grub screw M6x12 mm (for FIYU® FAST)                             |   |  |
|                |  |   |  |
| ArtNo. Z411    | Tany bit T1F   /far DEVI ICK® and 7 DECV)                        |   |  |
|                | Torx bit T15   (for DEKLICK® and Z-DECK)                         |   |  |
| ArtNo. Z412    | Torx bit T25   (for DEKLICK® and UNO 30)                         |   | Section 1  |

| Templates, dri<br>ArtNo. Z01D,<br>Z02D, Z03D | MILLER® Dowel TruFit Bit I ArtNo. Z01D, Z02D, Z03D (see online store)  |
|--|--|
| ArtNo. K617,<br>K618, K619                   | Drill and test-jig (for positioning and drilling MODULAR) (available in different sizes: M32/11, M44/11, M64/11, see online store) |
| ArtNo. Z010                                  | KNAPP®-ADHESIVE PM+, see page 19 (TREPPO)  |
| ArtNo. Z011                                  | KNAPP®-ADHESIVE PU+, see page 19 (CHAMP, CLIPS, KOMBI, DEKLICK®, KNAPP® Dowel, miniKLICK)  |
| ArtNo. Z012                                  | KNAPP®-ADHESIVE PU+, fibre reinforced, see page 19   |

# Our machine partner

Machining for the implementation of KNAPP® connectors can be carried out in an automated, simple, fast, and professional manner with Gannomat machines.



# Turning machine and digital drilling machine

**GANNOMAT Index** 











CNC precision machinig center for complete processing: **drilling**, **grooving**, **routing**.

ProTec allows compact design and high performance technology with through feed technique for KNAPP® connectors installation in cabinets, furniture, interior design and much more.

Compact - Stronger - Faster.

# **Gluing and Dowelinsertingmachines**

**GANNOMAT Selekta** 

 $KNAPP^*$  dowel insertion machine with dowel gun, for use in furniture manufacture, frame assembly and window manufacture. Gluing and insertion in a single operation.





# **CONTRA 800**

# Connector for case goods

Art.-No. K800/B





#### **Screw recommendation**

1 EURO-screw CS 6.3x13 mm and 1 EURO-screw CS 6.3x35 mm (Depending on the requirement, different lengths can be used)



#### or

1 vis CS 4.0x16 mm and 1 vis CS 4.0x40 mm (Depending on the requirement, different lengths can be used)

The screw connector CONTRA 800 is simply screwed-on and can be used indoors and outdoors. Material thickness as little as

8 mm can be used when CONTRA 800 is combined with Euro-screws. An ideal connector with rebate cuts.

CONTRA can be used with Euro screws as little as 6 mm long.

Advantages: Fast and versatile - alternative to angle square.

Suitable materials: All materials in wood, plastic, steel or masonry.

**Installation:** Only one saw cut or rout a milling or stump screwed on.

**Mounting:** Screw with CS or EURO screw.

# Furniture components / corner joints

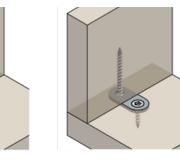
or

Recessed on edge in 90°

Applications:

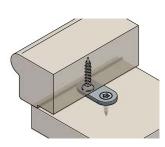


Recessed on face grain in 90°

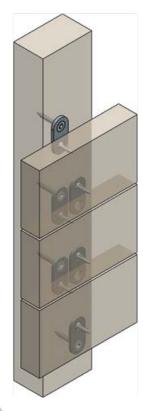




Plinth block

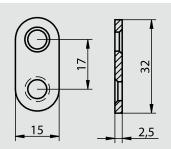


# Facades, siding, and decking









CONTRA 800 dimensions and material:

Length: 32 mm Width: 15 mm

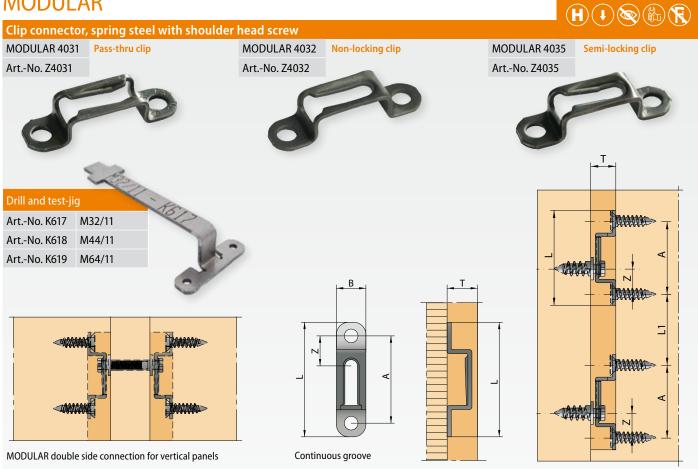
Thickness: 2.5 mm

Material: steel, blue galvanized surface (other finishes on request)

Flute Straight Router Art.-No. Z066



# **MODULAR**



|   | MODULAR              | 4031, 4032, 4035 |
|---|----------------------|------------------|
|   | Panel thickness from | 16 mm            |
| Α | Hole-line            | 32 mm            |
| В | Routing width        | 11 mm            |
| L | Routing length       | ≥ 42 mm          |
| Т | Routing depth        | 11 mm            |
| Z | Center distance      | 11 mm            |









MODULAR clip, suitable with the 32 mm system

Totally concealed installation

Find all new pieces of MODULAR connectors in our Online-Store!

| Applications:       | Flat pack, RTA cabinets, case goods, and furniture.  |
|---------------------|--|
| Advantages:         | Concealed, self-tightening connector for 32 mm system, demountable, for timber and steel.  |
| Suitable materials: | For all solid wood, wood based panels and plastic materials from 16 mm thickness up.   |
| Installation:       | Make groove with spindle moulder, plunge router, CNC equipment.<br>Pre-drill with drill-jig. and install clips.  |
| Mounting:           | Install clips with PH or CS-screws up to $\emptyset$ 4.5 mm (length depending on application) Shoulder head screw engages with the clip when sliding them into each other. |
| Accessories:        | Drill and test-jig   ArtNo. K617 (M32/11), ArtNo. K618 (M44/11), ArtNo. K619 (M64/11)  |
|                     |  |



NEW

# MODULAR shoulder head screw

| Shoulder head screws      |              |                       |
|---------------------------|--------------|-----------------------|
| MODULAR 2055              | MODULAR 2155 | MODULAR 5068          |
| ArtNo. Z2055              | ArtNo. Z2155 | ArtNo. Z5068          |
|                           |              | Signal and the second |
| Height de filetage: 13 mm | 16 mm        | 32 mm                 |

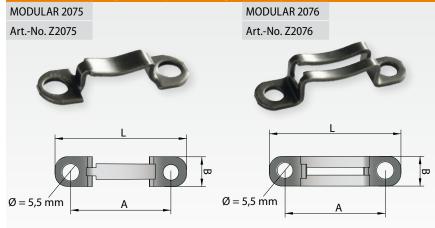
# Double side connection

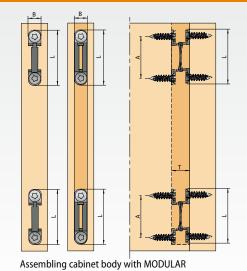
| Shoulder head screws M4 |              |  |  |  |  |  |
|-------------------------|--------------|--|--|--|--|--|
| MODULAR 2069            | MODULAR 2066 |  |  |  |  |  |
| ArtNo. Z2069            | ArtNo. Z2066 |  |  |  |  |  |
|                         |              |  |  |  |  |  |
| 15 mm                   | 16 mm        |  |  |  |  |  |

# **MODULAR Anti-Torsion**









For PH or CS-screws up to  $\emptyset$  4.5 mm

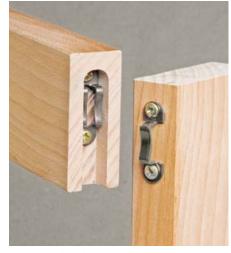
MODULAR 5075 MC (w/ integrated stop) MC Art.-No. Z5075 Art

MODULAR 5071 (w/o integrated stop) Art.-No. Z5071



MODULAR 5076 MODULAR 5072 (matching Art.-No. Z5075) Art.-No. Z5076 Art.-No. Z5072





For PH or CS screws up to  $\emptyset 5 \text{ mm}$ .

Ø = 6,2 mm

Connection de cadres avec MODULAR

|   | MODULAR              | 2075, 2076 | 5071, 5072, 5075, 5076 |
|---|----------------------|------------|------------------------|
|   | Panel thickness from | 16 mm      | 19 mm                  |
| Α | Hole-line            | 32 mm      | 32 mm                  |
| В | Routing width        | 10 mm      | 13.5 mm                |
| L | Routing length       | 42 mm      | 42 mm                  |
| Т | Routing depth        | 14 mm      | 12 mm                  |



| Applications:       | Frames, chairs, furniture, cabinets, bookcases and shelving with heavy loads, fittings.                     |
|---------------------|---|
| Advantages:         | No rotation, concealed, self-tightening connector for 32 mm system, demountable.                            |
| Suitable materials: | For all solid wood, wood based panels and plastic materials from 16 mm thickness up.                        |
| Installation:       | Make groove with spindle moulder, horizontal router table, CNC equipment.                                   |
| Mounting:           | Pre-drill with drill-jig and install clips with PH or CS-screws Ø 4.5 mm (length depending on application). |
| •                   |   |

# Installation

Route groove











Check width Mark position

Install clip Install SH screw

# Zipbolt™ 90 KD

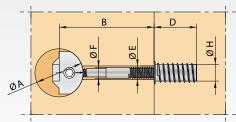
(M = Drilling depth)

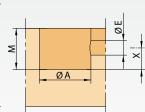


# Joint connector for frames ≥ 22 mm

Art.-No. Z372







With metal housing:

Load capacity up to 60 kg tension load (failure load approx. 100 kg)

| M     | Х     | ØΑ    | В        | D     | ØH    | ØF   | E    |
|-------|-------|-------|----------|-------|-------|------|------|
| 20 mm | 10 mm | 35 mm | 60-65 mm | 32 mm | 12 mm | 8 mm | 9 mm |

**Applications:** Frame connector for beds and RTA furniture.

Fast and easily installed by using a SW5 hex bit in conjunction **Advantages:** 

with cordless drill.

Suitable materials: For all solid wood and wood based panels. Installation: Pre-drill holes using plunge router or CNC. Mounting: Insert connector parts into holes and assemble.





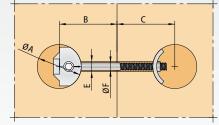
# ZIPBOLT™ 85

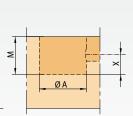
# 

# Joint connector for countertops ≥ 22 mm

Art.-No. Z358







With metal housing:

Load capacity up to 60 kg tension load (failure load approx. 100 kg)

| M     | Length | Х     | Ø A   | В        | C        | ØF   | E    |
|-------|--------|-------|-------|----------|----------|------|------|
| 20 mm | 85 mm  | 10 mm | 35 mm | 33-44 mm | 33-44 mm | 6 mm | 8 mm |

**Applications:** Joint connector for worktops, countertops and panels.

**Advantages:** Fast and easily installed by using a SW5 hex bit and a cordless drill.

Suitable materials: For all solid wood and wood based panels. Installation: Pre-drill holes using plunge router or CNC. Insert connector parts into holes and assemble. Mounting:



# ZIPBOLT™ 120

(M = Drilling depth)

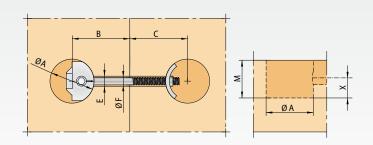






# Joint connector for countertops ≥ 22 mm





With metal housing:

Load capacity up to 60 kg tension load (failure load approx. 100 kg)

| М     | Length | Х     | Ø A   | В        | С        | ØF   | E    |
|-------|--------|-------|-------|----------|----------|------|------|
| 20 mm | 120 mm | 10 mm | 35 mm | 50-62 mm | 50-62 mm | 6 mm | 8 mm |

**Applications:** Joint connector for worktops, countertops and panels.

Advantages: Fast and easily installed by using a SW5 hex bit SW5 and a cordless drill.

Suitable materials: All kind of wood materials (solid and composite).

Installation: Pre-drill holes using plunge router or CNC. Mounting: Insert connector parts into holes and assemble.



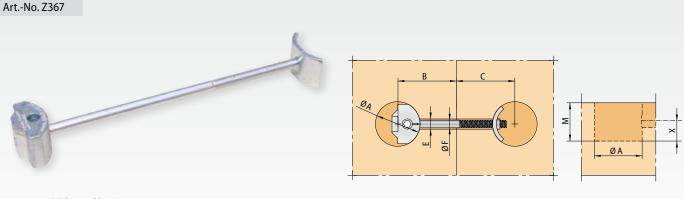
# ZIPBOLT™ 170

# Joint connector for countertops ≥ 22 mm









With metal housing:

Load capacity up to 60 kg tension load (failure load approx. 100 kg)

| М     | Length | Х     | ØΑ    | В        | С        | ØF   | Е    |
|-------|--------|-------|-------|----------|----------|------|------|
| 20 mm | 170 mm | 10 mm | 35 mm | 74-87 mm | 74-87 mm | 6 mm | 8 mm |

**Applications:** Joint connector for worktops, countertops and panels.

Advantages: Fast and easily installed by using a SW5 hex bit and a cordless drill.

Suitable materials: For all solid wood and wood based panels. Installation: Pre-drill holes using plunge router or CNC. Mounting: Insert connector parts into holes and assemble.



# ZIPBOLT™ 100 MINI

(M = Drilling depth)



# Joint connector for countertops ≥ 16 mm



With metal housing:

Load capacity up to 60 kg tension load (failure load approx. 100 kg)

|  | B 400 400 400 400 400 400 400 400 400 40 | C | M × |
|--|--|---|-----|
|--|--|---|-----|

| M     | Length | Х    | Ø A   | В        | C        | ØF   | Е     |
|-------|--------|------|-------|----------|----------|------|-------|
| 13 mm | 100 mm | 7 mm | 25 mm | 42-49 mm | 42-49 mm | 7 mm | 11 mm |

**Applications:** Countertop and panel connectors for straight butt joints.

Advantages: Fast and easily installed by using a SW4 hex bit and a cordless drill.

Suitable materials:All kind of wood materials (solid and composite).Installation:Pre-drill holes using plunge router or CNC.Mounting:Insert connector parts into holes and assemble.



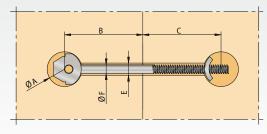
# ZIPBOLT™ 100 MINI ULPHA SLIM



# Joint connector for countertops ≥ 13 mm



With metal housing: Load capacity up to 60 kg tension load (failure load approx. 100 kg)



| · · | ØA  |   |
|-----|-----|---|
|     | Ø F | Е |
|     |     |   |

**Applications:** Countertop and panel connectors for straight butt joints.

**Advantages:** Fast and easily installed by using a TX25 Torx bit and a cordless drill.

Length

Suitable materials: All kind of wood materials (solid and composite).

Installation: Pre-drill holes using plunge router or CNC.

Mounting: Insert connector parts into holes and assemble.



# ZIPBOLT™ MINI UT 30 KD

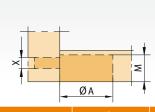
# 

# Joint connector for countertops ≥ 16 mm



|   | B C        |  |
|---|------------|--|
|   | <b>O</b> A |  |
| - | Ø F        |  |

ØA



| M       | Length | Х    | Ø A   | В     | C     | ØF   | E    |
|---------|--------|------|-------|-------|-------|------|------|
| 12,8 mm | 30 mm  | 5 mm | 25 mm | 12 mm | 12 mm | 5 mm | 5 mm |

**Applications:** Countertop and panel connectors for straight butt joints.

**Advantages:** Fast and easily installed by using a SW4 hex bit and a cordless drill.

**Suitable materials:** All kind of wood materials (solid and composite).

Installation:Pre-drill holes using plunge router or CNC.Mounting:Insert connector parts into holes and assemble.





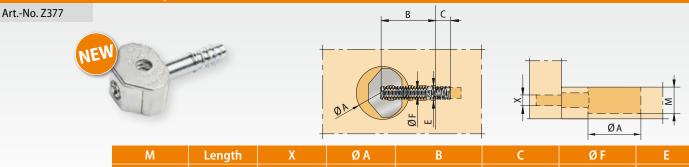
25 mm

# ZIPBOLT™ MINI UT 43 KD

(M = Drilling depth)



# Joint connector for countertops ≥ 16 mm



**Applications:** Countertop and panel connectors for straight butt joints.

Advantages: Fast and easily installed by using a SW4 hex bit and a cordless drill.

