

FLAT | FLIP

CONNECTOR FOR DECKING

INVISIBLE

Completely hidden. The version in aluminium with black coating guarantees an attractive result; the galvanized steel version offers good performance at low cost.

FAST INSTALLATION

Fast, easy installation thanks to the single-screw fastening and the integrated spacer-tab for precise spacing. Ideal for application with the PROFID spacer.

SYMMETRICAL GROOVING

Makes it possible to install deck planks regardless of the position of the grooving (symmetrical). Ribbed surface provides high mechanical strength.



CHARACTERISTICS

FOCUS	extremely precise joints
CLADDING	black anti-rust coating zinc plated
BOARDS	symmetrical grooving
JOINTS	7.0 mm
FASTENERS	KKTN540 , KKAN440



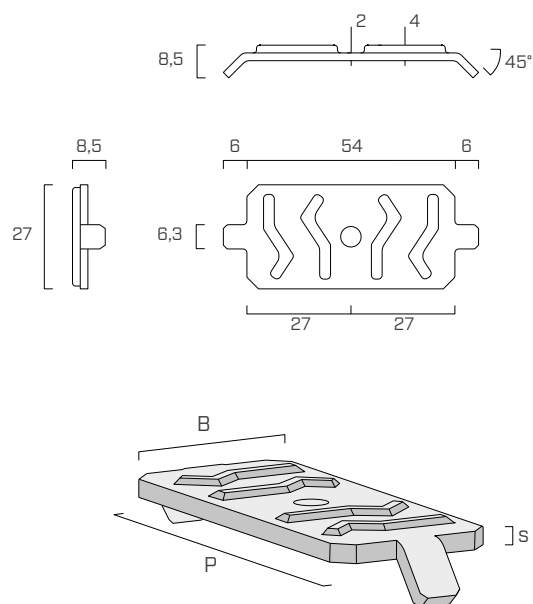
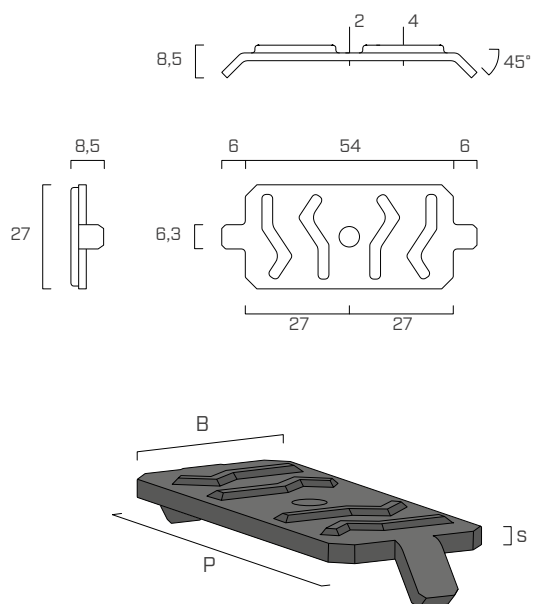
MATERIAL

Aluminium with coloured organic coating and carbon steel with zinc plated.

FIELDS OF USE

Outdoor use. Fastening timber or WPC boards on substructures in wood, WPC or aluminium. Suitable for service classes 1-2-3.

GEOMETRY



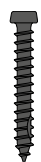
CODES AND DIMENSIONS

FLAT COLOR

CODE	material	P x B x s [mm]	pcs
FLAT	black alluminum	64 x 27 x 4	200

KKT COLOR

fastening on wood and WPC for FLAT and FLIP



d ₁ [mm]	CODE	L [mm]	pcs
5 TX 20	KKTN540	40	200

FLIP

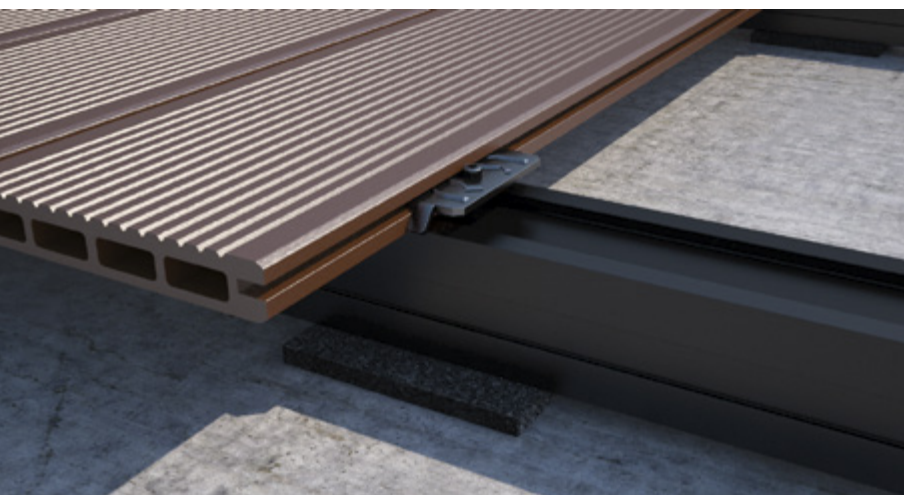
CODE	material	P x B x s [mm]	pcs
FLIP	zinc-plated steel	64 x 27 x 4	200

