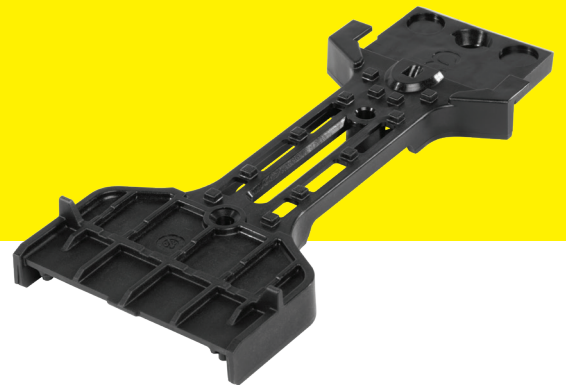


Roots



HIDDEN FASTENERS FOR STANDARD BOARDS

Tropical, modified and resinous wood



www.novlek.com

 **NÖVLEK**®
DESIGNED TO RESIST

HIDDEN FASTENERS

FOR STANDARD BOARDS



BENEFITS



FOR STANDARD BOARDS
STABLE AND MODERATELY
STABLE TROPICAL WOOD



FULL VENTILATION OF
UNDERSIDE OF BOARDS
NO WATER RETENTION



VERY EASY TO INSTALL



EXTREME STABILITY
IN ALL WEATHERS



PROTECTION OF THE JOIST
WITH CAPPING



REUSABLE AFTER
DISMANTLING



EXCEPTIONAL MECHANICAL
STRENGTH



FASTENERS AND JOISTS
COMPLETELY INVISIBLE



UNCOMPROMISING QUALITY
AND PERFORMANCE

Exclusive design

The original design of the fastening gives it very high mechanical strength and rigidity, while providing the maximum supporting surface for the board.

Hole for screwing in the fastening

For screwing the fastening to the joist.

Assembly tab

Designed to help guide the boards and fit them together.

Positioning stops

Ensure extremely fast, precise application of the fastening, to be screwed to the board.

System for wood ventilation

A means to separate the boards, combined with plenty of cut-outs and openings in the fastening itself to ensure full ventilation of the underside of the boards and the upper surface of the joists.

Joist protective cover

Covers the entire joist at the spaces between boards, to protect it from water and conceal it.

Patent pending

Identification of parts

In order to make installation easier and avoid mistakes, each component is identified by an engraved number (1, 2, 3 and 4) and/or its role (START/END).

Screw shaft with guide

Designed for inserting and guiding the pre-drilling step drill bit (supplied).
Chamfer for holding the screw head.

Durable, rugged reinforced material

Glass-fibre reinforced material to ensure rigidity and strength, as well as durability and UV-resistance.
Discreet, anti-reflective black finish.

A2 AISI 304 stainless steel screw

SPAX® A2 stainless steel screws supplied in every kit.

Step drill bit for pre-drilling

Supplied in every pack. The step drill bit is specially designed to ensure the correct drilling depth, automatically, with no risk of drilling through the board.





Click on the photo to watch the video

USE

EASY TO FIT, FROM THE FIRST TO THE LAST BOARD

The Roots fastenings are supplied with accessories designed to make it easy to fit the boards, from the first to the last one. All the parts and fastenings are easy to identify by the large, clear markings engraved on the material.

With tropical species, pre-drilling is required, so a step drill bit with stop has been designed to avoid drilling through the board, while providing the pre-drilling needed for the length of the screw.



Start piece (START)

The starting piece, identifiable by the word START engraved on it, has a lateral overhang of 10 mm as required by the standard NF DTU 51.4. It is designed for holding the fastening for the first board.



Fastening the first board

Fixing for the first board supplied in every pack, is designed to be completely embedded in the starting piece (START), thus ensuring it is in exactly the right position.



End piece (END)

The end piece, identifiable by the 4-END engraved on it, allows the final board, up to 70 mm wide, to be fitted easily. It ensures a lateral overhang of 10 mm as required by the standard NF DTU 51.4.