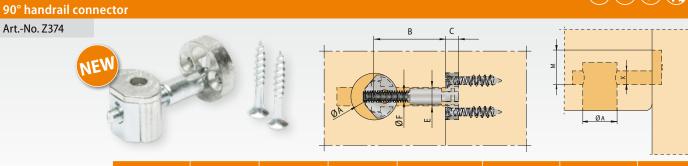
Suitable materials: All kind of wood materials (solid and composite). Installation: Pre-drill holes using plunge router or CNC. Mounting: Insert connector parts into holes and assemble.



6 mm

# **ZIPBOLT™** SLIPFIX RAILBOLT





| M     | Length | Х     | ØΑ    | В       | C    | ØF | E         |
|-------|--------|-------|-------|---------|------|----|-----------|
| 35 mm | 49 mm  | 10 mm | 25 mm | ± 38 mm | 7 mm | 6  | 9,5-10 mm |

**Applications:** Countertop and panel connectors for straight butt joints.

Advantages: Fast and easily installed by using a 5mm hex bit and a cordless drill.

Suitable materials: All kind of wood materials (solid and composite). Installation: Pre-drill holes using plunge router or CNC. Mounting: Insert connector parts into holes and assemble.



# **ZIPBOLT™** EXTERIOR SLIPFIX

Exterior 90° handrail connector

# H T P





| 19 | - | ØA . | 10 H | <b>W</b> i> ! | ØA _ |   |
|----|---|------|------|---------------|------|---|
|    | Х | Ø A  | В    | C             | ØF   | Е |

**Applications:** Countertop and panel connectors for straight butt joints.

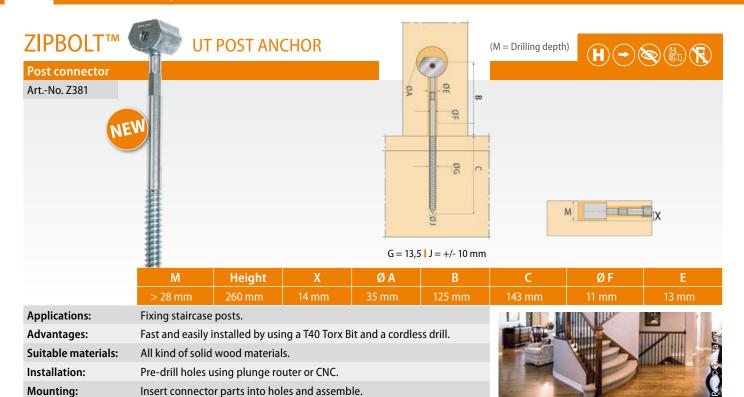
Advantages: Fast and easily installed by using a 5mm hex bit and a cordless drill.

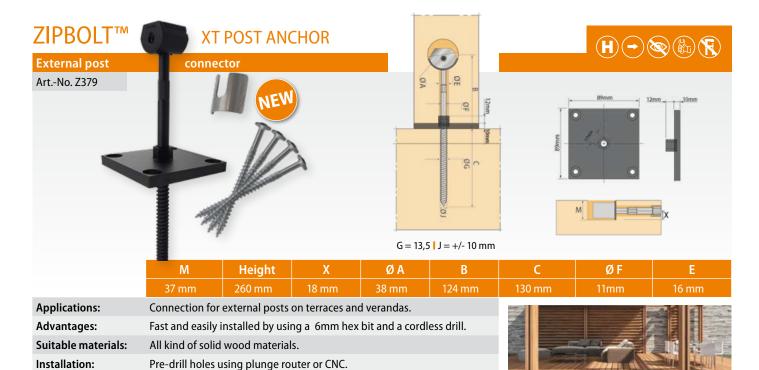
Length 49 mm

Suitable materials: All kind of wood materials (solid and composite).

Installation: Pre-drill holes using plunge router or CNC. Mounting: Insert connector parts into holes and assemble.







# **Application examples**

Mounting:





Insert connector parts into holes and assemble.



# **DUO-System**

#### Frame connectors









Furniture frames, stairs, exhibition booths, and architectural millwork. **Applications:** 

Invisible, self-tightening, adjustable assembly pressure thanks to the fixing screw. Advantages:

Only 13 mm recess depth.

Suitable materials: All solid wood and plywood materials from  $\geq$  21 mm.

Installation: Make mortise with plunge router or CNC.

Install with CS-screws Ø5 mm or Ø6 mm (screw length depending on application) Mounting:

and PH-holding screws Ø5 mm or Ø6 mm.

Note: The system consists of two identical brackets and are manufactured from high strength galvanized steel in Austria.

# Accessories

#### Routing-jigs MULTI F (plywood)

Routing-jig MULTI F15, | Art.-No. K500 (for DUO 46/15, DUO 62/15, DUO 100/15)

Routing-jig MULTI F20, | Art.-No. K506 (for DUO 90/20)

Routing-jig MULTI F30, | Art.-No. K501 (for DUO 46/30, DUO 62/30)

Routing-jig MULTI F46, | Art.-No. K503 (for DUO 90/46)

Remarque: All routing-jigs are suitable for a Ø 30 mm guide bushing (for plunge router)

and a Ø 15 mm 2 Flute Straight Router Bit.

2 flute straight router bit Ø 15 mm, 25 mm length with Ø 8 mm shank | Art.-No. Z066

#### Mounting screws - pan-head screws, full threaded (PH - FT)

PH-screw 5x40 (200 pcs./package) | Art.-No. Z702 (for DUO and MODULAR Anti-Torsion)

PH-screw 5x60 (200 pcs./package) | Art.-No. Z704 (for DUO and MODULAR Anti-Torsion)

PH-screw 6x40 (250 pcs./package) | Art.-No. Z800 (for DUO) PH-screw 6x60 (200 pcs./package) | Art.-No. Z802 (for DUO)





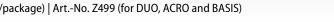
#### Mounting screws - countersunk screws, full threaded (CS - FT)

CS-screws 5x40 (500 pcs./package) | Art.-No. Z500 (for DUO and ACRO)

CS-screws 5x60 (250 pcs./package) | Art.-No. Z498 (for DUO, ACRO and BASIS)

CS-screws 6x40 (250 pcs./package) | Art.-No. Z501 (for DUO and ACRO)

CS-screws 6x60 (200 pcs./package) | Art.-No. Z499 (for DUO, ACRO and BASIS)



#### Installation



Route mortise







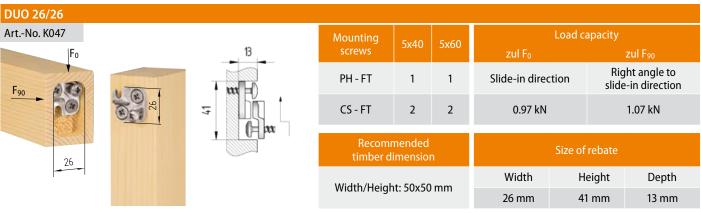


Screw in a

Screw in b

Assemble

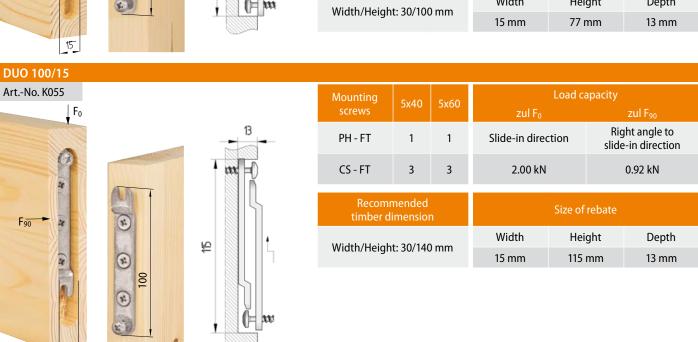
# **DUO 26**



15







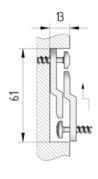
# **DUO Serie 30**

# DUO 46/30









| Mounting screws                 | 5x40 | 5x60 | zul F <sub>0</sub> | Load capacit  | zul F <sub>90</sub>                |
|---------------------------------|------|------|--------------------|---------------|------------------------------------|
| PH - FT                         | 2    | 2    | Slide-in dired     |               | Right angle to<br>ide-in direction |
| CS-FT                           | 2    | 2    | 1.30 kN            |               | 1.12 kN                            |
| Recommended<br>timber dimension |      |      |                    | Size of rebat | e                                  |
|                                 |      |      | Width Height Depth |               | Depth                              |

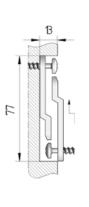
Width/Height: 50/80 mm

# DUO 62/30

Art.-No. K022







| Mounting | Mounting 5x40 5x60 |       | Load ca            | apacity                           |  |
|----------|--------------------|-------|--------------------|-----------------------------------|--|
| screws   | ) X40              | 3,000 | zul F <sub>0</sub> | zul F <sub>90</sub>               |  |
| PH - FT  | 2                  | 2     | Slide-in direction | Right angle to slide-in direction |  |
| CS - FT  | 4                  | 4     | 2.15 kN            | 1.67 kN                           |  |

30 mm

61 mm

13 mm

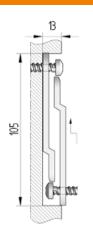
| Recommended<br>timber dimension | Size of rebate |        |       |  |
|---------------------------------|----------------|--------|-------|--|
| Width/Height: 50/100 mm         | Width          | Height | Depth |  |
|                                 | 30 mm          | 77 mm  | 13 mm |  |

# **DUO 20 and 46**

# DUO 90/20







| Mounting    | 6x40 | 6x60 | Load c             | apacity   |
|-------------|------|------|--------------------|---|
| screws      | 0.00 | OXOU | zul F <sub>0</sub> | zul F <sub>90</sub>   |
| PH - FT     | 1    | 1    | Slide-in direction | Right angle to slide-in direction   |
| CS - FT     | 2    | 2    | 2.37 kN            | 1.03 kN   |
| Recommended |      |      | Ci-o of            | a de la companya de |

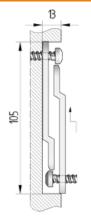
| Recommended<br>timber dimension | Size of rebate |        |       |  |  |
|---------------------------------|----------------|--------|-------|--|--|
| Width/Height: 40/120 mm         | Width          | Height | Depth |  |  |
|                                 | 20 mm          | 105 mm | 13 mm |  |  |

# DUO 90/46

Art.-No. K040







| Mounting | g 6x40 6x60 |      | 6,40               | 6x60                              | Load ca | apacity |
|----------|-------------|------|--------------------|-----------------------------------|---------|---------|
| screws   | 0.00        | OXOU | zul F <sub>0</sub> | zul F <sub>90</sub>               |         |         |
| PH - FT  | 2           | 2    | Slide-in direction | Right angle to slide-in direction |         |         |
| CS - FT  | 4           | 4    | 4.35 kN            | 2.28 kN                           |         |         |

| Recommended<br>timber dimension | Size of rebate |        |       |  |  |
|---------------------------------|----------------|--------|-------|--|--|
| Width /Hoight: CO/120 mage      | Width          | Height | Depth |  |  |
| Width/Height: 60/120 mm         | 46 mm          | 105 mm | 13 mm |  |  |

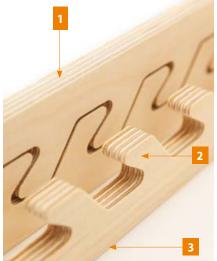
The load value refers to the shear force in the insertion direction. Commercially available CS-screws and PH-screws (5x40, 5x60, 6x40, 6x60 mm) in accordance with ÖNORM M 5027 must be used in DUO systems. The test was carried out by Holzforschung Austria.

# Solid

# Wooden connector (metal-free) for bed rails







- The birch multiplex connector reduces mechanical stresses thanks to its self-locking notched hook principle, guaranteeing stable, play-free assembly.
- The connector can be bonded with KNAPP®-ADHESIVE PU+ to optimise its strength. Once the adhesive has set, the connector is ready for use.
- The flush-fitting groove should be approximately 1 to 2 mm deeper than the width of the connector to allow room for excess adhesive.

#### **Benefits:**

- | Rigid material
- | Metal-free
- | Highly stable junction
- | Easy to assemble
- | Tool-free disassembly and refitting
- Invisible after final assembly
- | Cost-effective

Assembling bed frames without metal parts or screws, furniture, lightweight wooden constructions. **Applications:** 

The use of birch multiplex material reduces mechanical stress, making for a very stable assembly. Advantages:

Tool-free mounting and dismounting.

Suitable materials: Multiplex birch in thicknesses of 8, 12 and 15 mm x width 40 mm. Groove depth is 32 mm.

Technical data: Recommended timber dimension  $\geq$  32 mm.

Installation: Quick and easy machining with the right cutters and milling jigs. Mounting: By gluing in the groove with white glue or KNAPP® ADHESIVE PU+.

Solid S Routing-jig 8/12/15 x 118 mm | Art.-No. Z979, Z980, Z981 Solid M Routing-jig 8/12/15 x 164 mm | Art.-No. Z982, Z983, Z984 Solid L Routing-jig 8/12/15 x 210 mm | Art.-No. Z982, Z983, Z984

2 flute straight router 8 mm | Art.-No. Z988, 12 mm | Art.-No. Z989, 15 mm | Art.-No. Z990

# Available in 9 variants (3 lengths and 3 thicknesses)

Art.-No. Z970, Z971, Z972

**Accessories:** 

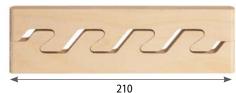
| Solid S 118 Art.-No. Z973, Z974, Z975

| Solid M



Art.-No. Z976, Z977, Z978

| Solid L

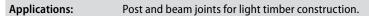




Column/Post and beam mounting connectors

# **ACRO-System**

# Frame, post and beam connectors.



Advantages: Invisible, self-tightening, very shallow recess depth (8.5 mm).

Suitable materials: Solid wood material.

**Installation:** Mill pocket with plunge router and MULTI F routing jig.

Mounting: Install connector with countersunk screws, full threaded (CS - FT) Ø 5 mm ou Ø 6 mm and

and PH-holding screws  $\emptyset$  5 mm or  $\emptyset$  6 mm (screw length depending on application).

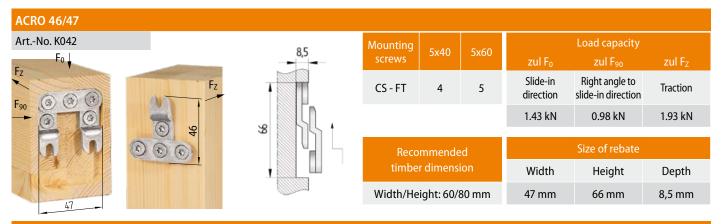
H (I) (S) (F)

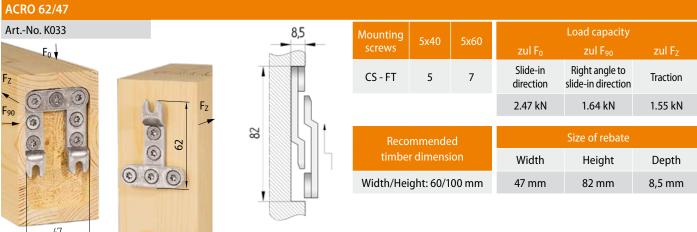
Accessories: 2 Flute Straight Router Bit | Art.-No. Z066, routing-jig MULTI F, marking template,

Various CS-screw lengths available on demand.

# **ACRO Serie 47**

47

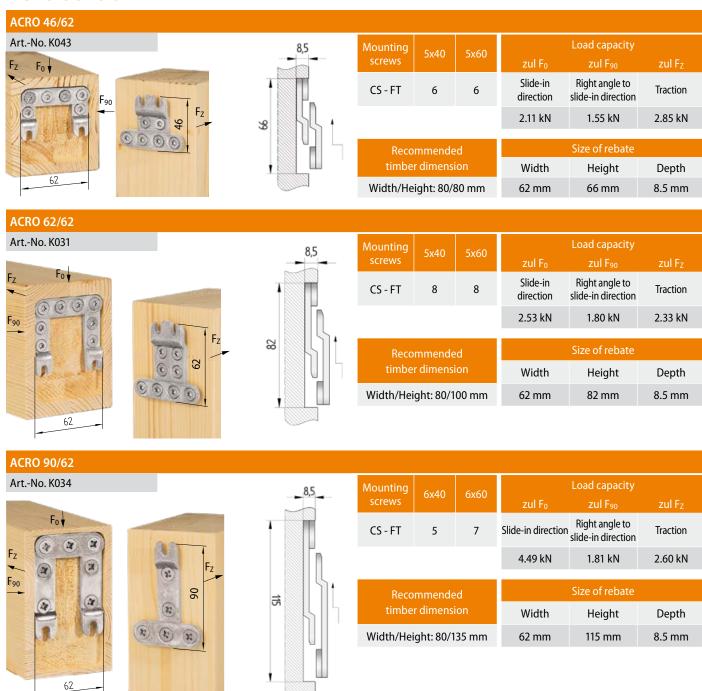




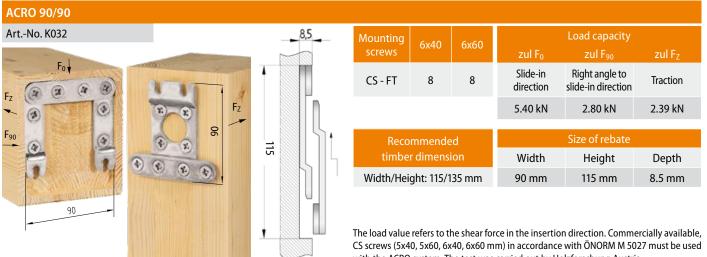


and therefore the assembly pressure.

