

FLAT | FLIP

CONNECTOR FOR DECKING

INVISIBLE

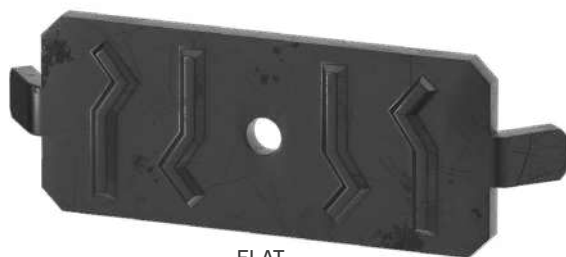
Completely hidden. The version in aluminium with black coating guarantees an attractive result; the galvanized steel version offers good performance at low cost.

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.



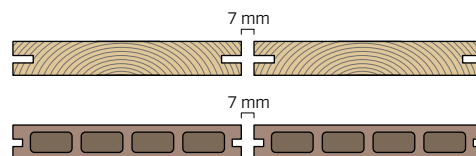
FLAT



FLIP



BOARDS



FASTENING ON



timber



WPC



aluminium

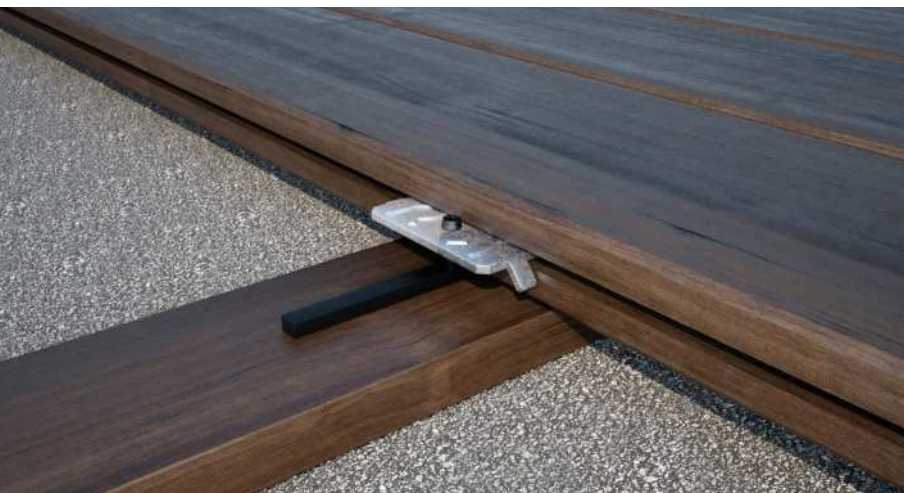
MATERIAL



aluminium with organic coloured coating



electrogalvanized carbon steel



FIELDS OF USE

Outdoor use.
Fastening of timber or WPC boards with symmetrical milling on substructures in wood, WPC or aluminium.

CODES AND DIMENSIONS

FLAT



CODE	material	P x B x s [mm]	pcs
FLAT	black alluminum	54 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	54 x 27 x 4	200

KKA COLOR

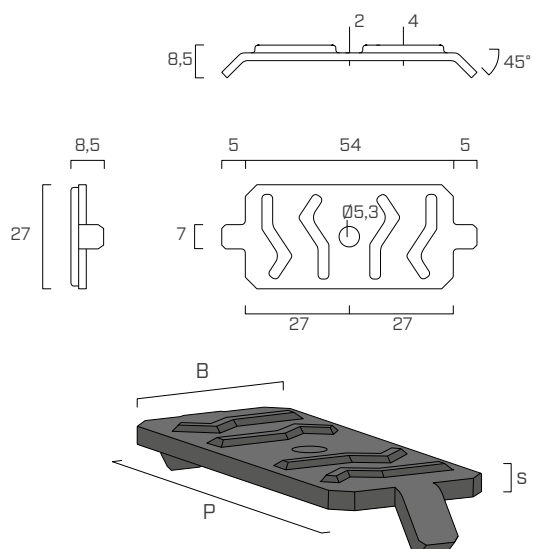
fastening on aluminium for FLAT and FLIP