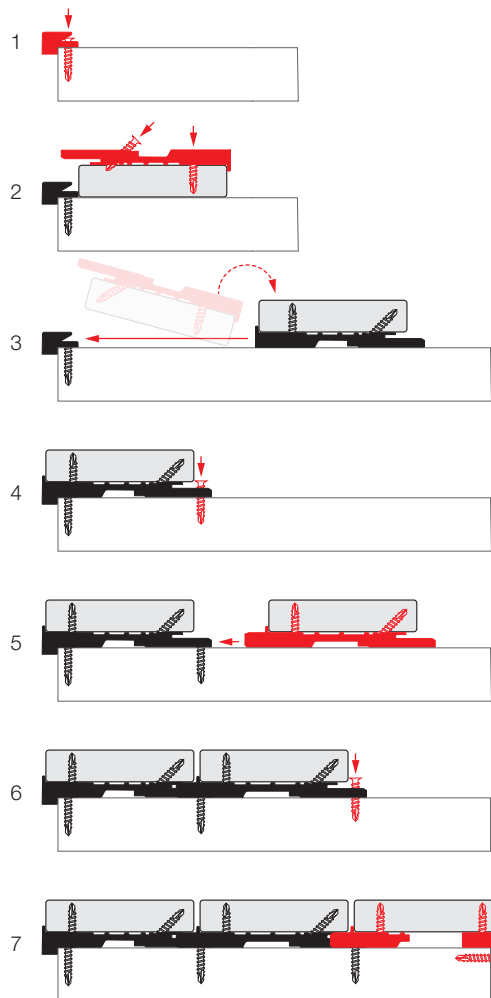


Step drill bit with stop

The fixed stop, pre-drilling bit is specially designed to avoid drilling through the board, and ensure quick installation, compliant with requirements for pre-drilling boards. It is made of shaped, ground HS steel.

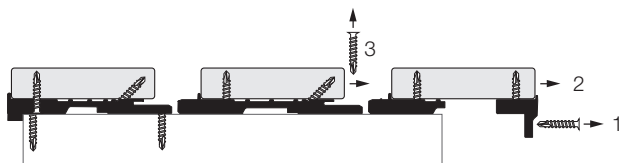
USE*	TROPICAL WOOD	RESINOUS WOOD	ACCOYA®	KEBONY®	HEAT-TREATED	BAMBOO
Minimum permitted thickness of boards	21 mm	26 mm	20 mm	20 mm	20 mm	20 mm
Residential	✓	✓	✓	✓	✓	✓
Public / Commercial	✓	✓	✓	✓	✗	✓
Coastal	✓	✓	✓	✓	✓	✓
Decking	✓	✓	✓	✓	✓	✓
Pool beaches	✓	✓	✓	✓	✓	✓

* Comply strictly with the conclusions and recommendations of FCBA product evaluation folders (see COMPLIANCE), as well as the requirements for the chosen species (NF B 54-040), the requirements of current standards and regulations (especially NF DTU 51.4), fitting instructions supplied, professional standards and good practice. For more information, contact your dealer or timber merchant, or write to us at info@novlek.com.



EASY DISMANTLING AND REASSEMBLY

If necessary, the decking is easy to dismantle and refit. The fastenings can be recovered for re-use, or to install further boards.



EASY REPLACEMENT OF A BOARD AFTER INSTALLATION

It is very easy to replace one or more boards locally without having to dismantle all the boards in order to do so. The installation instructions supplied in every pack provide a detailed description of each stage, from removing the board to be replaced up to installing the new board.

HIDDEN FASTENERS FOR STANDARD BOARDS



FLIP & FIX

2 STEPS FOR EASY INSTALLATION

The Roots fastenings are easy to install. They need only 2 successive, repeated operations, **flip & fix**.