# **ACRO Serie 62**



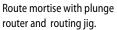
# **ACRO Serie 90**



with the ACRO system. The test was carried out by Holzforschung Austria.

# Installation







Install ACRO connector brackets with screws



Assemble







Steps on central stringer fixed with Acro

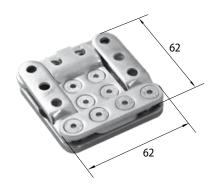
# **BASIS-System**

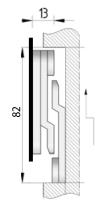
| Column/Post moun    | Column/Post mounting connectors  |  |  |  |  |  |
|---------------------|--|--|--|--|--|--|
| Applications:       | For direct mounting columns and posts on solid surfaces.   |  |  |  |  |  |
| Advantages:         | Quick-fit, heavy-duty push-in connector.   |  |  |  |  |  |
| Suitable materials: | Timber post to firm ground i.e. concrete slab, tiles, stone, wood etc.   |  |  |  |  |  |
| Installation:       | With a portable router, bit mortiser or CNC machine.   |  |  |  |  |  |
| Mounting:           | One part of the BASIS System is pre-assembled on a galvanised steel plate and the whole unit is fixed to the ground. The second part is screwed to the end of the post and then fitted onto the plate.   |  |  |  |  |  |
| Accessories:        | For 62/62: Routing-jig MULTI F62   ArtNo. K504,<br>2 Flute Straight Router Bit   ArtNo. Z066, CS-screws 5x60 mm   ArtNo. Z498<br>For 90/90: Routing-jig MULTI F90   ArtNo. K505,<br>2 Flute Straight Router Bit   ArtNo. Z066, CS-screws 6x60 mm   ArtNo. Z499 |  |  |  |  |  |



# **BASIS 62/62**

Art.-No. K039





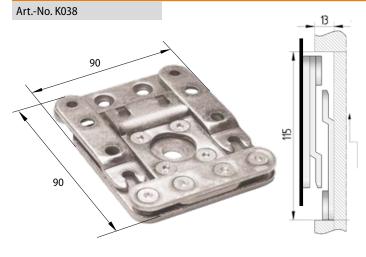
| Mounting screws | 5x60 | M8 |
|-----------------|------|----|
| CS - FT         | 8    | 2  |
|                 |      |    |

| Recommended<br>timber dimension |  |
|---------------------------------|--|
| Width/Height: 78/95 mm          |  |
|                                 |  |

| Load capacity         |                                   |                    |  |  |  |  |
|-----------------------|-----------------------------------|--------------------|--|--|--|--|
| zul F <sub>0</sub>    | zul F <sub>90</sub>               | zul F <sub>Z</sub> |  |  |  |  |
| Slide-in<br>direction | Right angle to slide-in direction | Traction           |  |  |  |  |
| 2.90 kN               | 2.47 kN                           | 3.67 kN            |  |  |  |  |

|       | Size of rebate |       |  |  |  |  |
|-------|----------------|-------|--|--|--|--|
| Width | Height         | Depth |  |  |  |  |
| 62 mm | 82 mm          | 13 mm |  |  |  |  |

# **BASIS 90/90**



| Mounting | 5x60   | M12                     |                       |                                   |                    |
|----------|--------|-------------------------|-----------------------|-----------------------------------|--------------------|
| screws   | 3800   | 10112                   | zul F <sub>0</sub>    | zul F <sub>90</sub>               | zul F <sub>Z</sub> |
| CS - FT  | 8      | 1                       | Slide-in<br>direction | Right angle to slide-in direction | Traction           |
|          |        | 3.99 kN 2.07 kN 4.72 kN |                       |                                   |                    |
|          |        |                         |                       |                                   |                    |
| Reco     | mmende | ed                      | Size of rebate        |                                   |                    |

| Recommended<br>timber dimension | Size of rebate |        |       |  |
|---------------------------------|----------------|--------|-------|--|
| Width/Height: 115/135 mm        | Width          | Height | Depth |  |
|                                 | 90 mm          | 115 mm | 13 mm |  |

The load value refers to the shear force in the insertion direction.

Commercially available, CS screws (5x40, 5x60 mm) in accordance with ÖNORM M 5027 and M8 CS screws or M12 screws must be used with the BASIS system.

The test was carried out by Holzforschung Austria



# RICON® inox







H (I) (S) (F)







Applications: Indoor and outdoor: furniture, balcony, deck, carport, playground and sports equipment, pergola,

and light timber construction for usage classification 3.

Advantages: Can be mounted visibly or invisibly, indoors or outdoors. Secure assembly with locking pin.

Suitable materials: All wood species, such as oak, douglas fir, larch and impregnated woods, such as Accoya.

Technical details: Used with narrow timber widths starting from 20 mm upwards. High strength capacity up to 17.4 kN,

made of A2 stainless steel for usage classification 1, 2 ou 3.

**Installation:** Quick and easy with a machining centre, router or portable router and the KNAPP® routing-jig.

**Mounting:** Install plates with CS-screws Ø 5 mm and Ø 8 mm.

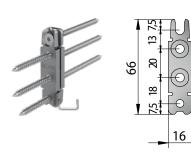
Accessories: 2 Flute Straight Router Bit | Art.-No. Z066, routing-jig Multi F30 | Art.-No. K501 and K506, mounting set RICON® | Art.-No. K065

# RICON® inox 66/16

(Dimensions in mm)

# RICON® 66/16 inox - single connection (EA)

Art.-No. K267



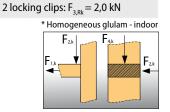
| Connector | Connection | Screw co  | nnection  | Charact. charge. [GL24h]<br>C.SER.1* |                          |
|-----------|------------|-----------|-----------|--------------------------------------|--------------------------|
| Connector | Connection | Joist     | Header    | F <sub>1,RK</sub> [kN]               | F <sub>2,RK</sub> [kN]** |
| 66/16     | EA         | 3 CS 5x80 | 3 CS 5x50 | 3.5                                  | 4.8                      |

1 locking clip: F<sub>3,Rk</sub>= 1,0 kN

Minimum timber cross section: 30 x 86 mm

Alternative screws: \*\*load varies.

3 CS-screws 5x25 3 CS-screws 5x30 3 CS-screws 5x50 3 CS-screws 5x60

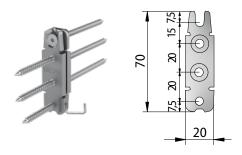


# RICON® inox 70/20

(Dimensions in mm)

# RICON® 70/20 inox - single connection (EA)

Art.-No. K271

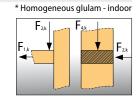


| Connector                                  | Connection              | Screw connection |                                | Charact. charge. [GL24h]<br>C.SER.1* |                          |
|--|-------------------------|------------------|--------------------------------|--------------------------------------|--------------------------|
| Connector                                  | offilection Conflection | Joist            | Header                         | F <sub>1,RK</sub> [kN]               | F <sub>2,RK</sub> [kN]** |
| 70/20                                      | EA                      | 3 CS 5x80        | 3 CS 5x50                      | 3.5                                  | 4.8                      |
| 1 locking clip: F <sub>3,Rk</sub> = 1,0 kN |                         | 2 locki          | ing clips: F <sub>3,Rk</sub> = | 2,0 kN                               |                          |

Minimum timber cross section: 30 x 90 mm

Alternative screws: \*\*load varies. 3 CS-screws 5x25 3 CS-screws 5x30

3 CS-screws 5x50 3 CS-screws 5x60

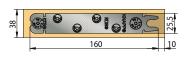


# RICON® inox series 25

# Minimum timber cross section

Inserted in the beam and screwed

Screwed onto post

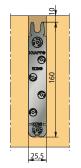




Built-in depth: 11-11,5 mm

Minimum timber thickness: 50 mm

Inserted in the main beam and screwed



Minimum timber thickness: 60 mm

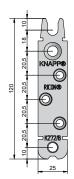
Screwed into the secondary beam

# RICON® inox series 25

# RICON® 120/25 inox - single connection (EA)

Art.-No. K272

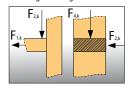




| Connector                                  | Screw connection |   | Charact. charge. [GL24h]<br>C.SER.1* |                        |                        |
|--|------------------|---|--------------------------------------|------------------------|------------------------|
| Connector                                  | ector Connection | Joist                                       | Header                               | F <sub>1,RK</sub> [kN] | F <sub>2,RK</sub> [kN] |
| 120/25                                     | EA               | 2 CS 8x80<br>3 CS 5x80                      | 2 CS 8x50<br>3 CS 5x50               | 4.4                    | 8.9                    |
| 1 locking clip: F <sub>3,Rk</sub> = 1,0 kN |                  | 2 locking clips: F <sub>3,Rk</sub> = 2,0 kN |                                      |                        |                        |

Minimum timber cross section: 38 x 140 mm

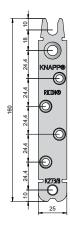
\* Homogeneous glulam - indoor



# RICON® 160/25 inox - single connection (EA)

Art.-No. K273

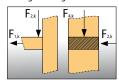




| Connector | Connection                                 | Screw co               | nnection                                    | Charact. cha<br>C.SE   |                        |
|-----------|--|------------------------|---|------------------------|------------------------|
| Connector | connection                                 | Joist                  | Header                                      | F <sub>1,RK</sub> [kN] | F <sub>2,RK</sub> [kN] |
| 160/25    | EA   | 2 CS 8x80<br>4 CS 5x80 | 2 CS 8x50<br>4 CS 5x50                      | 4.4                    | 10.4                   |
| 1 locl    | 1 locking clip: F <sub>3,Rk</sub> = 1,0 kN |                        | 2 locking clips: F <sub>3,Rk</sub> = 2,0 kN |                        |                        |

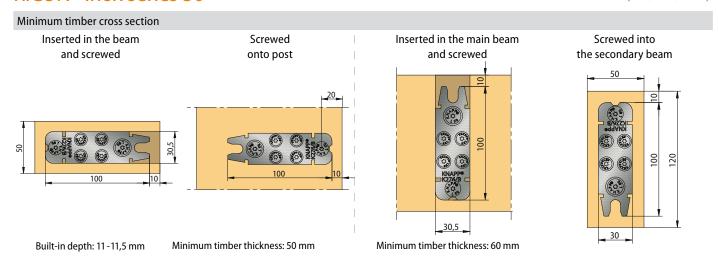
Minimum timber cross section: 38 x 180 mm

\* Homogeneous glulam - indoor



# RICON® inox series 30

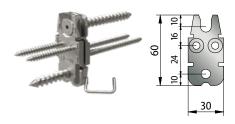
(Dimensions in mm)



# RICON® inox series 30

# RICON® 60/30 inox - single connection (EA)

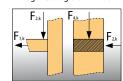
Art.-No. K274



| Connector | Connection                                 | Screw co               | nnection                                    | Charact. cha<br>C.SE   |                        |
|-----------|--|------------------------|---|------------------------|------------------------|
|           |  | Joist                  | Header                                      | F <sub>1,RK</sub> [kN] | F <sub>2,RK</sub> [kN] |
| 60/30     | EA   | 2 CS 5x80<br>1 CS 8x80 | 2 CS 5x50<br>1 CS 8x50                      | 4.4                    | 5.2                    |
| 1 locl    | 1 locking clip: F <sub>3,Rk</sub> = 1.9 kN |                        | 2 locking clips: F <sub>3,Rk</sub> = 3.8 kN |                        |                        |

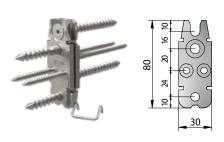
Minimum timber cross section: 50 x 80 mm

\* Homogeneous glulam - indoor



# RICON® 80/30 inox - single connection (EA)

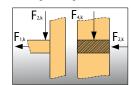
Art.-No. K275



| Connector | Connection                                 | Screw co               | Screw connection                            |                        | Charact. charge. [GL24h]<br>C.SER.1* |  |
|-----------|--|------------------------|---|------------------------|--------------------------------------|--|
|           |  | Joist                  | Header                                      | F <sub>1,RK</sub> [kN] | F <sub>2,RK</sub> [kN]               |  |
| 80/30     | EA   | 2 CS 8x80<br>2 CS 5x80 | 2 CS 8x50<br>2 CS 5x50                      | 4.4                    | 7.5                                  |  |
| 1 locl    | 1 locking clip: F <sub>3,Rk</sub> = 1.9 kN |                        | 2 locking clips: F <sub>3,Rk</sub> = 3.8 kN |                        | 3.8 kN                               |  |

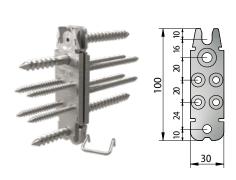
Minimum timber cross section: 50 x 100 mm

\* Homogeneous glulam - indoor



# RICON® 100/30 inox - single connection (EA)

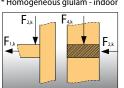
Art.-No. K276



| Connector | Connection                                 | Screw connection       |   | Charact. charge. [GL24h]<br>C.SER.1* |                        |
|-----------|--|------------------------|---|--------------------------------------|------------------------|
| Connector | ctor Connection                            | Joist                  | Header                                      | F <sub>1,RK</sub> [kN]               | F <sub>2,RK</sub> [kN] |
| 100/30    | EA   | 2 CS 8x80<br>4 CS 5x80 | 2 CS 8x50<br>4 CS 5x50                      | 4.4                                  | 10.4                   |
| 1 locl    | 1 locking clip: F <sub>3,Rk</sub> = 1.9 kN |                        | 2 locking clips: F <sub>3,Rk</sub> = 3.8 kN |                                      | 3.8 kN                 |

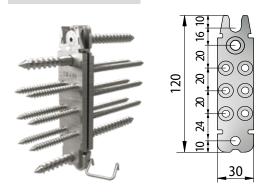
Minimum timber cross section: 50 x 120 mm

\* Homogeneous glulam - indoor



# RICON® 120/30 inox - single connection (EA)

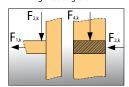
Art.-No. K277



| Connector                                  | Screw connection |   | Charact. charge. [GL24h]<br>C.SER.1* |                        |                        |
|--|------------------|---|--------------------------------------|------------------------|------------------------|
| Connector                                  | r Connection     | Joist                                       | Header                               | F <sub>1,RK</sub> [kN] | F <sub>2,RK</sub> [kN] |
| 120/30                                     | EA               | 2 CS 8x80<br>6 CS 5x80                      | 2 CS 8x50<br>6 CS 5x50               | 4.4                    | 13.2                   |
| 1 locking clip: F <sub>3,Rk</sub> = 1.9 kN |                  | 2 locking clips: F <sub>3,Rk</sub> = 3.8 kN |                                      |                        |                        |

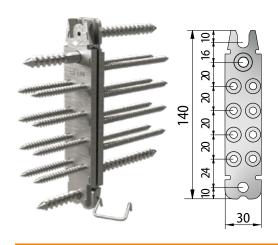
Minimum timber cross section: 50 x 140 mm

\* Homogeneous glulam - indoor



# RICON® 140/30 inox - single connection (EA)

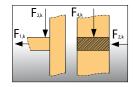
Art.-No. K278



| Connector | Connection                     | Screw co               | nnection               |                               | rge. [GL24h]<br>R.1*   |
|-----------|--------------------------------|------------------------|------------------------|-------------------------------|------------------------|
|           |                                | Joint                  | Header                 | F <sub>1,RK</sub> [kN]        | F <sub>2,RK</sub> [kN] |
| 140/30    | EA                             | 2 CS 8x80<br>8 CS 5x80 | 2 CS 8x50<br>8 CS 5x50 | 4.4                           | 16.1                   |
| 1 lock    | king clip: F <sub>3,Rk</sub> = | 1.9 kN                 | 2 locki                | ng clips: F <sub>3,Rk</sub> = | 3.8 kN                 |

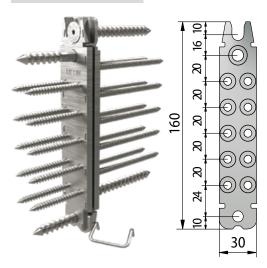
Minimum timber cross section: 50 x 160 mm