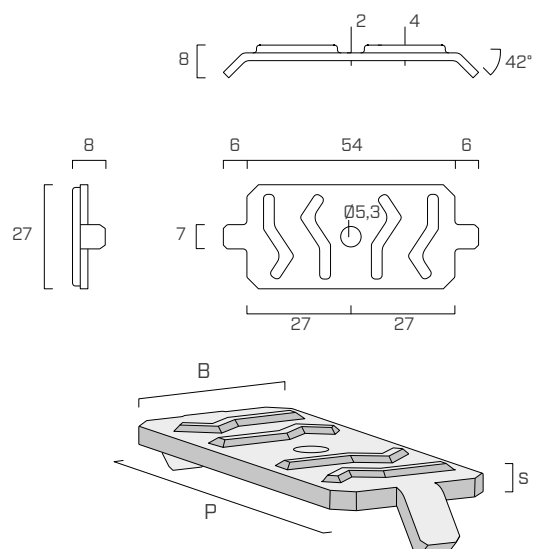
d ₁ [mm]	CODE	L [mm]	pcs
4 TX 20	KKAN420	20	200
	KKAN430	30	200
	KKAN440	40	200
5 TX 25	KKAN540	40	200

GEOMETRY

FLAT



FLIP

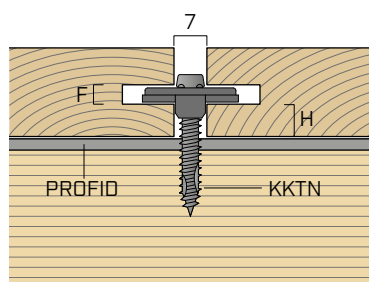


WOOD PLASTIC COMPOSITE (WPC)

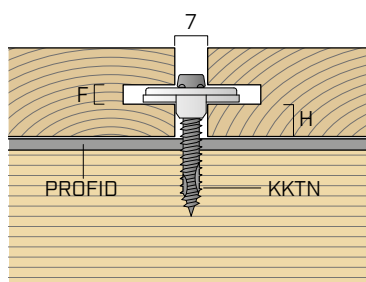
Ideal for fastening WPC boards. Can also be used for fastening on aluminium using KKA COLOR screws (KKAN440).