KKA COLOR

fastening on aluminium for FLAT and FLIP



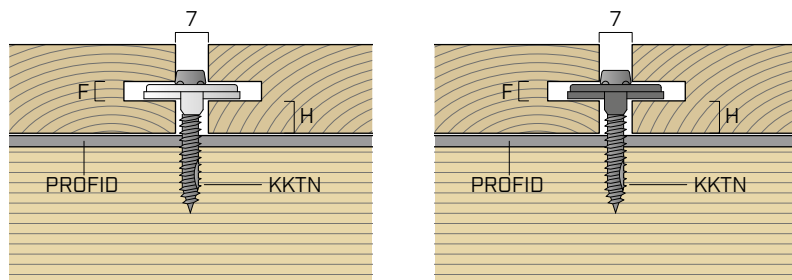
d ₁ [mm]	CODE	L [mm]	pcs
4 TX 20	KKAN420	20	200
	KKAN430	30	200
	KKAN440	40	200
5 TX 25	KKAN540	40	200



WOOD PLASTIC COMPOSITE (WPC)

Ideal for fastening WPC boards. Can also be used for fastening on aluminium using KKA COLOR screws (KKAN440).

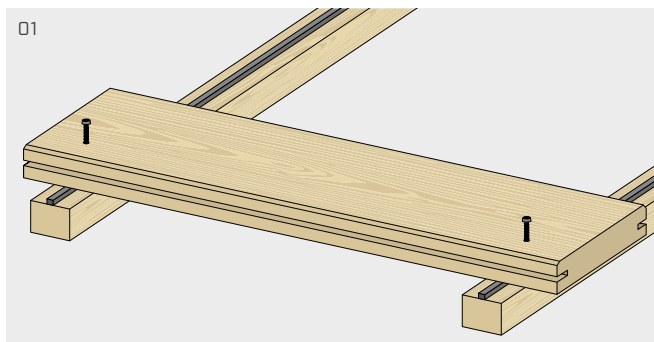
GROOVING GEOMETRY



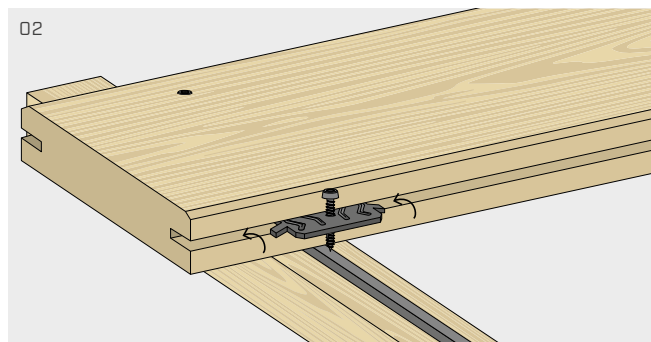
SYMMETRICAL GROOVING

Min. thickness	F	4 mm
Min. recommended height H	H	free

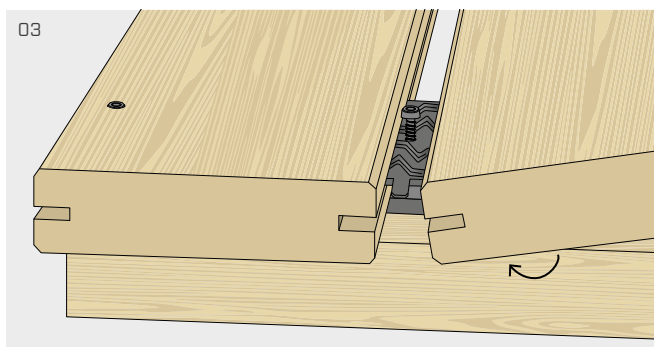
INSTALLATION



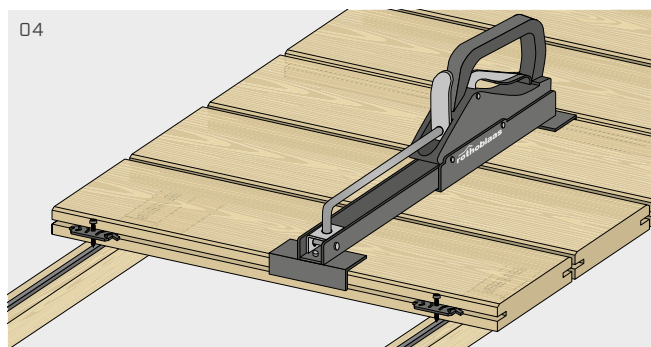