\* Homogeneous glulam - indoor



# RICON® 160/30 inox - single connection (EA)

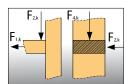
Art.-No. K279



| Connector | Connection                     | Screw co                | nnection                | Charact. cha<br>C.SE          |                        |
|-----------|--------------------------------|-------------------------|-------------------------|-------------------------------|------------------------|
| Connector | Connection                     | Joist                   | Header                  | F <sub>1,RK</sub> [kN]        | F <sub>2,RK</sub> [kN] |
| 160/30    | EA                             | 2 CS 8x80<br>10 CS 5x80 | 2 CS 8x50<br>10 CS 5x50 | 4.4                           | 17.4                   |
| 1 loc     | king clip: F <sub>3,Rk</sub> = | 1.9 kN                  | 2 locki                 | ng clips: F <sub>3,Rk</sub> = | 3.8 kN                 |

Minimum timber cross section: 50 x 180 mm

\* Homogeneous glulam - indoor



#### Installing RICON® inox - Main-secondary beam connection type



Mill with with routing-jig



Pre-drill and screw



Install locking clip



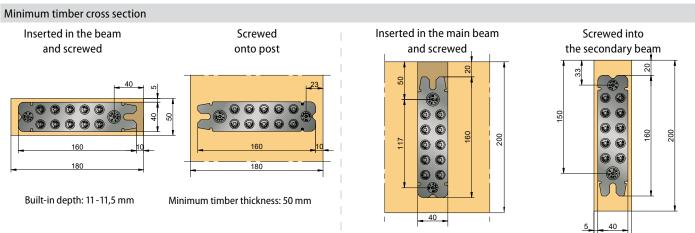
Assemble



Secured connection using a locking clip

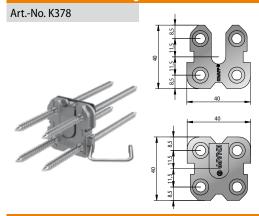
# RICON® inox series 40

(Dimensions in mm)



# RICON® inox series 40

# RICON® 40/40 inox - single connection (EA)

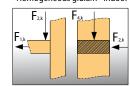


| Connector | Connection                     | Screw co  | nnection  | Charact. cha<br>C.SE           |                        |
|-----------|--------------------------------|-----------|-----------|--------------------------------|------------------------|
| Connector | Connection                     | Joist     | Header    | F <sub>1,RK</sub> [kN]         | F <sub>2,RK</sub> [kN] |
| 40/40     | EA                             | 4 CS 5x80 | 4 CS 5x50 | 7.5                            | 4.0                    |
| 1 loc     | king clip: F <sub>3,Rk</sub> = | 2.7 kN    | 2 locki   | ing clips: F <sub>3,Rk</sub> = | 5.4 kN                 |

Minimum timber cross section: 50 x 60 mm

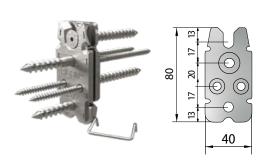
Minimum timber thickness: 60 mm

\* Homogeneous glulam - indoor



# RICON® 80/40 inox - single connection (EA)

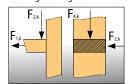
Art.-No. K372



| Connector | Connection                     | Screw co               | nnection               | Charact. cha<br>C.SE          |                        |
|-----------|--------------------------------|------------------------|------------------------|-------------------------------|------------------------|
| connector | Connection                     | Joist                  | Header                 | F <sub>1,RK</sub> [kN]        | F <sub>2,RK</sub> [kN] |
| 80/40     | EA                             | 2 CS 8x80<br>2 CS 5x80 | 2 CS 8x50<br>2 CS 5x50 | 4.4                           | 7.5                    |
| 1 locl    | king clip: F <sub>3,Rk</sub> = | 2.7 kN                 | 2 locki                | ng clips: F <sub>3,Rk</sub> = | 5.4 kN                 |

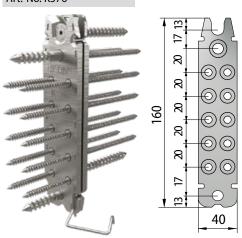
Minimum timber cross section: 50 x 100 mm

\* Homogeneous glulam - indoor



# RICON® 160/40 inox - single connection (EA)

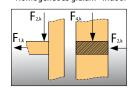
Art.-No. K376



| Connector | Connection                     | Screw co                | nnection                | Charact. cha<br>C.SE          |                        |
|-----------|--------------------------------|-------------------------|-------------------------|-------------------------------|------------------------|
| Connector | Connection                     | Joist                   | Header                  | F <sub>1,Rk</sub> [kN]        | F <sub>2,Rk</sub> [kN] |
| 160/40    | EA                             | 2 CS 8x80<br>10 CS 5x80 | 2 CS 8x50<br>10 CS 5x50 | 4.4                           | 17.4                   |
| 1 loc     | king clip: F <sub>3,Rk</sub> = | 2.7 kN                  | 2 lockii                | ng clips: F <sub>3,Rk</sub> = | 5.4 kN                 |

Minimum timber cross section: 50 x 180mm

\* Homogeneous glulam - indoor



# RICON® inox DA and EAR for all sizes

Double connection with connecting nuts and RICON® inox CS-screws (available upon request)

Single or double connection with inserts and RICON® inox CS-screws (available upon request)





EAR







# RICON® inox screws

# RICON® Self-tapping CS-screws with reinforced shaft (delivery includes CS-screws with the matching RICON® connectors)

Art.-No. Z950 Inox A2 CS-screws 5x50
Art.-No. Z953 Inox A2 CS-screws 8x50

Application: to screw the RICON® inox plate into the side grain of main beam/post.

Art.-No. Z952 Inox A2 CS-screws 5x80
Art.-No. Z954 Inox A2 CS-screws 8x80

**Application:** to screw the RICON® inox plate into the side grain of secondary beam/latch.



#### RICON® inox DA - EAR CS-screws

Art.-No. Z955 Inox A2 CS-screws M5x16 (for RICON® 60/40 DA)
Art.-No. Z956 Inox A2 CS-screws M8x18 (for RICON® DA and EAR)

**Application:** to mount RICON® plate in a cross joint double connector (DA or EAR).



# RICON® DA connecting nuts

(delivery includes connecting nuts with the matching RICON® connectors)

Art.-No. K540 Connecting nut M5 8x48 50 mm post thickness
Art.-No. K541 Connecting nut M5 8x53 55 mm post thickness
Art.-No. K542 Connecting nut M5 8x58 60 mm post thickness
Art.-No. K543 Connecting nut M5 8x78 80 mm post thickness



#### **Application:** to mount RICON® inox 60/40 double connector (DA).

Art.-No. K544 Connecting nut M8 10x36 <50 mm post thickness Art.-No. K545 Connecting nut M8 10x48 50 mm post thickness Art.-No. K546 Connecting nut M8 10x53 55 mm post thickness Art.-No. K547 Connecting nut M8 10x58 60 mm post thickness Art.-No. K548 Connecting nut M8 10x68 70 mm post thickness Art.-No. K549 Connecting nut M8 10x78 80 mm post thickness



**Application:** to mount RICON® and RICON® inox bigger sizes double connectors (DA).

#### Insert RICON® inox EAR

(delivery for connecting nuts with the matching RICON® connectors are available upon request)

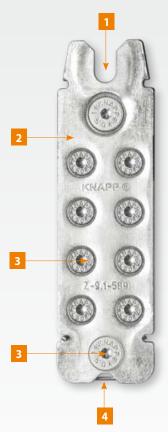
Art.-No. Z540 Insert M5x14 for RICON® 60/40

Art.-No. Z541 Insert M8x18

Application: to mount unique applications and post sizes.



# Post and beam connectors, main and secondary beams, curtain walls



- The dovetail shape ensures optimum reception of the RICON® retaining CS-screws. The short clamping distance makes it easy to hook in, while engaging the plates, ensuring tightness and fast assembly of the elements.
- RICON® consists of two identical parts. It is made in Austria from a premium quality steel and is also available hot-dip galvanized.
- Ø 5 mm and Ø 8 mm RICON® CS-screws. These adjustable holding screws compensate fabrication tolerances. The reinforced shaft with integrated stop guarantees exact positioning.
- The stainless spring steel locking clip can be installed into the locating slots prior to final assembly. It locks the connection against the slide-indirection and can be released again.

Fire rating: Fire resistance (EN 1995-1-2) through 3-4 sided concealed, joint-tight installation (R30  $\geq$  28 mm, R60  $\geq$  49 mm)













**Applications:** Aluminium timber curtain walls, conservatories, overhanging roofs, roof structures.

Advantages: Invisible connection, assembly of curtain wall rails, from the inside or outside, secure connections with

automatic locking pins, removable.

Solid wood and wood materials, softwood or hardwood, LVL, BauBuche, steel and concrete.

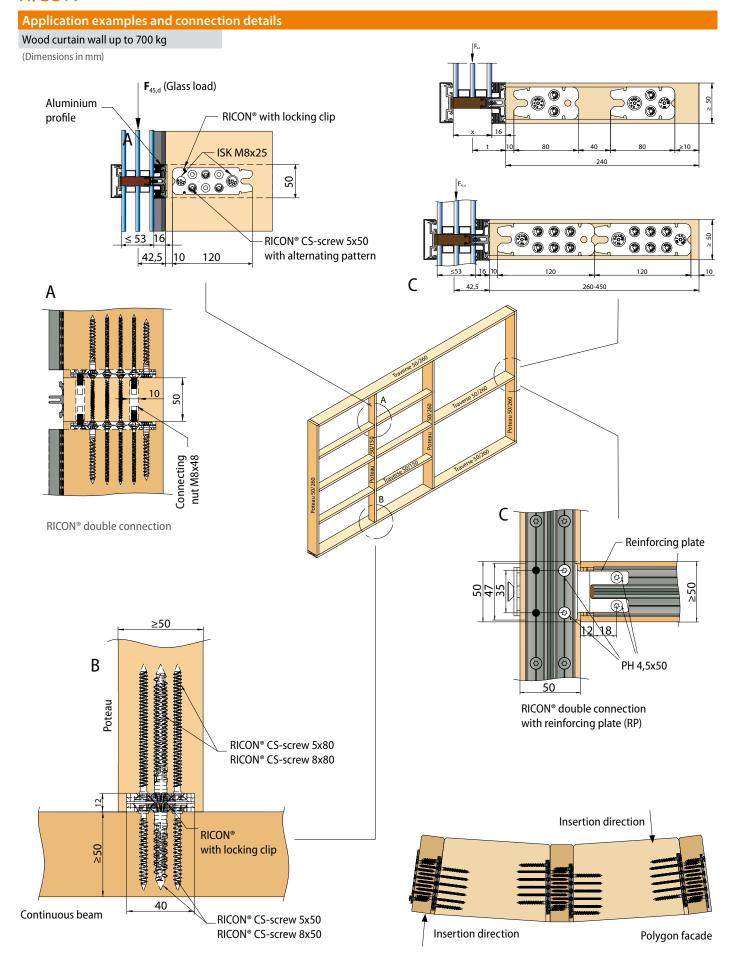
Technical details: For timber sections from 50 mm thick, up to 700 kg load capacity for curtain walls and

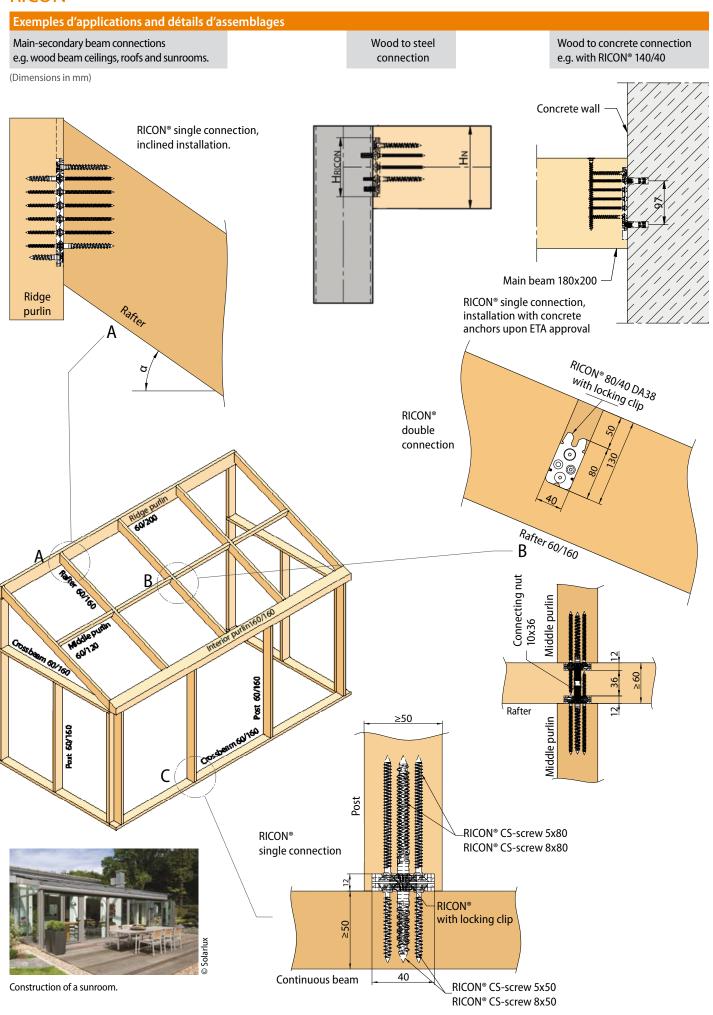
23 kN load capacity for main and secondary beam connections.

**Installation:** Simple and fast with a machining centre, router or portable router and the KNAPP® routing-jig.

Mounting: Install plates with CS-screws Ø 5 mm and Ø 8 mm.

Accessories: 2 Flute Straight Router Bit | Art.-No. Z066, routing-jig Multi F30 | Art.-No. K501 and K506, mounting set RICON® | Art.-No. K065.

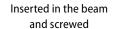


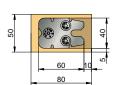


# **RICON® 60/40**

(Dimensions in mm)

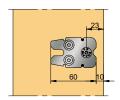
#### Minimum timber cross section





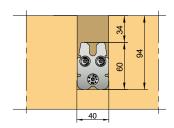
Built-in depth: 12-12.5 mm

Screwed onto post



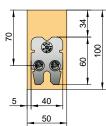
Min. width of beam and post: 50 mm

# Inserted in the main beam and screwed



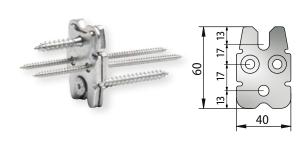
Min. width of of main beam: 60 mm

# Screwed into the secondary beam

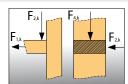


# RICON® 60/40 EA - single connection

#### Art.-No. K360



| Connector | Connection                      | Screw co               | nnection               | Charact. cha<br>C.SE            |                        |
|-----------|---------------------------------|------------------------|------------------------|---------------------------------|------------------------|
|           |                                 | Joist                  | Header                 | F <sub>1,RK</sub> [kN]          | F <sub>2,Rk</sub> [kN] |
| 60/40     | EA                              | 2 CS 5x80<br>1 CS 8x80 | 2 CS 5x50<br>1 CS 8x50 | 4.4                             | 5.0                    |
| 1 lock    | ing clip: F <sub>3,Rk</sub> = 2 | 2.7 kN                 | 2 lockii               | ng clips: F <sub>3,Rk</sub> = 5 | 5.15 kN                |



Minimum timber dimensions: 50 x 80 mm

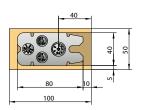
Single connection for post and beam connection with a minimum timber cross section of 50 mm (stress at mid to the axis of beam)

- \* alternatively, longer screws can be used in end grain.
- 1 CS-screw  $8x160 F_{2,RK} = 6.3 \text{ kN}$

# **RICON® 80/40**

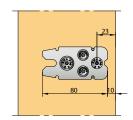
#### Minimum timber cross section

Inserted in the beam and screwed



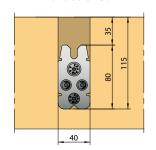
Built-in depth: 12 - 12.5 mm

Screwed onto post



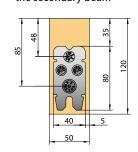
Min. width of beam and post: 50 mm

Inserted in the main beam and screwed



Min. width of of main beam: 60 mm

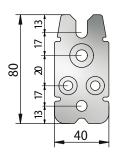
# Screwed into the secondary beam



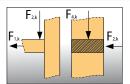
#### RICON® 80/40 EA - single connection

# Art.-No. K361





| Connector | Connection                    | Screw co               | nnection               | Charact. cha<br>C.SE           |                        |
|-----------|-------------------------------|------------------------|------------------------|--------------------------------|------------------------|
|           |                               | Joist                  | Header                 | F <sub>1,RK</sub> [kN]         | F <sub>2,Rk</sub> [kN] |
| 80/40     | EA                            | 2 CS 5x80<br>2 CS 8x80 | 2 CS 5x50<br>2 CS 8x50 | 4.4                            | 7.3                    |
| 1 lock    | ing clip: F <sub>3.Rk</sub> = | 2.7 kN                 | 2 locki                | ing clips: F <sub>3.Rk</sub> = | 5.4 kN                 |



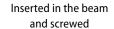
Minimum timber dimensions: 50 x 100 mm

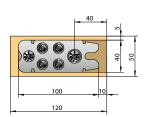
Single connection for post and beam connection with a minimum timber cross section of 50 mm (stress at mid to the axis of beam)

- $\ensuremath{^*}$  alternatively, longer screws can be used in end grain.
- 2 CS-screws 8x160 F<sub>2, Rk</sub> = 10.3 kN

RICON® 100/40 (Dimensions in mm)

#### Minimum timber cross section

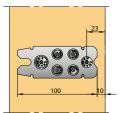




Built-in depth: 12-12.5 mm

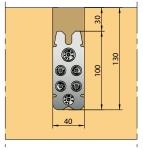
onto post

Screwed

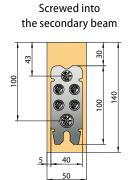


Min. width of beam and post: 50 mm

Inserted in the main beam and screwed



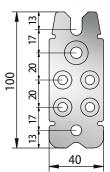
Min. width of of main beam: 60 mm



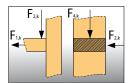
# RICON® 100/40 EA - single connection

#### Art.-No. K362





| Connector | Connection                | Screw co               | nnection               | Charact. cha<br>C.SE          |                        |
|-----------|---------------------------|------------------------|------------------------|-------------------------------|------------------------|
|           |                           | Joist                  | Header                 | F <sub>1,RK</sub> [kN]        | F <sub>2,Rk</sub> [kN] |
| 100/40    | EA                        | 4 CS 5x80<br>2 CS 8x80 | 4 CS 5x50<br>2 CS 8x50 | 4.4                           | 10.0                   |
| 1 lock    | sing clip: $F_{3,Rk} = 2$ | 2.7 kN                 | 2 locki                | ng clips: F <sub>3,Rk</sub> = | 5.4 kN                 |



Minimum timber dimensions: 50 x 120 mm

Single connection for post and beam connection with a minimum timber cross section of 50 mm (stress at mid to the axis of beam)

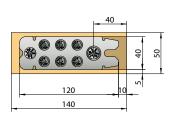
\* alternatively, longer screws can be used in end grain.