GROOVING GEOMETRY

FLAT



FLIP

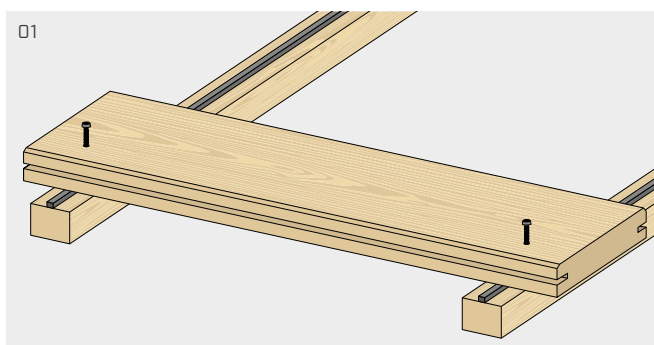


SYMMETRICAL GROOVING

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

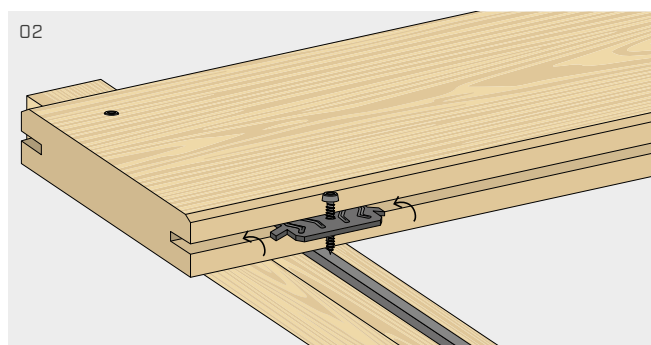
INSTALLATION

01



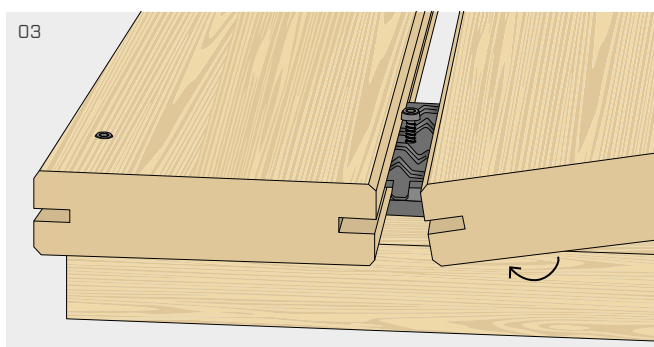
Position the PROFID spacer at the joist centerline. First board: fix it with suitable screws, left visible or hidden thanks to specific accessories.

02



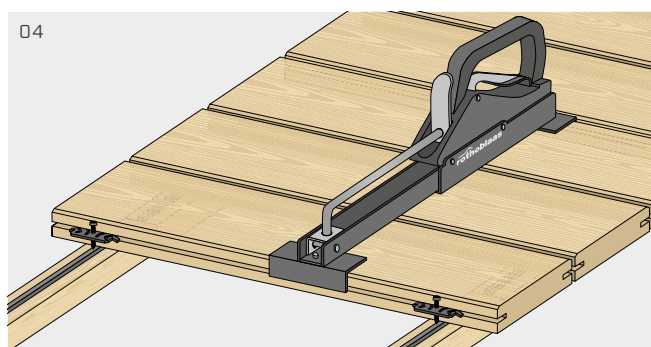
Insert the FLAT/FLIP fastener into the groove cut so that the spacer tab adheres to the board.

03



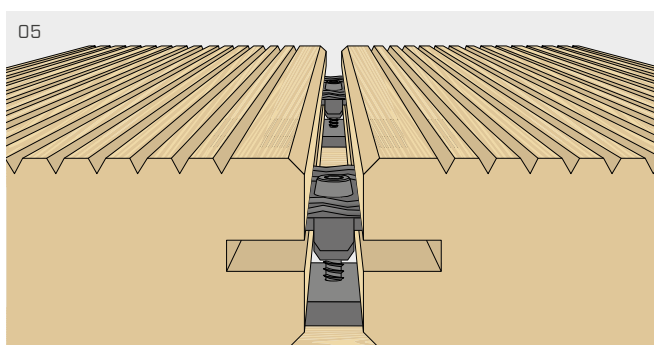
Position the next board by inserting it into the FLAT/FLIP fastener.

04



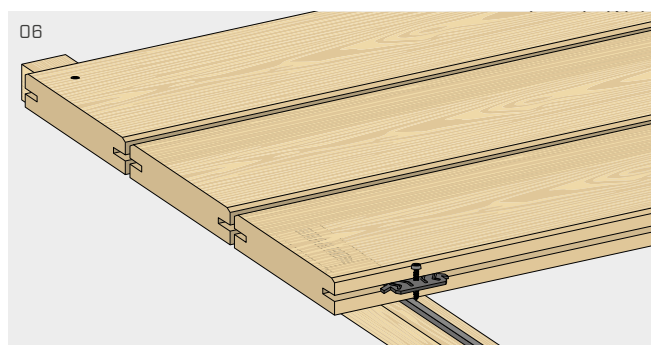
Using the CRAB MINI or CRAB MAXI clamp, tighten the two boards until the gap between them is 7 mm (see product page 395).

05



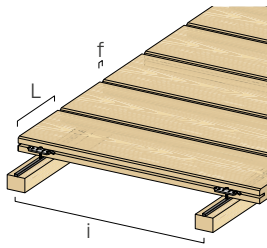
Fix the fastener to the joist underneath by using the KKTN screw.