The fastenings are screwed under the boards. They are then screwed onto the joist in the usual way, on one side of the fastening. The other side is held by a system similar to a "tongue-and-groove" process, with the adjacent fastening.



1. Flip & Fix

Flip the board over so the lower surface faces upwards. Screw the Roots fastening to the board.



2. Flip

Turn the board over and insert it into the adjacent fastening.



3. Fix

Screwing the Roots fastening in the normal way onto the joist.



PROTECTION

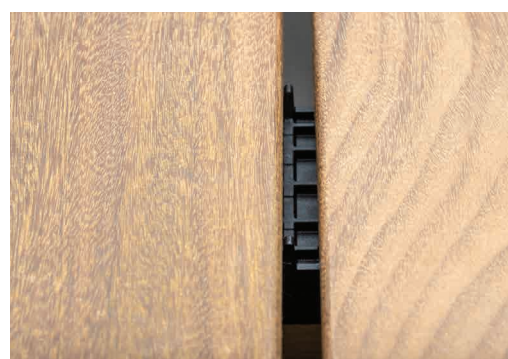
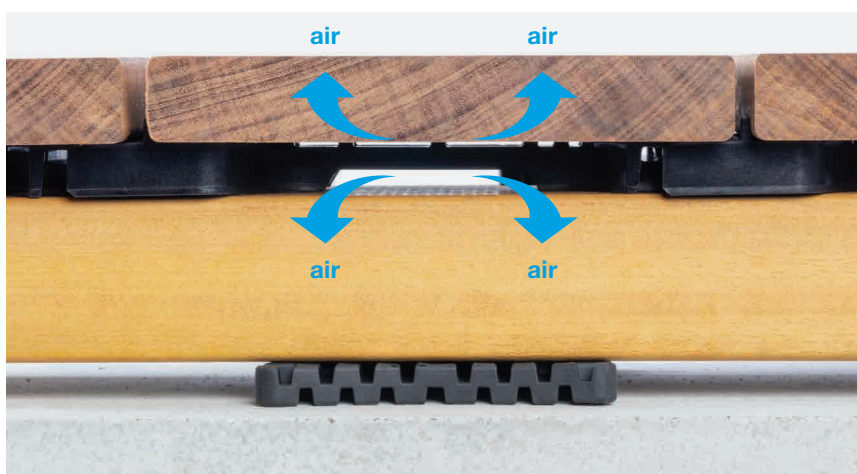
ROOTS INCREASES THE LIFE OF THE DECKING

Increasing the life of decking is achieved by improving its design to reduce the areas that retain water. In general, the more water is drained at all points and the more the wood (boards, joists) is ventilated, including on the underside, the better the life expectancy of the decking.

The NF DTU 51.4 standard addresses this issue by defining six design requirements to be met in order to achieve this objective (so-called "improved design").

Roots fasteners meet two of the requirements of improved design: they automatically create a spacer greater than 3mm between boards and joists to ensure effective ventilation and they force systematic double joisting for the joints at the end of the boards to allow more efficient water drainage. In addition, protection of the joist between the boards is provided by capping formed by the interlocking system of two adjacent fastenings.

With these features, the Roots fastenings significantly improve the lifespan and stability of the decking over time and reduce any risk of the boards cupping.



Protection for the joist is provided by capping formed by the interlocking system of two adjacent fastenings, which fully covers the joist where the boards are spaced apart and conceals it completely.

ROOTS IS THE IDEAL PARTNER FOR THE SEASIDE

All Roots A2 stainless steel screws are positioned underneath the boards which means they are fully protected and isolated from contact with salty, corrosive and aggressive environments.

COMPLIANCE - STABLE AND MODERATELY STABLE TROPICAL AND RESINOUS BOARDS

DTU 51.4 FASTENING REQUIREMENTS FOR DECKING BOARDS

The Roots hidden fastening system has had a technical evaluation by the FCBA confirming its compliance with the requirements of the standards NF DTU 51.4 and NF B54-040 regarding decking board fastenings.