 $2 \text{ CS-screws } 8x160 - F_{2,RK} = 13.9 \text{ kN}$ 

# RICON® 120/40

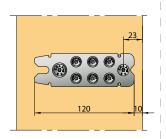
#### Minimum timber cross section

Inserted in the beam and screwed



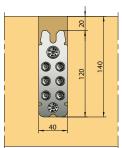
Built-in depth: 12 - 12.5 mm

Screwed onto post



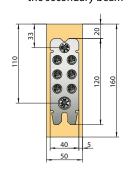
Min. width of beam and post: 50 mm

Inserted in the main beam and screwed



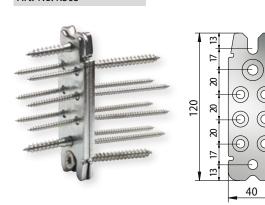
Min. width of of main beam: 60 mm

Screwed into the secondary beam

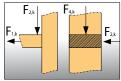


# RICON® 120/40 EA - single connection

#### Art.-No. K363



| Connector | Connection                     | Screw co               | nnection               | Charact. cha<br>C.SE           |                        |
|-----------|--------------------------------|------------------------|------------------------|--------------------------------|------------------------|
|           |                                | Joist                  | Header                 | F <sub>1,RK</sub> [kN]         | F <sub>2,Rk</sub> [kN] |
| 120/40    | EA                             | 6 CS 5x80<br>2 CS 8x80 | 6 CS 5x50<br>2 CS 8x50 | 4.4                            | 12.8                   |
| 1 lock    | king clip: F <sub>3,Rk</sub> = | 2.7 kN                 | 2 lock                 | ing clips: F <sub>3,Rk</sub> = | 5.4 kN                 |
| F         | F. 1                           | 1                      |                        | 50 140                         |                        |



Minimum timber dimensions: 50 x 140 mm

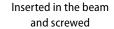
Single connection for post and beam connection with a minimum timber cross section of 50 mm (stress at mid to the axis of beam)

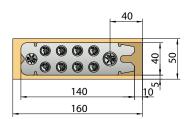
\* alternatively, longer screws can be used in end grain.

 $2 \text{ CS-screws } 8x160 - F_{2,RK} = 16.6 \text{ kN}$ 

# RICON® 140/40

# Minimum timber cross section





Built-in depth: 12-12.5 mm

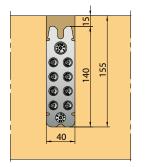
23

Screwed

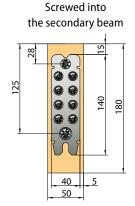
onto post

Min. width of beam and post: 50 mm

Inserted in the main beam and screwed



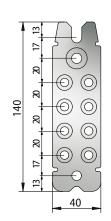
Min. width of of main beam: 60 mm



# RICON® 140/40 EA - single connection

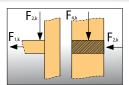
#### Art.-No. K365





| Connector | Connection                    | Screw co               | nnection               | Charact. cha<br>C.SE           | rge. [GL24h]<br>R.1*   |
|-----------|-------------------------------|------------------------|------------------------|--------------------------------|------------------------|
|           |                               | Joist                  | Header                 | F <sub>1,RK</sub> [kN]         | F <sub>2,Rk</sub> [kN] |
| 140/40    | EA                            | 8 CS 5x80<br>2 CS 8x80 | 8 CS 5x50<br>2 CS 8x50 | 4.4                            | 15.5                   |
| 1 lock    | ing clip: F <sub>3.8k</sub> = | 2,7 kN                 | 2 locki                | ing clips: F <sub>3.Rk</sub> = | 5,4 kN                 |

125



Minimum timber dimensions: 50 x 160 mm

Single connection for post and beam connection with a minimum timber cross section of 50 mm (stress at mid to the axis of beam)

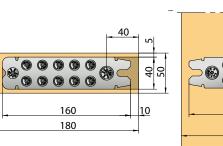
\* alternatively, longer screws can be used in end grain.

Inserted in the main beam

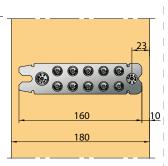
 $2 \text{ CS-screws } 8x160 - F_{2,RK} = 19,3 \text{ kN}$ 

#### Minimum timber cross section

Inserted in the beam and screwed



Built-in depth: 12 - 12.5 mm



Screwed

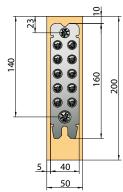
onto post

Min. width of beam and post: 50 mm

and screwed

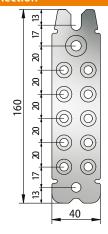
Min. width of of main beam: 60 mm

Screwed into the secondary beam

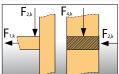


# RICON® 160/40 EA - single connection





| Connector | Connection                    | Screw co                | nnection                | Charact. cha<br>C.SE          |                        |
|-----------|-------------------------------|-------------------------|-------------------------|-------------------------------|------------------------|
|           |                               | Joist                   | Header                  | F <sub>1,RK</sub> [kN]        | F <sub>2,Rk</sub> [kN] |
| 160/40    | EA                            | 10 CS 5x80<br>2 CS 8x80 | 10 CS 5x50<br>2 CS 8x50 | 4.4                           | 18.2                   |
| 1 lock    | ing clip: F <sub>3,Rk</sub> = | 2.7 kN                  | 2 locki                 | ng clips: F <sub>3,Rk</sub> = | 5.4 kN                 |



Minimum timber dimensions: 50 x 180 mm

Single connection for post and beam connection with a minimum timber cross section of 50 mm (stress at mid to the axis of beam)

\* alternatively, longer screws can be used in end grain. 2 CS-screws  $8x160 - F_{2,RK} = 22.0 \text{ kN}$ 

# RICON® DA and FAR for all sizes

Double connection with connecting nuts and RICON® CS-screws

Single- or dual connection with insert and RICON® CS-screws







FAR



# RICON® screws

# RICON® Self-tapping CS-screws with reinforced shaft (CS-screws are included with all RICON® connectors)

Art.-No. Z533 CS-screws 5x50
Art.-No. Z531 CS-screws 8x50

Application: to mount RICON plate into the side grain of main beam/post.

Art.-No. Z534 CS-screws 5x80
Art.-No. Z532 CS-screws 8x80
Art.-No. Z581 CS-screws 8x160

Application: to mount RICON plate into the end grain of secondary beam.



#### CS-screws (CS) RICON® DA

Art.-No. Z545 CS-screws RICON® M5x20 (for RICON® 60/40 DA)

Art.-No. Z548 CS-screws RICON® M8x25

Application: to mount RICON plate in a cross joint double connector application.



#### Connecting nuts RICON® DA

(Connecting nuts are included with all RICON DA connectors

Art.-No. K540Connecting nut M5 8x4850 mm post thicknessArt.-No. K541Connecting nut M5 8x5355 mm post thicknessArt.-No. K542Connecting nut M5 8x5860 mm post thicknessArt.-No. K543Connecting nut M5 8x7880 mm post thickness



#### Application: to mount RICON® 60/40 double connector (DA).

Art.-No. K544 Connecting nut M8 10x36 <50 mm post thickness Art.-No. K545 Connecting nut M8 10x48 50 mm post thickness Art.-No. K546 Connecting nut M8 10x53 55 mm post thickness Art.-No. K547 Connecting nut M8 10x58 60 mm post thickness Art.-No. K548 Connecting nut M8 10x68 70 mm post thickness Art.-No. K549 Connecting nut M8 10x78 80 mm post thickness



Application: to mount RICON 80/40 and bigger sizes double connectors.

#### Inserts RICON® EAR

(connecting inserts can be included upon request)

Art.-No. Z540 Insert M5x14 for RICON® 60/40

Art.-No. Z541 Insert M8x18

Application: for unique applications and post sizes.



# RICON® accessories

# Routing-jig for all RICON® sizes

Art.-No. K502 Routing-jig MULTI F40 (plywood)

**Note**: the routing-jig MULTI F is suitable for a  $\emptyset$  30 mm bushing guide (for plunge router) and a  $\emptyset$  15 mm TCT router cutter.

Application: for milling the pocket to recess connector for concealed mounting.



# RICON® EA/DA drilling-jig guide (galvanized steel)

Art.-No. K621 K622 K623 K624 K629 K630 60/40 80/40 100/40 120/40 140/40 160/40

Application: for installation into the drilling-jig and exact pre-drilling of the positioning srews.



#### **TCT slotting cutter**

Art.-No. Z066 2 flute straight router bits Ø 15 mm, 25 mm length with Ø 8 mm shank

**Application:** to recess the rebate for RICON® and GIGANT.



#### RICON® locking clip (stainless spring steel)

Art.-No. K064 RICON® locking clip

Application: to lock the connectors against slide-in direction. If necessary, the connection can be released again.



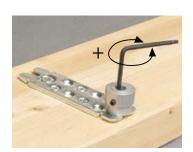
| RICON® EA/   | DA drilling-jig    | for post-be      | am connection    | S      |        |        |
|--------------|--------------------|------------------|------------------|--------|--------|--------|
| ArtNo.       | K634               | K635             | K636             | K637   | K638   | K639   |
|              | 60/40 Set          | 80/40            | 100/40           | 120/40 | 140/40 | 160/40 |
| RICON® EA/   | DA drilling-jig    | for header-      | joint connectio  | ons    |        |        |
| ArtNo.       | K634               | K642             | K643             | K644   | K645   | K646   |
|              | 60/40 Set          | 80/40            | 100/40           | 120/40 | 140/40 | 160/40 |
| Application: | guide for pre-dril | lling holes of a | all RICON® conne | ctors. |        | -      |

| RICON® drillin | a-iia with | adjustable | a drillina | hlacks |
|----------------|------------|------------|------------|--------|

Art.-No. - K647 K647 K647 K647 K647 K647 Drilling blocks: - 80/40 100/40 120/40 140/40 160/40

**Application:** guide for pre-drilling holes of all RICON® connectors.





# RICON® mounting set

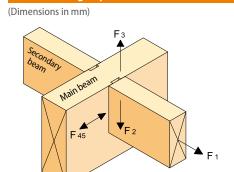
Art.-No. K065 Consisting of: 1 RICON®-depth gauge incl.

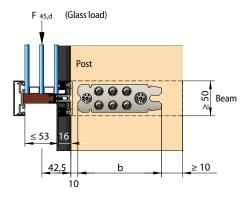
1 Torx wrench T25 combined with Allen key SW5

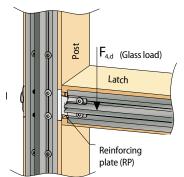
Application: for fine tuning of RICON® CS-screws.



#### Load bearing capacities for timber curtain wall example







| Timber     |                | Characteristic values     |                           | Charact. charge. [kN] F <sub>3,Rk</sub> |         | Eccentric glass<br>loads/post F <sub>4,Rd</sub> |                    |                 |
|------------|----------------|---------------------------|---------------------------|---|---------|---|--------------------|-----------------|
| RICON®     | grade          | F <sub>1,Rk</sub><br>[kN] | F <sub>2,Rk</sub><br>[kN] | Centred<br>F <sub>45,Rk</sub>           | Locking |   | without VP<br>[kg] | with VP<br>[kg] |
|            |                |                           |                           | [kN]                                    | 1       | 2   |                    |                 |
|            | C24            | 4,1                       | 4,7                       | 5,2                                     |         |   | 43                 | 317             |
| 60/40      | GL24h          | 4,4                       | 5,0                       | 5,2                                     | 2,7     | 5,0   | 47                 | 320             |
|            | GL32h          | 4,9                       | 5,5                       | 5,2                                     |         |   | 52                 | 326             |
|            | C24            | 4,1                       | 6,8                       | 8,0                                     |         |   | 59                 | 332             |
| 80/40      | GL24h          | 4,4                       | 7,3                       | 8,7                                     | 2,7     | 5,4   | 64                 | 337             |
|            | GL32h          | 4,9                       | 8,1                       | 9,7                                     |         |   | 71                 | 345             |
|            | C24            | 4,1                       | 9,4                       | 11,8                                    |         |   | 94                 | 368             |
| 100/40     | GL24h          | 4,4                       | 10,0                      | 12,8                                    | 2,7     | 5,4   | 102                | 376             |
|            | GL32h          | 4,9                       | 11,0                      | 14,3                                    |         |   | 114                | 388             |
|            | C24            | 4,1                       | 12,0                      | 15,4                                    |         | 5,4   | 131                | 404             |
| 120/40     | GL24h          | 4,4                       | 12,8                      | 15,6                                    | 2,7     |   | 142                | 415             |
|            | GL32h          | 4,9                       | 14,0                      | 15,6                                    |         |   | 158                | 432             |
|            | C24            | 4,1                       | 14,5                      | 15,6                                    |         | 5,4   | 169                | 443             |
| 140/40     | GL24h          | 4,4                       | 15,5                      | 15,6                                    | 2,7     |   | 183                | 457             |
|            | GL32h          | 4,9                       | 16,9                      | 15,6                                    |         |   | 205                | 478             |
|            | C24            | 4,1                       | 17,1                      | 15,6                                    |         |   | 210                | 484             |
| 160/40     | GL24h          | 4,4                       | 18,2                      | 15,6                                    | 2,7     | 5,4   | 227                | 501             |
|            | GL32h          | 4,9                       | 19,9                      | 15,6                                    |         |   | 254                | 528             |
|            | C24            | 4,1                       | 11,5                      | 10,4                                    |         |   | 180                | 453             |
| 2 x 80/40  | GL24h          | 4,4                       | 12,3                      | 10,4                                    | 2,7     | 5,4   | 195                | 468             |
|            | GL32h          | 4,9                       | 13,6                      | 10,4                                    |         |   | 218                | 491             |
|            | C24            | 4,1                       | 16,6                      | 15,6                                    |         | 5,4   | 270                | 543             |
| 2 x 100/40 | GL24h          | 4,4                       | 17,8                      | 15,6                                    | 2,7     |   | 292                | 566             |
|            | GL32h          | 4,9                       | 19,5                      | 15,6                                    |         |   | 327                | 600             |
|            | C24            | 4,1                       | 21,8                      | 15,6                                    |         |   | 356                | 630             |
| 2 x 120/40 | GL24h          | 4,4                       | 23,2                      | 15,6                                    | 2,7     | 5,4   | 385                | 659             |
|            | GL32h 4,9 25,4 | 15,6                      |                           |   | 431     | 704   |                    |                 |

Tested at the University of Karlsruhe (KIT), Building certification: ETA-10/0189 Monitored by Univ.-Prof. Dr.-Ing. Blaß. at the University of Karlsruhe (KIT) Research Center for Steel, Timber and Masonry.

