



*Your motivation is to meet modern demands with traditional materials?
Our innovation provides you with the sustainable support you need.*



LIGNOLOC[®]

The first collated nail made of wood

LignoLoc[®] is the first ever fireable wooden nail for future-oriented use in industrial production and ecological timber construction (among many other applications).

The revolutionary LignoLoc[®] wooden nails are made from indigenous beech wood and boast a tensile strength similar to aluminium nails. Their mechanical properties allow the nails to be driven into solid structural timber with the FASCO LignoLoc[®] pneumatic nailer, without any pre-drilling, to form an inseparable bond with the timber.

LignoLoc[®] wooden nails offer an advantage over fasteners made of aluminium or steel in that they form no thermal bridges and leave no traces of corrosion in the wood.

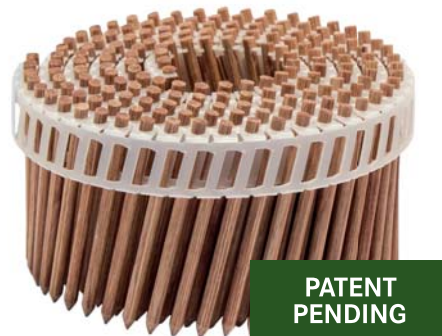
The pioneering LignoLoc[®] system has a patent pending and is expected to be available on the market in the second half of 2017.

THE LIGNOLOC® SYSTEM

With LignoLoc® wooden nails and the LignoLoc® pneumatic nailer from FASCO, the BECK Fastener Group has developed an innovative and versatile system that enables efficient and environmentally friendly woodworking and wood processing.

LignoLoc® wooden nails*

Diameter:	3,7 mm 0.145 inches
Lengths:	50 – 65 mm 2 – 2 ½ inches
Material:	Compressed beech wood
Colour:	Natural
Coil capacity:	170 – 4 000
Magazine:	15° plastic sheet coil LignoLoc®
Tensile Strength:	~ 250 N/mm ²



LignoLoc® pneumatic nailer from FASCO

The LignoLoc® pneumatic nailer is the result of perfect function and optimum handling. It provides the necessary power and precision for processing LignoLoc® wooden nails quickly and accurately.

Height:	322 mm 12.67 inches
Width:	130 mm 5.12 inches
Lengths:	275 mm 10.82 inches
Weight:	2,40 kg 5.29 lbs
Pressure:	min. 7 bar 95 psi
Lubricant:	Aerospace Lubricants Tribolube 12
Actuation System:	Single Shot actuation
Loading:	Coil



* subject to change without notice

HIGH RETENTION THANKS TO LIGNIN WELDING



Microscopic image of the bond between a LignoLoc® wooden nail and the surrounding base wood.