Resistance to tearing: FCBA-2019.175.2230
Stability performance: FCBA-2020.175.3290

Roots fastenings fully comply with the various acceptability thresholds and criteria specified in NF DTU 51.4 and NF B54-040 for use with stable and moderately stable tropical and resinous boards.

Improved design according to standard NF DTU 51.4

The Roots fastenings meet two of the improved design criteria specified in standard NF DTU 51.4:

- insertion of a shim, at least 3 mm thick, between the decking board and the joist
- systematic use of double joists at the join between the ends of boards laid end-to-end



HIDDEN FASTENERS

FOR STANDARD BOARDS



CHARACTERISTICS

Acceptable board width	140-145 mm
Fastener thickness	13,50 mm
Material	Polypropylene and fibre glass
Colour	Black, anti-reflection
UV resistance	Yes
Resistance to high and low temperatures	Excellent
Screws supplied	SPAX® Stainless steel A2 AISI 304
Accessories supplied	Start piece, end piece, first board fastener, step drill bit with stop, torx-bit





HIDDEN FASTENERS FOR STANDARD BOARDS



Click on the photo
to watch the video

Roots

SPECIES ACCEPTABLE FOR THE ROOTS FASTENING SYSTEM TROPICAL AND MODIFIED WOOD

The withdrawal resistance and stability tests performed by the FCBA on several decking configurations combining boards and joists, tropical woods, with the Roots fastening system, made it possible to establish a list of acceptable species whose use with Roots fixings meets the criteria and requirements of the two reference standards for construction of exterior decking, the NF DTU 51.4 and NF BS 54-040.

Roots

Tropical species acceptable for use with the Roots fasteners**				
Species (without sapwood)	Drying	Stability	Acceptable board width	Minimum accepted thickness for a board width of 145 mm ***
Bangkirai	KD	MS	140 - 145 mm	min. 21 mm*
Cumaru	KD	MS		min. 21 mm
Doussié	AD/KD	S		min. 21 mm
Ipe	AD/KD	S		min. 21 mm
Itauba	AD/KD	MS		min. 21 mm*
Kapur	AD/KD	MS		min. 24 mm
Merbau	AD/KD	S		min. 21 mm
Moabi	AD/KD	MS		min. 24 mm
Padouk	AD/KD	S		min. 21 mm
Teck	AD/KD	S		min. 21 mm

S = Stable / MS = Moderately Stable

The requirements of standard NF DTU 51.4 and NF B54-040 must be respected.

* Good demonstrable performance in stability tests carried out by the FCBA (FCBA No. 2020.175.3290).

** Only stable and moderately stable species, as stated in NF B 54-040 are permitted, with the specified overhangs, except for Bangkirai and Itauba (see * above). The Roots fastening system is not suitable for use with less stable species.

*** Thickness measured at the target humidity level of 20%, according to NF B54-040.

Modified wood acceptable for use with Roots fastener			
Modified wood (Not handled by NF DTU 51.4, except Accoya®)	Stability	Acceptable board width	Minimum accepted thickness with the Roots fasteners
Accoya®	S	140 - 145 mm	min. 20 mm
Kebony®	S		min. 20 mm
Heat-treated wood (ash, pine, etc.)	S		min. 20 mm
Bamboo	S		min. 20 mm





Click on the photo to watch the video

SPECIES ACCEPTABLE FOR THE ROOTS FASTENING SYSTEM

RESINOUS WOOD

The Roots model designed specifically for the combination of softwood boards and joists has been developed to match perfectly the characteristics and properties of these species with their extremely soft and spaced fibres and much lower density than tropical species.

In this configuration, in order to be able to withstand the required withdrawal forces of at least 100 daN and to guarantee sufficient stability as demanded by the NF DTU 51.4 standard, the Roots for Resinous wood fastener has three screwing points under the boards (compared with two for Roots for Tropical wood) and a SPAX® stainless steel screw with a greater length and diameter (5x35 against 4.5x30 for Roots for Tropical wood).