 $\mathsf{F}_{\mathsf{1,\,Rk}}/\mathsf{F}_{\mathsf{1,\,Rd}}$  $F_{2,Rk}/F_{2,Rd}$  Characteristic/Design values of load-bearing capacity in the case of single stress perpendicular to the connector plate (tension) Characteristic/Design values in slide-in direction

F<sub>3, Rk</sub>/F<sub>3, Rd</sub>

Characteristic/Design values against the slide-in direction

 $F_{45, Rk}/F_{45, Rd}$ 

Characteristic/Design values perpendicular to slide-in direction

Glazing up to 1100 kg with the Schüco AOC.TI curtain wall profile system:

In combination with RICON® connectors for the assembly of the wooden supporting structure and with the help of suitable glazing supports, this system allows glazing loads of up to 1,100 kg per crossbar.

# RICON® reinforcing plate (inox)\*\*

| K519                         | K523                         | K530                        | K531                                 | K533                        | K534                         | K535                         | K536                         | K537                            | K538                            | K539                     |
|------------------------------|------------------------------|-----------------------------|--------------------------------------|-----------------------------|------------------------------|------------------------------|------------------------------|---------------------------------|---------------------------------|--------------------------|
| Schüco<br>GP 50/50<br>50 mm* | Schüco<br>GP 50/60<br>60 mm* | RP<br>RP-tecline<br>50A0-HA | RP<br>RP-tecline<br>60A0-HA<br>60mm* | RP<br>RP-tecline<br>80A0-HA | Gutmann<br>P GF 50<br>50 mm* | Gutmann<br>P GF 60<br>60 mm* | Gutmann<br>P GF 80<br>80 mm* | RAICO<br>GP 41 and 47<br>50 mm* | RAICO<br>GP 41 and 47<br>60 mm* | RAICO<br>GP 67<br>80 mm* |

Application:

The reinforcing plate connects the base aluminium profiles and increases the load capacity of the post and beam connection. The reinforcing plate is available for different base profiles (see table). Reinforcing plates for other profiles on request. \*width of post and beam

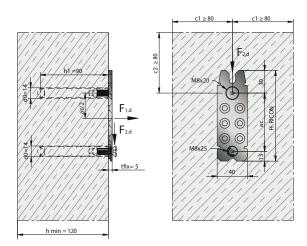


<sup>\*\*</sup> Reinforcing plates are approved by the building authorities for all common systems as shown in ETA-10/0189.

# RICON® wood to concrete connection

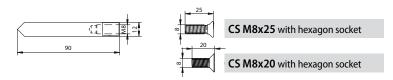
#### Header-joist connection with glued anchor

(Dimensions in mm)



#### Concrete strength class C20/25

#### fischer RG 12x90 M18 I (8.8) with CS M8x25 and CS M8x20 (zinc-coated steel)







# Wood to concrete connection in slide-in direction F<sub>2</sub>

#### F, load-bearing values in the direction of insertion Concrete connection **Timber connection Wood material Spacing** F<sub>2,Rd,béton</sub> F<sub>2.Rd.bois</sub> **KNAPP® Design values** Characteristic values [kN] Shear force Dowel spacing $F_{2,Rd}$ , $\gamma_M = 1,3 [kN]$ Density ρ<sub>ι</sub> [kg/m<sup>3</sup>] C24 350 9,40 4,34 5,78 6,51 RICON® 100/40 14,00 57,00 GL24h 385 10,00 4,62 6,15 6,92 14,00 C24 350 12,00 5.54 7,38 8,31 RICON® 120/40 18,00 77,00 GL24h 385 12,80 5,91 7,88 8,86 C24 350 14,50 6,69 8,92 10,04 RICON® 140/40 18,00 97,00 GL24h 385 15,50 7,15 9,54 10,73 18,00 C24 350 17,10 7,89 10,52 11,84 RICON® 160/40 18,00 117,00 GL24h 18,20 8,40 11,20 12,60

Service class: 1-2  $\gamma_{M,timber} = 1,3$ 

Calculation of F<sub>2 Rd</sub> for timber-concrete connection:

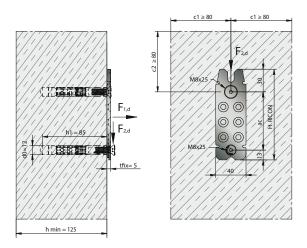
$$F_{2,Rk} = min \; \left\{ \begin{array}{ll} \min \; F_{2,Rd, \, timber} \\ \min \; F_{2,Rd, \, concrete} \end{array} \right. \qquad F_{2,Rk, \, timber} = min \; \left\{ \begin{array}{ll} \min \; F_{2,KCC, \, Rk} / \gamma_M \\ \frac{\min \; F_{2,Rk} \cdot k \\ mod}{\gamma_{M, \, timber}} \end{array} \right.$$

#### Note

The fischer anchors for KNAPP wood-to-concrete connections were determined according to the above tables and on the basis of a concrete class C20/25 with the fischer C-FIX calculation tool. They have been specially checked by fischer. Any cases outside the tables must be checked by KNAPP®, fischer or a competent engineer. In many cases, dimensioning with the C-FIX calculation tool is sufficient. The complete analysis of concrete fasteners is available on request from KNAPP®. KNAPP® accepts no liability for the incorrect use of the tables in this document. The condition of the concrete elements (strength classes and surfaces) must be checked by a professional, KNAPP® accepts no responsibility for this. KNAPP® products and KNAPP® connectors must be installed in accordance with the respective installation rules and instructions as well as the respective Technical Assessments.

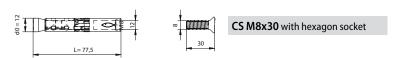
(Dimensions in mm)

#### Header-joist connection with heavy duty anchor



Concrete strength class C20/25

#### fischer FH II 12/M8 I (8.8) with CS M8x30 (zinc-coated steel)



 $\begin{array}{c} \text{Drill hole diameter } d_0 = \\ \text{Drill hole depth } h_1 = \\ 85 \text{ mm} \\ \text{Total fixing thickness } C_{\text{Six}} = \\ \text{Spacing } a_c = \\ \text{Spacing } a_c = \\ \text{Minimal edge distance } c_{1,\text{min}} = c_{2,\text{min}} = \\ \text{Minimal concrete wall thickness } h_{\text{min}} = \\ \text{Approval:} \end{array}$ 

# Wood to concrete connection in slide-in direction F<sub>2</sub>

#### F<sub>2</sub> load-bearing values in the direction of insertion Concrete connection **Timber connection Wood material Spacing** F<sub>2,Rd,concrete</sub> **KNAPP®** Characteristic values [kN] Shear force [kg/m<sup>3</sup>] C24 350 9,40 4,34 5,78 6,51 RICON® 100/40 14,00 57,00 GL24h 6,15 385 10,00 4,62 6,92 14,00 C24 350 12,00 5,54 7,38 8,31 RICON® 120/40 16,00 77,00 GL24h 385 12,80 7,88 5,91 8,86 C24 350 14,50 6,69 8,92 10,04 RICON® 140/40 18,00 97,00 GL24h 385 15,50 7,15 9,54 10,73 18,00 C24 350 17,10 7,89 10,52 11,84 RICON® 160/40 18,00 117,00 GL24h 385 18,20 8,40 11,20 12,60

Service class : 1-2  $\gamma_{M,bois} = 1,3$ 

Calculation of F<sub>2 Rd</sub> for timber-concrete connection:

$$F_{2,Rk} = min \; \left\{ \begin{array}{l} \min F_{2,Rd,\, timber} \\ \min F_{2,Rd,\, concrete} \end{array} \right. \qquad F_{2,Rk,\, timber} = min \; \left\{ \begin{array}{l} \min F_{2,KCC,\, Rk}/\gamma_M \\ \frac{\min F_{2,Rk} \cdot k_{\,\, mod}}{\gamma_{M,\, timber}} \end{array} \right. \right.$$

#### Note:

The fischer anchors for KNAPP wood-to-concrete connections were determined according to the above tables and on the basis of a concrete class C20/25 with the fischer C-FIX calculation tool. They have been specially checked by fischer. Any cases outside the tables must be checked by KNAPP®, fischer or a competent engineer. In many cases, dimensioning with the C-FIX calculation tool is sufficient. The complete analysis of concrete fasteners is available on request from KNAPP®. KNAPP® accepts no liability for the incorrect use of the tables in this document. The condition of the concrete elements (strength classes and surfaces) must be checked by a professional, KNAPP® accepts no responsibility for this. KNAPP® products and KNAPP® connectors must be installed in accordance with the respective installation rules and instructions as well as the respective Technical Assessments.

# RICON® and RICON® inox

# Post-beam connection for curtain walls (EA and DA)













Recess with routing-jig

Pre-drill with drilling-jig

Screw connection

Install the locking clip

Slide together

Secure connection with locking clip

#### Locking clip

Depending on load requirements, the locking clip can be inserted on one or onboth sides. If the connection is accessible, it can be unlocked.



To unlock the connection, it is necessary tobend up the locking clip in its center e.g. with a screwdriver.

| Routing dimension RICON® inox |          |                         |  |  |
|-------------------------------|----------|-------------------------|--|--|
| Width                         | Height   | Depth                   |  |  |
| 40.5 mm                       | variable | 11.5 <sup>+0,5</sup> mm |  |  |
| 30.5 mm                       | variable | 11.5 <sup>+0,5</sup> mm |  |  |
| 20.0 mm                       | 80 mm    | 11.0 <sup>+0,5</sup> mm |  |  |
| 16.0 mm                       | 66 mm    | 11.0 <sup>+0,5</sup> mm |  |  |

# **Routing dimension RICON®**

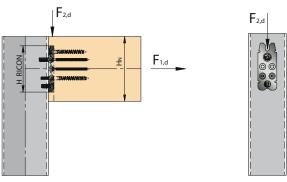
| Width | Height   | Depth |
|-------|----------|-------|
| 40 mm | variable | 12 mm |

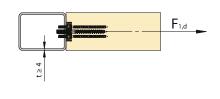
The recess can be routed on either side depending on the application. In this case (left picture), the connector plate is recessed into the beam/latch.



Rafter connection with RICON® 160/40.

# RICON® wood to steel connection





| U                   |  | и и   |  |   |  |
|---------------------|--|---|--|---|--|
| 1011220             |  | Traction  | Shear force                              |   |  |
| KNAPP®<br>connector | F <sub>t,Rk</sub> [kN]*<br>on 4 mm steel | F <sub>1,8k</sub> [kN]*<br>on glulam GL24h        | F <sub>v,Rk</sub> [kN]*<br>on 4 mm steel | F <sub>2,Rk</sub> [kN]*<br>on glulam GL24h        |  |
| RICON 60x40         |  |   |  | 5,0   |  |
| RICON 80x40         |  |   | 31,6                                     | 7,3   |  |
| RICON 100x40        | 20.0                                     | 4,4   |  | 10,0  |  |
| RICON 120x40        | 30,8                                     |   |  | 12,8  |  |
| RICON 140x40        |  |   |  | 15,5  |  |
| RICON 160x40        |  |   |  | 18,2  |  |
|                     | $F_{t,Rd} = F_{t,Rk} / \gamma_{M,2}$     | $F_{1,Rd} = k_{mod} \times F_{1,Rk} / \gamma_{M}$ | $F_{v,Rd} = F_{v,Rk} / \gamma_{M,2}$     | $F_{1,Rd} = k_{mod} \times F_{1,Rk} / \gamma_{M}$ |  |
| Sizing value        | $\gamma_{M,2} = 1,25$                    | $\gamma_{M} = 1.3$                                | $\gamma_{M,2} = 1,25$                    | $\gamma_{M} = 1.3$                                |  |
| calculation         |  | k <sub>mod</sub> = 0,8 KLED medium                |  | k <sub>mod</sub> = 0,8 KLED medium                |  |
|                     |  | k <sub>mod</sub> = 0,9 KLED short                 |  | k <sub>mod</sub> = 0,9 KLED short                 |  |
| *C crow connection  | 2 CS M8x25                               | RICON® end-grain screw connection                 | 2 CS M8x25                               | RICON® end-grain screw connection                 |  |
| *Screw connection   | 2 CS M5x20                               | CS 8x80, CS 5x80                                  | 2 CS M5x20                               | CS 8x80, CS 5x80                                  |  |

# RICON® EA Startbox

#### RICON® boxes for post-beam and main-secondary beam connections up to 23.4 kN

#### Art.-No. K364/B





RICON®

Drilling-jig

RICON® CS-screws





TCT slotting Routing-jig cutter 15x25 mm MULTI F







Depth gauge Locking clip

RICON® EA 80

Art.-No. K367

RICON® EA Box | Art.-No. K364/B 6 pairs of 60/40 EA, 80/40 EA, 100/40 EA and 120/40 EA, 24 locking clips and

#### **Each RICON® Box includes:**

6, 12 or 24 pairs of RICON®, 1 TCT slotting cutter, 1 routing-jig MULTI F 40/R, 1 drilling-jig,

1 depth gauge, CS-screws and the locking clips

Application: curtain wall, sunrooms, carport, etc.



24 pairs of RICON® 80/40

24 locking clips

48 CS-screws RICON® 5x50 mm

48 CS-screws RICON® 5x80 mm

48 CS-screws RICON® 8x50 mm

48 CS-screws RICON® 8x80 mm



# **RICON® EA Boxes**

# Art.-No. K366 24 pairs of RICON 60/40 48 CS-screws RICON® 5x50 mm 48 CS-screws RICON® 5x80 mm 24 CS-screws RICON® 8x50 mm 24 CS-screws RICON® 8x80 mm 24 locking clips

# RICON® EA 120 Art.-No. K369

12 pairs of RICON® 120/40
72 CS-screws RICON® 5x50 mm
72 CS-screws RICON® 5x80 mm
24 CS-screws RICON® 8x50 mm
24 CS-screws RICON® 8x80 mm
12 locking clips

| RICON® EA 100 |                             |
|---------------|-----------------------------|
| ArtNo. K368   | 24 pairs of RICON® 100/40   |
|               | 96 CS-screws RICON® 5x50 mm |
|               | 96 CS-screws RICON® 5x80 mm |
|               | 48 CS-screws RICON® 8x50 mm |
| 65            | 48 CS-screws RICON® 8x80 mm |
|               | 24 locking clips            |

| RICON® EA 140 |                             |
|---------------|-----------------------------|
| ArtNo. K370   | 12 pairs of RICON® 140/40   |
| 5-7           | 96 CS-screws RICON® 5x50 mm |
|               | 96 CS-screws RICON® 5x80 mm |
|               | 24 CS-screws RICON® 8x50 mm |
| Was.          | 24 CS-screws RICON® 8x80 mm |
|               | 12 locking clips            |











# FIXclip-Profile

Fixing and sealing systems for doors, glazing beads on wood and fixed or opening wood-aluminium joinery

As the first and only mounting system of its kind, the FIXclip-Profile makes it possible to combine the glazing and sealing process in one. Its innovative profile geometry saves time and reduces labor.

#### **Benefits**

The completely invisibly mounted FIXclip rail enables a perfect appearance due to flawless glazing beads. With this new glazing method, typical problems such as messy silicone joints or visible screw connections are a thing of the past.

GLE17, GLE17 plus, GLE18, GLE20 and GLE20 plus are a perfectly coordinated system for timber and timber/aluminium windows, regardless of whether glazing takes place in the factory or on site.

#### **Application**

Universally applicable for all common window and door systems, such as IV68/IV78 or fixed windows. As a stand-alone part, the FIXclip-Profile does not require a special outer sealing and can therefore be used in combination with a wet, dry or glued system method. The systems are used for flush and overlapped glazing beads.

#### **Fastening**

It will either be fixed with CS-Screws 3x20 (pre-drilled profile) or with a nailing gun and 16 gauge x 1" finish nails (1.2 x 25mm).

#### **Alternatives**

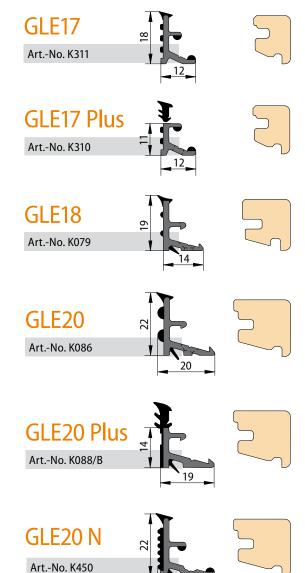
The FIXclip profile is available in the following designs: GLE17, GLE17 plus, GLE18, GLE20, GLE20 plus and GLE20 N. The standard colour is black. Other RAL colours are available on request at an extra charge for orders of 1,000 running meters or more.



Conventionally fixed glazing bead with visible nails.



With FIXclip-Profile, no visible nails and tight joints.