SCIENTIFICALLY CONFIRMED

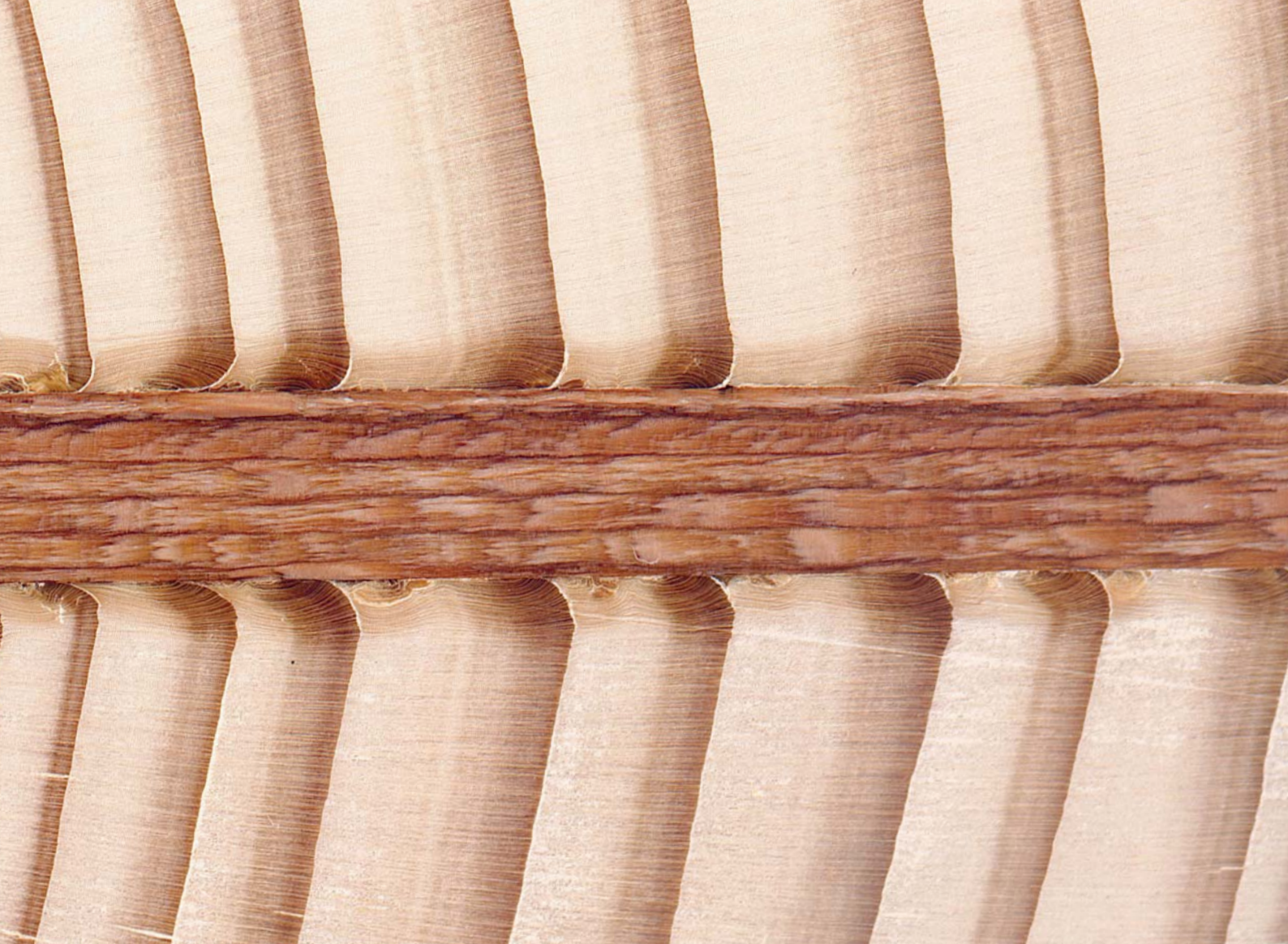
LignoLoc® nails weld with the surrounding base wood

The special design of the LignoLoc® nail tip and the large amount of heat generated by friction when the nail is driven in cause the lignin of the wooden nail to weld with the surrounding wood to form a substance-to-substance bond.

The phenomenon of lignin welding was established in 1998 and has since been verified by the BECK Fastener Group in collaboration with scientists at Hamburg University by means of UV-scanning of the cell structure (see illustration).

Wooden nails behave differently to nails made of metal. Apart from the mechanical differences of the materials, wooden nails have a significantly rougher surface.

This natural surface roughness is required to facilitate the lignin welding process. The LignoLoc® pneumatic nailers from FASCO supply the necessary power for this process, because, in principle, the higher the insertion velocity, the better the nail welds.