Position the PROFID spacer at the joist centerline. First board: fix it with suitable screws, left visible or hidden thanks to specific accessories.



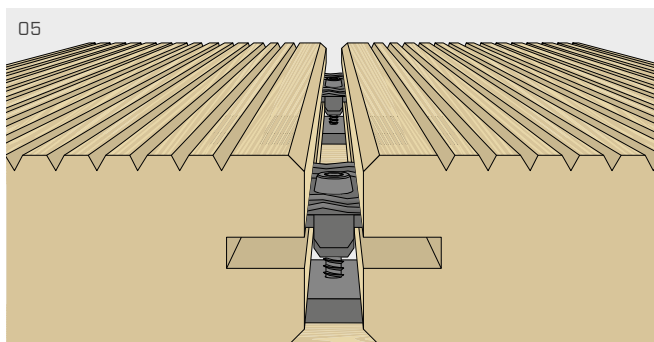
Insert the FLAT/FLIP fastener into the groove cut so that the spacer tab adheres to the board.



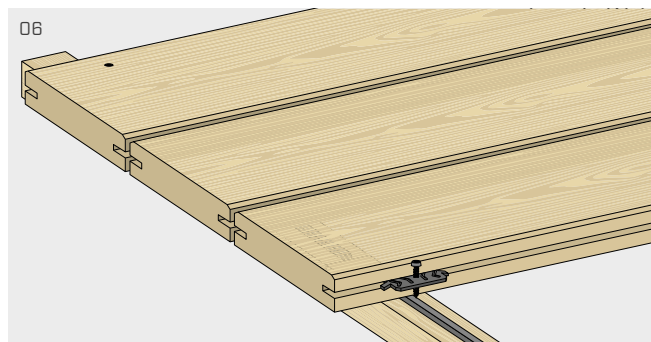
Position the next board by inserting it into the FLAT/FLIP fastener.



Using the CRAB MINI clamp, tighten the two boards until the gap between them is 7 mm (see product page 334).

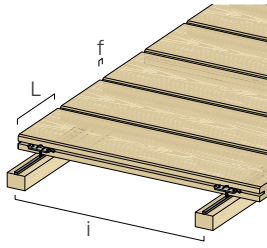


Fix the fastener to the joist underneath by using the KKTN screw.