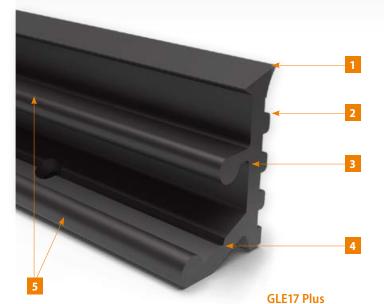
# FIXclip-Profile GLE17 / GLE17 Plus

# HUSSE

#### Fixing and sealing systems for window construction

Art.-No. K311 + K310

#### GLE17

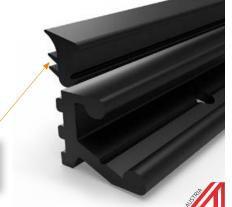


#### **Benefits:**

- I Glazing and sealing in one system
- Saves labor Effective production process guaranteed (also on site)
- | Perfect aesthetics No visible fastening
- I Clean Easy clipping on of the wooden glazing bead
- Safe No damage to the window glass by "faulty nailing"
- Tested Meets all of the highest standards of window manufacturing
- | Automatic sealing of the glass rebate



Separate wedge seal for easy and fast mounting directly on the construction site



- Soft sealing lip for optimal sealing of the window glass.
- 2 Soft contact surface for the protection and fixing of the window glass.
- Elastic, can be nailed, UV and weather resistant, resistant to varnishes, glazes and cleaning detergents.
- 4 Groove for nailing and prepunched holes for screws
- Soft rounded clamping ribs (for GLE17, GLE17 Plus and GLE20 N), or perfect fastening of the glazing bars, higher tolerance compensation, dismounting without damage.



Application: Wooden windows, wood-aluminum windows, wood-aluminum fixed glazing and doors

Choice of materials: Glazing beads made of wood and wood-based materials.

Installation: Milling the glazing bead by KNAPP® universal milling cutter, length cut, Fixing the profile and snap in glazing bead

**Mounting:** Using CS screws (3x20 mm) or 16 gauge x 1" finish nails (1.2 x 25 mm).

**Dimensions:** Profile length 6 metres. Pre-cutting possible on request.

Accessories: Universal milling head | Art.-No. K657, profile cutter | Art.-No. Z088 and assembly tool | Art.-No. Z085.

# Installation

# FIXclip-Profile



Cut to size glazing bead and FIXclip-profile



Pressing pane of glass against outer seal



Screw or nail the FIXclip-profile in place





Clip on glazing bead.

# FIXclip-Profile GLE17 and GLE17 Plus

Adjustments for machining with universal milling cutter FIXclip-Profile GLE17 + GLE17 plus

# FIXclip blades Milling Cutter Check clipping function after machining B.

# Milling cutter + profiling blades

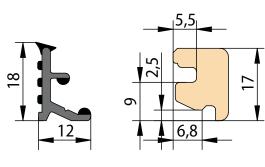


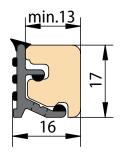
# Milling Cutter GLE17

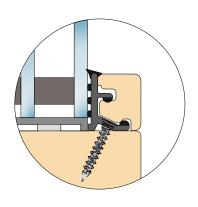
Art.-No. K657/SET

Milling cutter with profiling blades for FIXclip-Profile GLE17 and FIXclip-Profile GLE17 Plus (with Ø 30 mm bore)

# FIXclip-Profile GLE17 dimensions

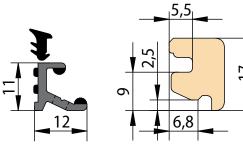




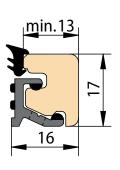


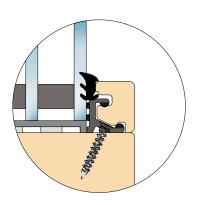
Rigid PVC Flexible PVC

# FIXclip-Profile GLE17 Plus dimensions









#### FIXclip-Profile GLE17 Plus and GLE20 Plus installation



Rigid PVC

Cut to size glazing bead and FIXclip-profile



Install FIXclip



Clipping on the glass bead



Press in wedge seal



Easy handling with wedge roller

# FIXclip-Profile GLE18

Adjustments for machining with universal milling cutter FIXclip-Profile GLE18

# A B FiXclip blades Milling cutter Check clipping function after machining B.

# Milling cutter + profiling blades



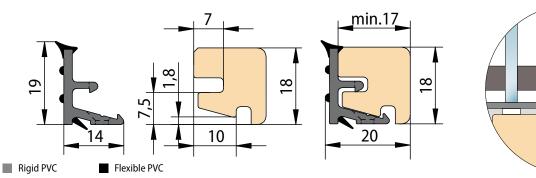
# Milling Cutter GLE18

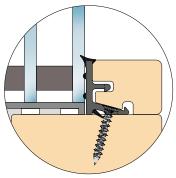
Art.-No. K655/SET

Milling cutter with profiling blades for FIXclip-Profile GLE18 (with Ø 30 mm bore)

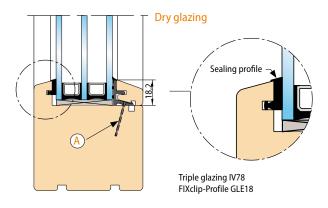


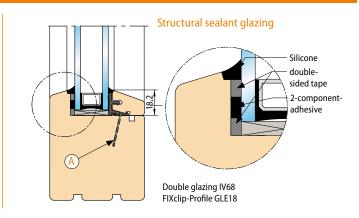
# **FIXclip-Profile GLE18 dimensions**





# Processing options with FIXclip GLE18





# Installation of FIXclip-Profile GLE18 and GLE20 Plus



Cut to size glazing bead and FIXclip-profile



Screw in FIXclip-Profile



Clipping on the glass bead



Press in wedge seal



Easy handling with wedge roller

# FIXclip-Profile GLE20, GLE20 Plus and GLE20 N

## Adjustments for machining with universal milling cutter FIXclip-Profile

# FIXclip blades Glazing bead Guides Check clipping function after machining B.

#### Milling cutter + profiling blades



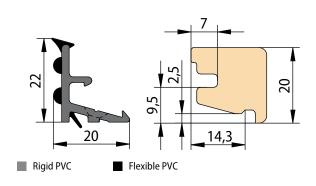
# Milling Cutter GLE20

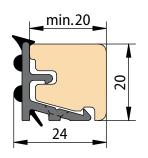
Art.-No. K659/SET

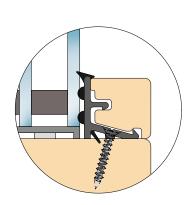
Milling cutter with profiling blades for FIXclip-Profile GLE20, FIXclip-Profile GLE20 Plus, and FIXclip-Profile GLE20 N (with Ø 30 mm bore)



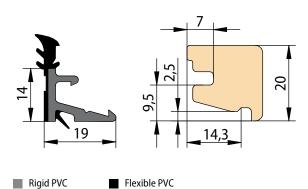
#### **FIXclip-Profile GLE20 dimensions**

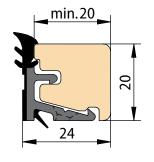


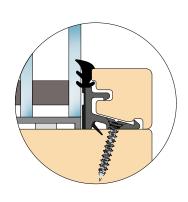




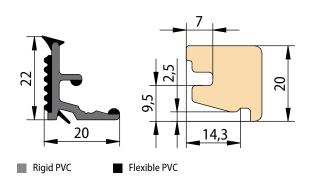
#### FIXclip-Profile GLE20 Plus dimensions

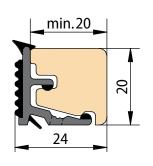


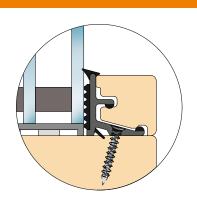




#### FIXclip-Profile GLE20 N dimensions







# FIXclip-Profile accessories

## Profiling blades FIXclip-Profile GLE17 and GLE17 Plus

Art.-No. K657

Application: machining of milling cutter for FIXclip-Profile GLE17 and GLE17 Plus.

#### **Profiling blades FIXclip-Profile GLE18**

Art.-No. K655

Application: machining of milling cutter for FIXclip-Profile GLE18.

Profiling blades FIXclip-Profile GLE20, GLE20 Plus and GLE20 N

Art.-No. K659

Application: machining of milling cutter for FIXclip-Profile GLE20, GLE20 Plus and GLE20 N.







#### FIXclip-Profile wedge seal

Art.-No. Z096 Wedge seal FIXclip-Profile GLE17 Plus (Flexible PVC, black)

Wedge seal for easy installation and removal of glazing beads with FIXclip-Profile GLE17 Plus, even on site.

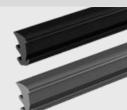
Wedge seal properties: high elasticity, heat resistant, UV and weather resistant, very good resilience, resistant to varnishes, stains and other common finishing products and cleaners.

Art.-No. Z091 Wedge seal FIXclip-Profile GLE20 Plus (Flexible PVC, black)

Art.-No. Z089 Wedge seal FIXclip-Profile GLE20 Plus (Flexible PVC, dark gray)

Wedge seal for easy installation and removal of glazing beads with FIXclip-Profile GLE20 Plus, even on site. **Properties: high elasticity**, resistant to high temperatures, UV and weathering, very good elastic recovery of initial shape, resistant to varnishes, stains and other common finishing products and cleaners.

Available colours: black and dark grey. Other colours available on request. Delivered in rolls.



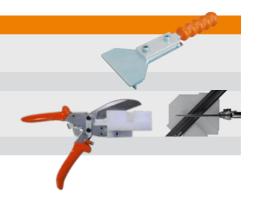
#### **FIXclip-Profile tools**

Art.-No. Z085 Mounting tool

Application: for pressing FIXclip-Profile with the Euro groove.

Art.-No. Z088 Slat cutter

Application: for fast and perfect cutting of FIXclip-Profile.



#### FIXclip-Profile screws

Art.-No. K502 CS-screws 3x20 mm

Alternative: finishing nails 1,2x25 mm.



# FIXclip GLE20 plus

#### Fixing system for glazing and beading

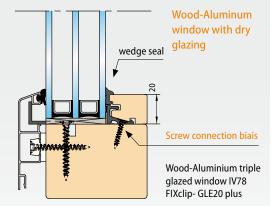
Art.-No. K025 / K025 SET



On request the FIXclip is also available in white.



Increased contact pressure due to fastening with tilted screw



#### **Benefits:**

- Perfect for fixed glazing, an ideal solution for wedge sealing and also for wet glazing.
- Contact pressure is applied by means of a tilted screw connection
- Easy click-on of the glazing bead is guaranteed
- Easy removal of the glass pane after removal of the wedge seal
- Concealed installation of glazing beads, removeable damage-free

The invisible fixing system for glazing bead FIXclip GLE20 Plus completes the FIXclip-Profile range.

This is a simplified alternative to the to the profile bar.









Application: Concealed fixing of wood and wood-aluminium window glazing beads,

wood-aluminium fixed frames and doors.

Installation: Machining the glazing beads on a router or machining centre with a special tool | Art.-No. K656.

Finished with glazing bead or silicone sealant.

Suitable materials: Glazing beads and profiles in wood or plastic materials.

**Mounting:** By screwing with KNAPP® SK inox screws 3.5x25 mm with drill point | Art.-No. Z420.

Accessories: FIXclip universal milling cutter | Art.-No. K656, Wedge seal | Art.-No. Z089.



Screw connection with KNAPP® 3.5x25 mm inox countersunk screw

#### Installation



Cut glazing bead to size



Screw in FIXclip GLE20 in a 45° angle



Clipping on the glass bead



Press in wedge seal



Easy handling with wedge roller

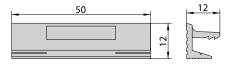
# **FIXclip**

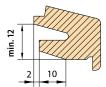
Moulding connectors for window construction (for fixing of glazing beads)



# FIXclip H12 Art.-No. K078



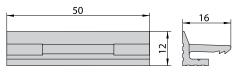


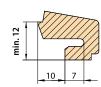


# FIXclip H16

Art.-No. K076



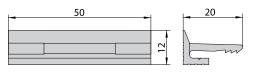


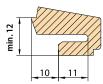


# FIXclip H20

Art.-No. K077

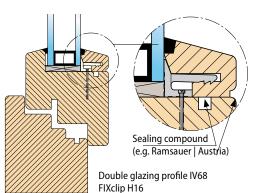






#### **Benefits:**

- Concealed installation of glass and profile moldings, can be disassembled without damage, tested for wind load C5 (EN 12210) and impact resistance class 3 (EN 13049).
- Perfect aesthetics no visible fasteners
- Time-saving effective production process guaranteed
- | Fastening by nailing or screwing
- I For glazing bead frames and glazing beads, profiles made of wood or plastic materials



# The glass and profile strip connectors have been tested by ift Rosenheim and HFA Vienna.

Proof of resistance to wind load, watertightness, air permeability and impact resistance

Proof resistance at wind load

Impact resistance proof

Test in accordance with ÖNORM EN 14351-1 and ÖNORM B5300 (partial tests of air permeability, watertightness, wind resistance)

ift windows product passport, according to EN 14351-1















- Resistance to wind load EN 12210 Class C5/B5
- Driving rain tightness EN 12208 Class E1050
- Air permeability EN 12207 Class 4 Impact resistance - EN 13049 - Class 5



- FIXclip-Profile available in the system data base: www.ce-fix.de
- I Easy and fast to the CE-mark and declaration of conformity
- I Valid throughout Europe





Fixings for deck boards

Fasteners for cladding

Fixing for cladding wall panels

**Outdoor assembly systems** 

# QUATRO 65, Z-DECK – Invisible fasteners for deck boards

Concealed fastening systems for terraces, cladding and wall cladding, indoors or outdoors



#### **QUATRO 65**

Art.-No. K080: Quatro 65/30

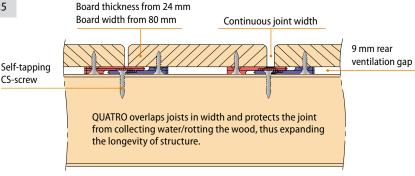
Art.-No. K081: Quatro 65/25

#### For decking boards and wall panels

Recommended for spacing no smaller than 7 mm



Quatro 65/25 Art.-No. K081 Quatro 65/30 Art.-No. K080



Self-tapping Stainless steel
CS-screw A2 5x25 mm for
board thicknesses 24-26 mm



Self-tapping Stainless steel CS-screw A2 5x30 mm for board thicknesses >26 mm

| Approximate quantity per square meters |                  |                         |  |
|--|------------------|-------------------------|--|
| Board width                            | Pairs / m²       | Nb of m² / package unit |  |
| 150 mm                                 | approx. 17 pairs | 6 m <sup>2</sup>        |  |
| 100 mm                                 | approx. 25 pairs | 4 m <sup>2</sup>        |  |
| (For a joist spacing of 500 mm)        |                  |                         |  |

#### I Concealed from the first to the last board

- I Constructive wood protection of the substructure against rotting
- I Rear ventilation due to distance between boards and joists
- I Used also for wooden facades and formwork
- Easy installation with installation template
- I Allows swelling and shrinkage of the boards
- UV and weather resistant plastic

#### Tinc

- Even the best connecting system cannot compensate for poor quality of wood. Make sure that the wood is dry and especially avoid boards from the core of the trunk and boards with a tendency to twist.
- Recommended length of boards: max. 3 m.
- Pre-drill, especially for hardwoods such as oak.
- I Follow the installation recommendations of your quality wood supplier



#### **QUATRO 65 installation**

I Pre-drilling and continuous positioning of the joint spacing with the mounting template





Pre-drill with the template



Fasten to the boards with screws



Fasten to the joists with screws



Use QUATRO 65 as spacer



Mount the final board



#### **Z-DECK**

Art.-No. K082

#### For decking boards that are completely exposed to the weather

I Recommended for rebated boards and gab of 7 mm or more



- I Robust even suitable for beach and boat decks
- I Boards can be replaced quickly and individually
- I Optimum wood protection through self-cleaning joint design
- I More stable than visible screwing from above
- Increased resistance agains twisting of the boards
- I Connectors and screws made of stainless steel





| Approximate quantity per square meters |                  |                         |  |
|--|------------------|-------------------------|--|
| Board width                            | Pairs / m²       | Nb of m² / package unit |  |
| 150 mm                                 | approx. 28 pairs | 9 m²                    |  |
| 100 mm                                 | approx. 40 pairs | 6 m <sup>2</sup>        |  |
| (For a joist spacing of 500 mm)        |                  |                         |  |

#### Tips:

- I UneEven the best connecting system cannot compensate poor quality of wood. Make sure that the wood is dry and especially avoid boards from the core of the trunk and boards with a tendency to twist.
- Pre-drill, especially for hardwoods such as oak..
- I Follow the installation recommendations of your quality wood supplier.

#### **Z-DECK installation**





Routing with the router (optional)



Drive in



Screw in



Z-DECK is completely mounted







Garden furniture with KNAPP® dowels



Fitting out your boat with KLICK System and KNAPP® dowels.

# Overview of Knapp solutions for outdoor use:

Concealed connecting system for outdoor- gardens, balconies, boat, and ship interior fittings.