INDIGENOUS BEECH WOOD

as a basic material for LignoLoc[®] wooden nails

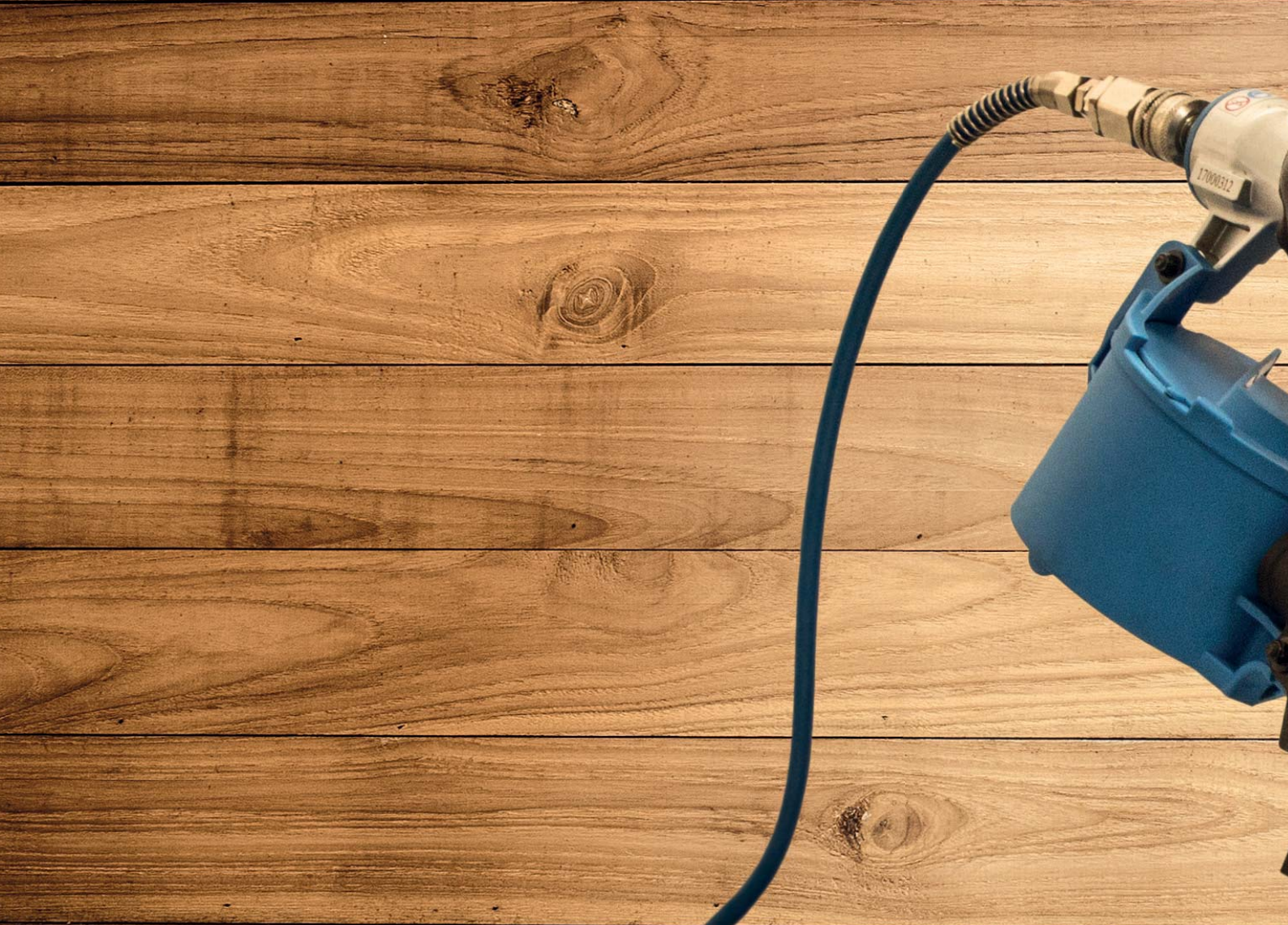
Beech is the wood best suited to manufacturing LignoLoc[®] wooden nails, because its straight growth gives it the most homogeneous cell structure.

The nail is hardened by compressing the cell structure and permeating it with resin. This also gives the wood tremendous durability – outdoors as well.

Since beechwood is an indigenous and renewable raw material, this is particularly good for our carbon footprint and rounds off our ecological approach to wood processing.

LignoLoc[®] offers great potential for sustainable living.