Repeat the operations for the remaining boards.
Last board: repeat step 01,

CALCULATION EXAMPLE



INCIDENCE ESTIMATE FORMULA PER m²

$$1\text{m}^2 / i / (L + f) = \text{pcs of FLAT/FLIP a m}^2$$

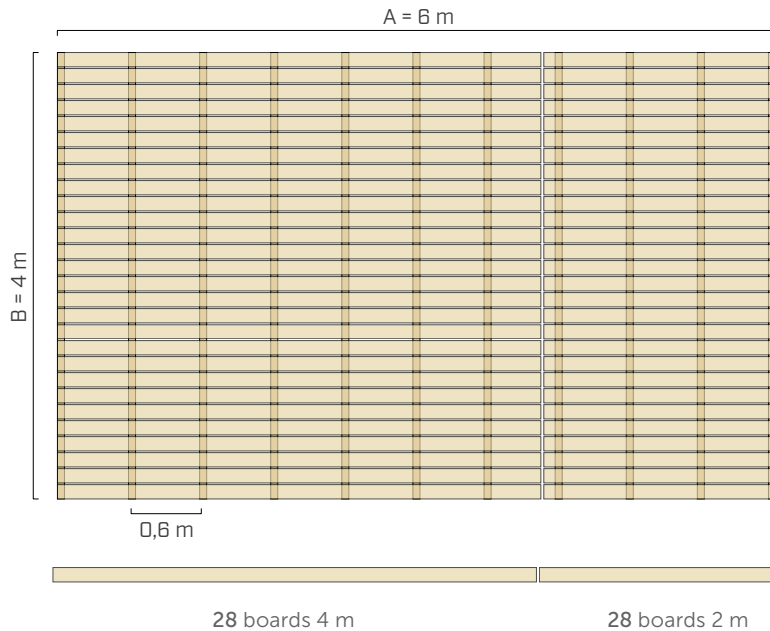
i = joists spacing

L = board width

f = gap width

PRACTICAL EXAMPLE

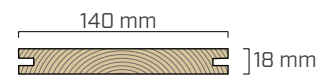
NUMBER OF BOARDS AND JOISTS



PATIO SURFACE

$$S = A \cdot B = 6\text{ m} \cdot 4\text{ m} = 24\text{ m}^2$$

WOODEN PLANKING

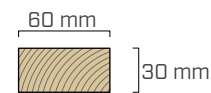


L = 140 mm

s = 18 mm

f = 7 mm

JOISTS



b = 60 mm

h = 30 mm

i = 0,6 m

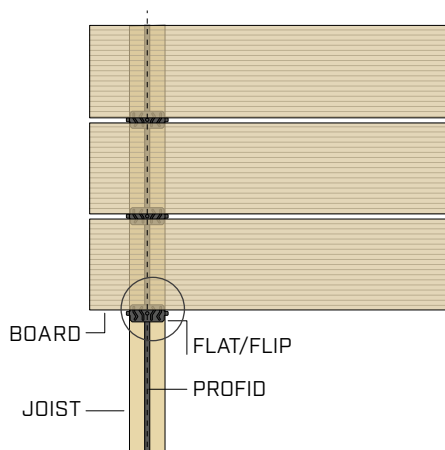
$$\begin{aligned} \text{no. boards} &= [B/(L+f)] + 1 \\ &= [4/(0,14+0,007)] + 1 = 28 \text{ boards} \end{aligned}$$

no. 4 m boards = 28 boards

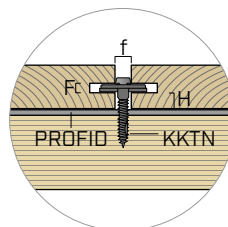
no. 2 m boards = 28 boards

$$\text{no. joists} = [A/i] + 1 = (6/0,6) + 1 = 11 \text{ joists}$$

SCREW SELECTION



Head thickness	$S_{\text{screw head}}$	2,8 mm
Grooving thickness	F	4 mm
Grooving dimension	H	(s-F)/2 = 7 mm
PROFID thickness	S_{PROFID}	8 mm
Pull-through length	L_{pen}	4 · d = 20 mm



MINIMUM SCREW LENGTH

$$\begin{aligned} &= S_{\text{screw head}} + F + H + S_{\text{PROFID}} + L_{\text{pen}} \\ &= 2,8 + 4 + 7 + 8 + 20 = 41,8 \text{ mm} \end{aligned}$$

CHOICE OF SCREW

KKTN550

FLAT / FLIP NUMBER CALCULATION

QUANTITY FOR INCIDENCE FORMULA

$$I = S / i / (L + f) = \text{pcs of FLAT/FLIP}$$

$$I = 24\text{ m}^2 / 0,6\text{ m} / (0,14\text{ m} + 0,007\text{ m}) = 272 \text{ pcs FLAT/FLIP}$$

waste coefficient = 1,05

$$I = 272 \cdot 1,05 = 286 \text{ pcs FLAT/FLIP}$$

$$I = 286 \text{ pcs FLAT/FLIP}$$

NUMBER OF FLAT/FLIP FASTENERS = 286 pcs

QUANTITY FOR THE NUMBER OF INTERSECTIONS

$$I = \text{no. boards with FLAT/FLIP} \cdot \text{no. joists} = \text{pcs of FLAT/FLIP}$$

$$\text{no. boards with FLIP/FLAT} = (\text{Number of boards} - 2) = (28 - 2) = 26 \text{ boards}$$

$$\text{no. of joists} = (A/i) + 1 = (6/0,6) + 1 = 11 \text{ joists}$$

$$\text{no. intersections} = I = 26 \cdot 11 = 286 \text{ pcs FLAT/FLIP}$$

$$I = 286 \text{ pcs FLAT/FLIP}$$

NUMBER OF SCREWS = no. FLAT/FLIP = 286 pcs KKTN550