06



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

CALCULATION EXAMPLE



INCIDENCE ESTIMATE FORMULA PER m²

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

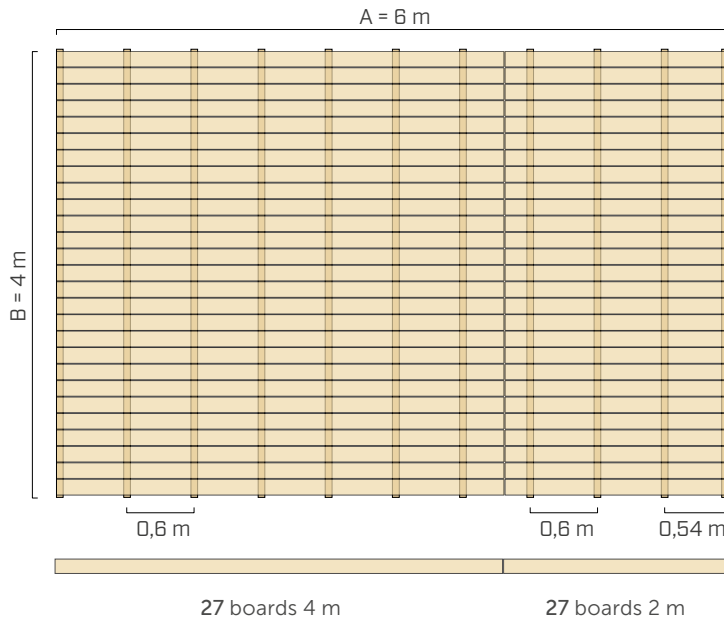
i = battens spacing

L = board width

f = gap width

PRACTICAL EXAMPLE

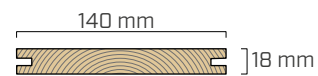
NUMBER OF BOARDS AND BATTENS



PATIO SURFACE

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

WOODEN PLANKING

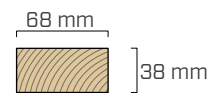


L = 140 mm

s = 18 mm

f = 7 mm

BATTENS



b = 68 mm

h = 38 mm

i = 0,6 m

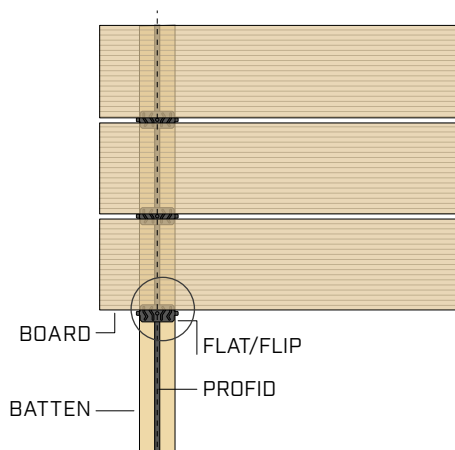
$$\begin{aligned} \text{no. boards} &= [B/(L+f)] \\ &= [4/(0,14+0,007)] = 27 \text{ boards} \end{aligned}$$

no. 4 m boards = 27 boards

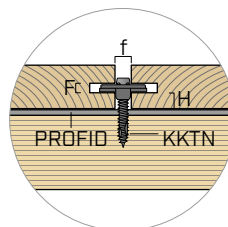
no. 2 m boards = 27 boards

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

SCREW SELECTION



Screw head thickness	S _{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

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

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

FLAT/FLIP NUMBER = 286 pcs

QUANTITY FOR THE NUMBER OF INTERSECTIONS

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

$$\text{no. boards with FLAT/FLIP} = (\text{number of boards} - 1) = (27 - 1) = 26 \text{ boards}$$

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

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

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

SCREWS NUMBER = No. FLAT/FLIP = 286 pcs KKTN550