LIGNOLOC[®] WOODEN NAILS: KEY BENEFITS

- Quick and simple processing with FASCO pneumatic nailers
- Hardly any water absorption, so no expansion
- High holding power thanks to lignin welding (see page 4)
- Resistant to fungal infestation
- No streaking or bleeding on the wood
- More environmentally friendly than metal fasteners
- Installed significantly faster than wood dowels
- No pre-drilling
- No wood glue necessary
- Made of indigenous beech wood
- Better fire protection in wood structure than steel or metal fasteners
- No thermal bridges, so better insulation values
- Tensile strength similar to aluminium nails (~ 250 N/mm²)
- Less tool wear when cutting nailed wooden components subsequently



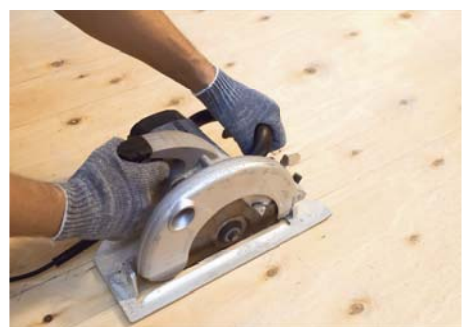
Quick processing – no pre-drilling

LignoLoc® wooden nails are shot in pneumatically. This completely eliminates the need for any additional pre-drilling, such as that for wooden dowels, which in turn saves you time and money.



Less tool wear

LignoLoc® wooden nails conserve tools and saw blades when post-processing wooden components in prefabricated buildings.





USE IN ENVIRONMENTALLY FRIENDLY WOOD PROCESSING

Metal-free and made from wood

The LignoLoc® system from BECK opens up countless application options for you – whether it be indoors, outdoors or in areas susceptible to corrosion:

- Interior timber cladding
- Timber façades
- Wooden fences
- Wooden furniture
- Sauna building
- Floors: OSB- und real wood flooring
- Working with reclaimed wood
- Boat building
- Wooden coffins
- and many more



Working with reclaimed wood

LignoLoc® wooden nails processed in reclaimed wood blend harmoniously into the wood structure and do not need to be concealed after installation. This time benefit makes wood recycling even more attractive.



Interior timber cladding

For aesthetic reasons, interior panelling made of wood is mostly fastened invisibly. With LignoLoc® wooden nails, this can now be mounted visibly as well.



Wooden furniture

Wood is alive – LignoLoc® lives along with it. LignoLoc® wooden nails are ideal for use in wooden furniture production, lending its character a finishing touch, both indoors and outdoors.



LignoLoc® wooden nails are currently still undergoing development and testing. We would therefore be pleased to offer you support from our development team before the official launch date.



USE IN INDUSTRIAL PRODUCTION

Time and resource-saving

The ecological and functional benefits of LignoLoc® wooden nails can also be utilised industrially. LignoLoc® can be processed both with LignoLoc® hand-held pneumatic nailers and with LignoLoc® HEADs from FASCO in stationary systems.

FASCO LignoLoc® HEAD*

Height:	342 mm 13.46 inches
Width:	140 mm 5.51 inches
Length:	170 mm 6.69 inches
Weight:	5,22 kg 11.49 lbs
Pressure:	min. 7 bar 95 psi
Actuation System:	Remote Control
Loading:	Coil up to 4 000 LignoLoc® wooden nails



Currently connection to the following systems is possible:



* subject to change without notice

Cross-laminated timber (CLT) production glued and vacuum-pressed

LignoLoc® wooden nails for fixing the CLT visible layer are not only aesthetically more appealing than aluminium nails, they also cause no damage to the vacuum membrane of the press.



Cross-laminated timber production mechanically bonded

LignoLoc® can be used as an alternative to aluminium nails or wooden dowels in CLT production, thereby offering a material-equivalent and quick joining of the layers.



Pallet production

Pallets nailed with LignoLoc® are easier to recycle at the end of their service life. Free from steel, they can be chopped up and recycled with greatly reduced tool wear.



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Founded in 1904 the BECK Fastener Group is a family-run business, which has been one of the world's leading companies in the field of fastening technology for more than 80 years.

Whether it be developments in response to customer requirements or to keep ahead of the market – innovation is the driving force behind the BECK Fastener Group. The company's in-house R&D team searches tirelessly for new solutions to provide BECK customers with greater user comfort and cost-effectiveness.

The BECK Fastener Group is now a globally active, owner-managed company with sites in Austria, Germany, Italy and the USA.

BECK Fastener Group

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tradition.
quality.
vision.