The withdrawal resistance and stability tests performed by FCBA on several decking configurations combining boards and joists made from resinous species with the Roots fastening system made it possible to establish a list of acceptable species whose use with Roots fixings meets the criteria and requirements of the two reference standards for construction of exterior decking: the NF DTU 51.4 and NF B 54-040.

Resinous species acceptable for use with the Roots fasteners**					
Species	Suitable for usage classes		Stability	Acceptable board width	Minimum accepted thickness
	3.2	4			
Douglas	yes	no	MS	140 - 145 mm	min. 26 mm
Larch	yes	no	MS		min. 26 mm
Treated pine for use in class 4	yes	yes	MS		min. 26 mm

S = Stable / MS = Moderately Stable

The requirements of standard NF DTU 51.4 and NF B54-040 must be respected.

ROOTS AND IMPROVED DESIGN

During the validation tests, FCBA confirmed that the principle of Roots fasteners meets two criteria of the NF DTU 51.4 standard: they form a spacer greater than 3mm between boards and joists, and the principle allows systematic double joisting for the management of joints at the ends of the boards.

That is why Roots fasteners provide an ideal solution for exposed Douglas fir or larch decking.

Even when treated, these two species in natural usage class 3.2, are not compatible with use requiring usage class 4, unless an improved design is used, as specified in DTU 51.4 (6 criteria to be respected).

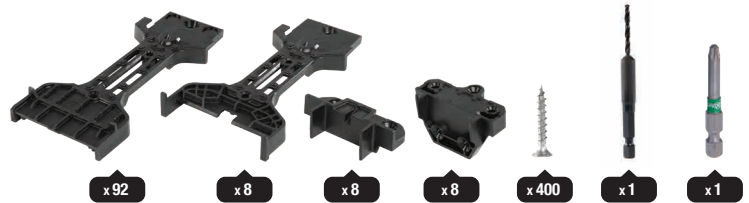


HIDDEN FASTENERS FOR STANDARD BOARDS

TROPICAL AND MODIFIED WOOD



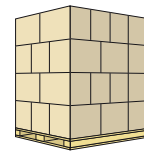
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Roots

140 -145 mm boards | ± 6 m²

Estimate based on board width of 140 mm and joists centre to centre distance of 45 cm



Model	Article code	EAN code	Kit		Palet 50 Kits/Palet	
			Dimensions (mm)	Weight	Dimensions (mm)	Weight
140-145	RTS-0145-100-01	5425 03355 080 6	510 x 360 x 175	6,50 kg	1200 x 1000 x 1900	350 kg



FCBA N° 2019.175.2330
FCBA N° 2020.175.3290

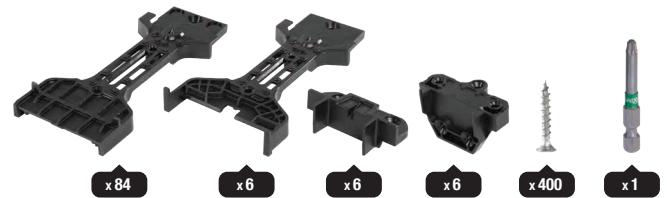


HIDDEN FASTENERS FOR STANDARD BOARDS

RESINOUS WOOD



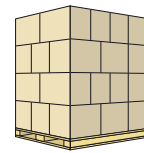
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Roots

140 -145 mm boards | ± 5 m²

Estimate based on board width of 140 mm and joists centre to centre distance of 45 cm



Model	Article code	EAN code	Kit		Palet 50 Kits/Palet	
			Dimensions (mm)	Weight	Dimensions (mm)	Weight
140-145	RTS-0145-090-02	5425 03355 081 3	510 x 360 x 175	6,50 kg	1200 x 1000 x 1900	350 kg



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