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**QUATRO 65** 

Made of highly resistant composite plastic Quatro 65/25 Art.-No. K081 Quatro 65/30 Art.-No. K080

**Z-DECK** in inox Art.-No. K082 Page 79



**Exterior Slipfix** Handrail-post connection Art.-No. Z374

**ZIPBOLT**<sup>TM</sup>



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for wooden structures, 13 sizes from 66/16, use in service class 3

 $RICON^{\circledast}$ 

Connectors

inox





DUO 30 inox A5 hook connector in A5 stainless steel





Art.-No. K350

Art.-No. K350/P Mini Pack

Art.-No. K121 A2 locking clip (option)





Art.-No. K066 6x28 mm Art.-No. K067 8x36 mm

Art.-No. K169 8x50 mm



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Page 22



# KNAPP®-Boxes

For joiners, carpenters, window manufacturers, stair constructors and installer

## Extensive range of boxes for carpenters, joiners, window / stair manufacturers and cabinetmakers

A wide range of connectors including accessories

I Sets of assorted articles I To all intents and purposes I Custom-made in small quantities

#### **DEKLICK® Box – Clamp connectors**

50 DEKLICK blocs removable (black) 50 DEKLICK blocs extra grip (grey) 50 DEKLICK lamellar clamps removable (black) 50 DEKLICK lamellar clamps extra grip (grey) 50 DEKLICK screw clamps removable (black) 100 CS-screws inox A2 5x50 mm, 50 CS-screws inox 4x16 mm, 25 Euro-screws 6,3x10 mm, 300 CS-screws inox A2 4,5x35 mm, 100 square nuts M6, 1 Torx bit T15 with long shaft,

1 Torx bit T25, 1 DEKLICK wood sample, 1 KNAPP®-ADHESIVE PU+

Art.-No. K010/BOX

Application: for vertical and horizontal fastening of acoustic panels, decorative walls and ceiling coverings for indoor and outdoor use.



#### miniKLICK Box **Dovetail connectors**

400 miniKLICK pairs, 1 grooving saw blade  $\emptyset$  120 mm with  $\emptyset$  30 mm borehole for spindle moulder (more Ø on request)

Art.-No. K059/BOX

#### Application:

Invisible assembly of small decorative parts, glazing beads on interior doors



#### **KLICK Box – Dovetail connectors**

200 pcs. KLICK, 400 pcs. sKLICK, 400 PH-screws 3x13mm, 100 pcs. KLICKpro, 1 Dovetail Router bit with Ø 8 mm shank

Art.-No. K045/BOX

#### **Applications:**

Concealed fasteners for precisely fitting, and concealed interior design.



#### **QUICK-SET Box** 2-parts dowel connectors

125 pcs. QUICK Set 5 x 11 mm, 125 pcs. QUICK Set 5 x 7,5 mm, 125 pcs. QUICK Set 8 x 8 mm, 125 pcs. QUICK Set 8 x 26 mm

Art.-No. Z056/BOX

#### **Applications:**

Concealed, immediately functional without glue, 2-parts cabinet connector.



#### **KOMBI-Box Hook connectors**

100 pcs. G10 KOMBI hook connector, 100 pcs. holding bracket, KOMBI G12/62, inox 200 PH-screws 3x25 mm, 200 CS-screws inox 4,5x35 mm, 1 KNAPP®-ADHESIVE PU+

Art.-No. K616/BOX

Applications: Decorative claddings, exhibitons stands, shop and interior fitting.



#### **DUO 30 Box 100 - Hook connectors**

#### 50 pairs of each:

DUO 30 mL and DUO 30 oL, 400 CS-screws 3,5x16 mm, 6 center punches, 2 handrail punches, 1 Forstner Bit Ø 30 mm, with Ø 10 mm shank and adjustable depth gauge, 1 drilling template

Art.-No. K070/BOX

#### **DUO 30 Box 150 - Hook connectors**

#### 75 pairs of each:

DUO 30 mL and DUO 30 oL,

6 center punches, 2 handrail punches, 1 Forstner Bit (Ø 35 mm, Ø 10 mm shank and adjustable depth gauge)

Recommended screws (not included): CS-screws 3,5x16 mm (Art.-No. Z502)





#### 50 pairs of each:

DUO 35 mL and DUO 35 oL, 400 Euro-screws 6,3x10 mm, 6 center punches DUO 35, 1 Forstner Bit (Ø 35 mm, Ø 10 mm shank and adjustable depth gauge)

#### Art.-No. K061/BOX

**Application:** Concealed, self-locking, removable, suitable to a CNC-routing machine and to EURO screws.



#### DUO 35 Box 150 Hook connectors

**75 pairs of each:**DUO 35 mL and DUO 35 oL,
6 center punches DUO 35

**Recommended screws (not included):** EURO-screws 6,3x10 mm (Art.-No. Z510)

Art.-No. K062/BOX



Handrail, windowsb and doors, facades, cladding, weatherboard, decorative panels.



100 UNO 30, 100 locking clips, inox, 100 CS-screws KNAPP® 5x50 mm with washers TX25, 6 center punches UNO 30, 55 universal plastic dowels Ø 8 mm, 1 Forstner Bit (Ø 35 mm, Ø 10 mm shank and adjustable depth gauge), 300 PH-screws KNAPP® A2 3x13 mm, 1 drilling template, 1 T25 Bit

Art.-No. K123/BOX with KNAPP 5x50 mm galvanized screws

Art.-No. K123/EDEL UNO 30 Box 100, inox



# FIYU® Box

100 pairs FIYU® LOCK 100 pairs FIYU® FAST, 100 grub screws 6x12 mm, 100 tensioning screws 5x13 mm 1 Allen key with ball end

#### Art.-No. K856/BOX

**Application:** Furniture, cabinets, and fittings connections





# CONTRA 800 Box Connector for case goods

500 pcs. CONTRA 800, 250 EURO-(CS)-screws 6.3 x 10 mm, 250 EURO-(CS)-screws 6.3 x 30 mm, 250 CS-screws 4 x 16 mm, 250 CS-screws 4 x 40 mm, 1 Dovetail Router bit with Ø 8 mm shank

#### Art.-No. K800/BOX

**Application:** All-purpose product for mounting crown and cover profiles, surface-mount fastener.



## MODULAR Box

#### **Cabinet connectors for 32 mm hole centers**

125 pcs. each of MODULAR 4031 and 4032, 250 MODULAR 2055 shoulder screws, flat tip 13 mm, 56 MODULAR 2069 M4 shoulder screw M4 thread 15 mm, 56 MODULAR 2066 shoulder screw M4 bushing thread 16 mm, 1 Drill-and-test jig for groove.

#### Art.-No. Z4031/BOX

**Application:** Concealed junction of uprights - shelf, for wardrobe, bookcase, storage, cabinet unit.



# HITLINE Box 125 Biscuit connectors

125 pairs of SUNNY, SILVER and FAST, 1 Insert tool pour frapper les assembleurs

#### Art.-No. K053/BOX

**Application:** Heavy-duty fasteners (SILVER, FAST), concealed gluing helps (SUNNY).



80 pairs each CHAMP and METAL, 50 pairs CLIPS, 160 PH-screws 3 x 13 mm, 160 PH-screws 3 x 25 mm, 2 CHAMP templates, 1 KNAPP®-ADHESIVE PU+

#### Art.-No. K301/BOX

**Applications:** Invisible and removable for mitres and corners, furniture, and interior design.



70 TREPPO 40, 10 TREPPO 70, 5 TREPPO 100, 6 threaded pins, 3 KNAPP®-ADHESIVE PM+

#### Art.-No. Z320/BOX

**Applications:** Fixing wooden stair treads on concrete.





## KNAPP®-DOWEL Box

500 KNAPP®-DOWEL 8 mm, 1000 KNAPP®-DOWEL 6 mm, 1 KNAPP®-ADHESIVE PU+

Art.-No. K066/BOX

#### **Applications:**

Weatherproof plastic dowel for force-fit connection of wooden materials and windows.

**Processing recommendation:**Dowel Inserter Gannomat Selekta.



# Mini Packs



#### **DEKLICK Pack**

**35 set** | Art.-No. K010/PS (removable, black) Alternative:

**35 set** | Art.-No. K010/PG (extra grip, grey),

I including square nuts and **CS-screws** 



## **DEKLICK Pack** to screw in

**35 set** | Art.-No. K012/PS (removable, black), I including square nuts and **CS-screws** 



#### FAST Pack

90 pairs | Art.-No. K058/P I 1 Insert tool



#### CLIPS Pack

**44 pairs** | Art.-No. K054/P



24 pairs CHAMP, 24 pairs METAL, 8 pairs CLIPS PH-screw 1 setting template 1 Art.-No. K301/P











## **HITLINE-SET Pack**

25 pairs SUNNY, 25 pairs SILVER, 25 pairs FAST 1 Insert tool | Art.-No. K302/P













# Where I can order small amounts of my connectors!

All 32 Minipacks are available in our online-store

small volumes

accessories included

I wide range of installation options



**SUNNY Pack** 

**110 pairs** | Art.-No. K053/P I 1 Insert tool



## DUO 30 inox A5 **PACK**

25 pairs | Art.-No. K350/P 2 center punches DUO 30

DUO 30 mL Pack

**42 pairs** | Art.-No. K070/P

2 center punches DUO 30

DUO 30 oL Pack

42 pairs | Art.-No. K074/P 2 center punches DUO 30



## **SILVER Pack**

**50 pairs** | Art.-No. K049/P 1 Insert tool



## **CHAMP Pack**

**80 pairs** | Art.-No. K023/P I 1 template CHAMP



#### **CHICO Pack**

**25 pairs** | Art.-No. K030/P



## DUO 35 mL Pack

**32 pairs |** Art.-No. K061/P 2 center punches DUO 35

## DUO 35 oL Pack

32 pairs | Art.-No. K062/P 2 center punches DUO 35



#### **METAL Pack**

40 pairs | Art.-No. K026/P PH-screws 3x13/3x25



#### **UNO 30 Pack**

**30 set** | Art.-No. K120/P 25 set | Art.-No. K117/P (with CS-screws A2 5x50)

CS-screws 5x50

PH-screws 3x13 mm A2 inox

Wasners, ..... I 15 Locking clips Washers, inox A2

2 center punches UNO 30



#### KLICK Pack **250 pcs.** | Art.-No. K045/P



#### sKLICK Pack

250 pcs. | Art.-No. K048/P PH-screws 3x13



## sKLICK + **KLICKpro Pack**

**125 pcs.** Art.-No. K092/P PH-screws 3x13



### sKLICK + Fraise Pack

KLICK + Fraise Pack

**50 pcs.** | Art.-No. K093/P

1 TCT-Router

**50 pcs.** | Art.-No. K094/P PH-screws 3x13 1 TCT-Router





**12 pairs** | Art.-No. K055/P CS-screws 5x40/5x60 PH-screws 5x40/5x60

DUO 100/15 Pack



#### DUO 46/30 Pack

**10 pairs** | Art.-No. K046/P CS-screws 5x40/5x60 PH-screws 5x40/5x60



#### **DUO 46/15 Pack**

**18 pairs** | Art.-No. K041/P CS-screws 5x40/5x60 PH-screws 5x40/5x60



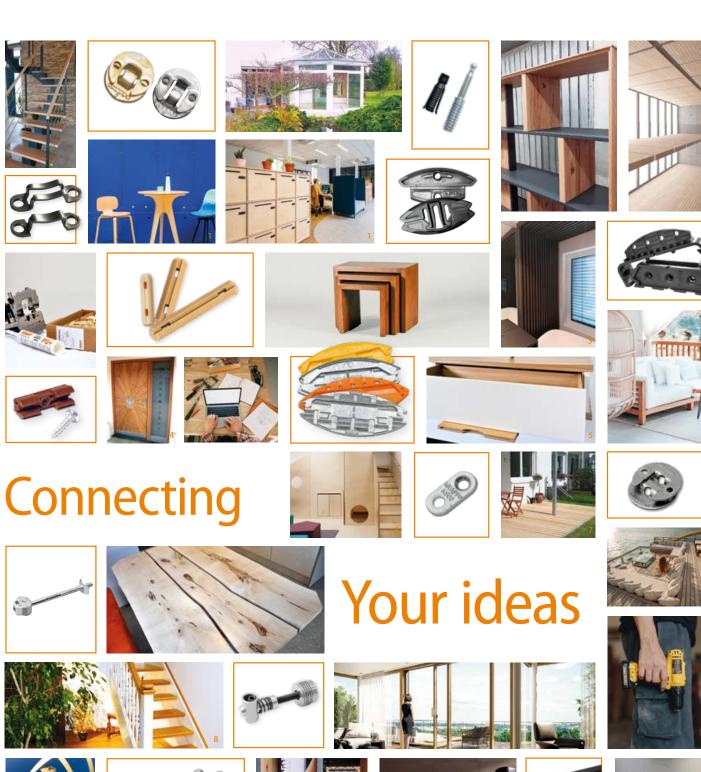
## DUO 62/15 Pack

**16 pairs** | Art.-No. K036/P CS-screws 5x40/5x60 PH-screws 5x40/5x60



#### DUO 62/30 Pack

8 pairs | Art.-No. K022/P CS-screws 5x40/5x60 PH-screws 5x40/5x60









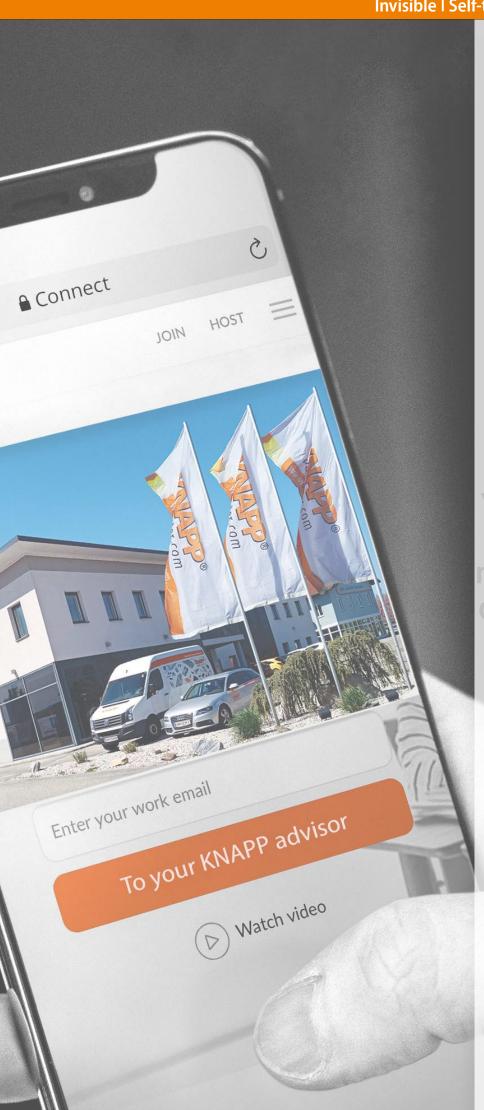














#### >>> On-site consultation

For international requests, we are also available via video call or through our business partners. All contact details are available on our website:

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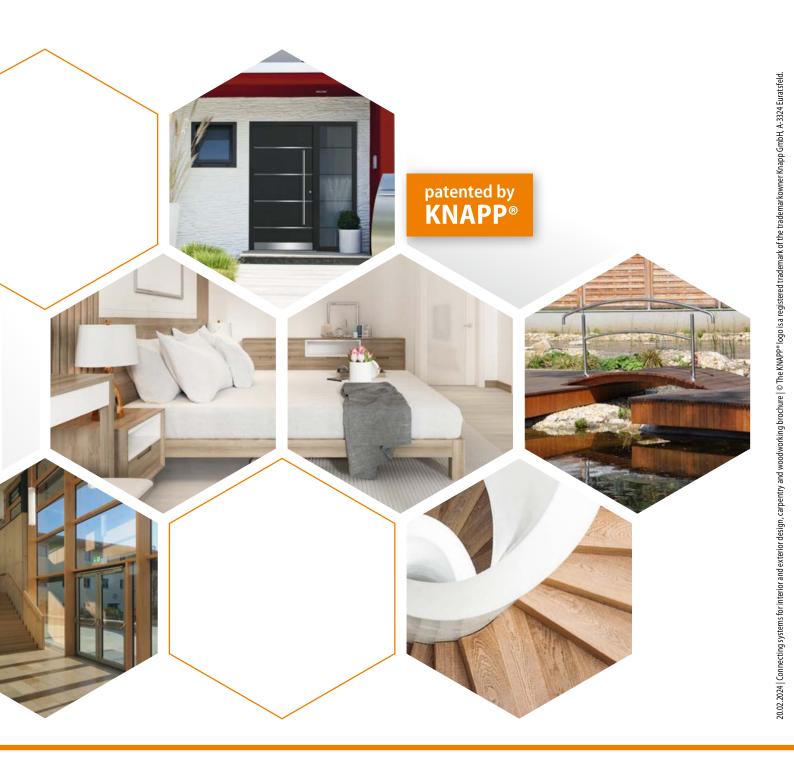








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