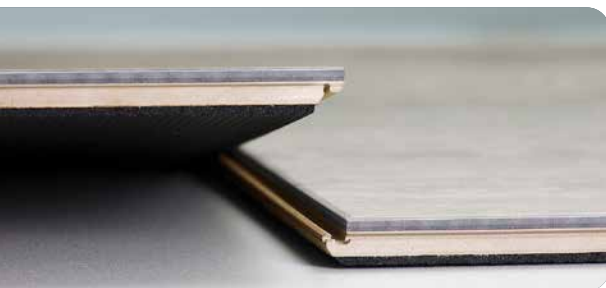




PATENTS & TECHNOLOGIES



Transforming connections, for the better

Ingenious technologies from the floor upwards

i4F's vision is to enhance where people live, work and play with ingenious technologies, from the floor upwards. Its mission is to continually revolutionize flooring, and beyond, through technological excellence, meaningful innovation and human partnerships.

i4F supports the global flooring industry by licensing cutting-edge solutions in the areas of drop-lock technologies, digital printing, surface finishing - including technologies that imitate ceramic grouts, board and panel compositions, wall and ceiling installation systems, sustainable manufacturing processes and innovative outdoor technologies.

Pick and choose the patents or groups of patents that best suit your business needs via i4F's unique **Patent Cluster Concept (PCC)**. i4F's PCC lets licensees decide which technologies will reinforce their market position – or open up new revenue streams as trends change. i4F's PCC also provides full transparency on fees so that licensees can obtain the best return on investment while avoiding unnecessary payments for unused technologies.

i4F believes that even the smallest innovations have the potential to transform not just products, but the lives of the people that use them. It's why the group owns and represents thousands of patents and technologies. And it's why i4F continues to develop more independently and with its partners including Classen, Kronospan, HMTX, CFL Flooring, Tarkett, Kingdom Flooring, Li&Co, QuickStyle Industries, Hymmen, Wellmade, Exterpark, Hesse-Lignal, Amorim, Tianzhen (TZ) and PurChem.



The world's easiest and best flooring
installation systems

Lock into faster flooring installation

Flooring systems don't come any faster or easier to fit. In i4F's unique drop-lock system, two technologies come together to make one strong, high-performing floor.

3L TripleLock® - The "original" one piece drop-lock system for the short side

3L TripleLock® is the easiest and fastest system for flooring installation on the market, and suitable for existing high-speed production. Unlike other systems, no inserts are needed on the short side. That means less work, smaller costs, fewer materials and a lower carbon footprint.

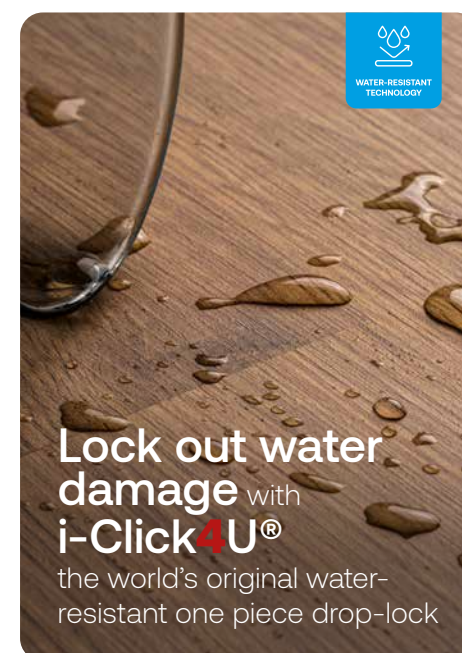
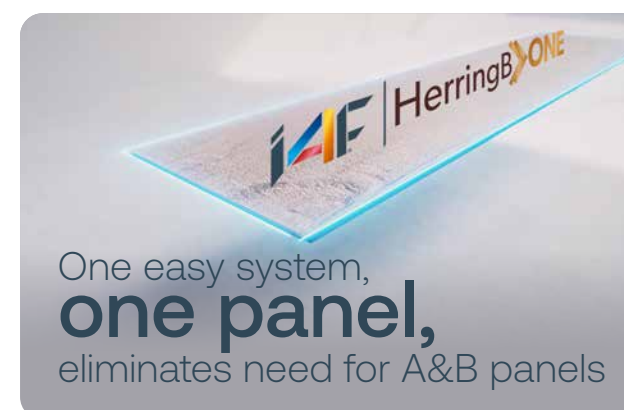
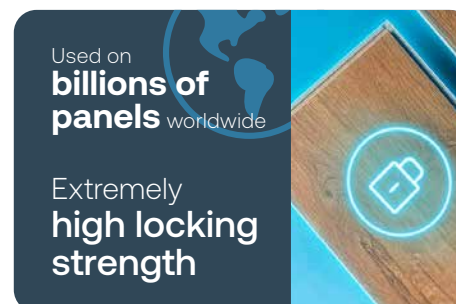
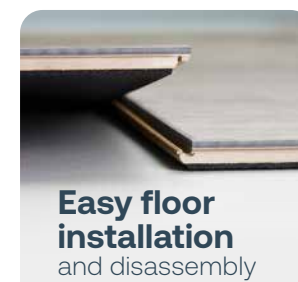
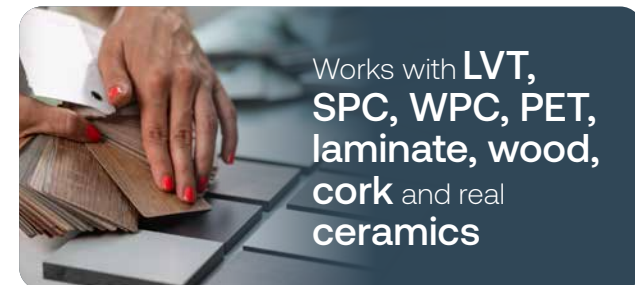
Click4U® - Angle system for the long side, combined with 3L TripleLock® on the short side

Click4U® works seamlessly with 3L TripleLock, enabling extremely high locking strength. Fast and easy to install, no special tools are needed – and it's suitable for existing high-speed production machinery.

30% faster to install
than angle/angle

Powered by **3L TripleLock®** and **Click4U®**

One piece **drop-lock**
floor installation system **for**
all materials



Eliminates need for mirroring
— A & B herringbone panels

One easy system, one panel

i4F HerringB/ONE is a new intuitive installation technology, featuring one drop-lock mechanism on all herringbone panels. This eliminates the need for mirroring A&B herringbone panels, and meets a growing demand for DIY-friendly solutions that deliver simplified installation and replacements. i4F HerringB/ONE also reduces waste and streamlines manufacturing.

By eliminating the need for mirroring A and B panels, i4F's new HerringB/ONE drop-lock system benefits the entire supply chain by optimizing production processes, reducing packaging costs and waste, as well as improving overall efficiencies.

Manufacturers can streamline production, and reduce costs associated with multi-panel boxing, packaging, and instructions.

Retailers are empowered to meet the surging demand for herringbone flooring by offering a super easy installation system.

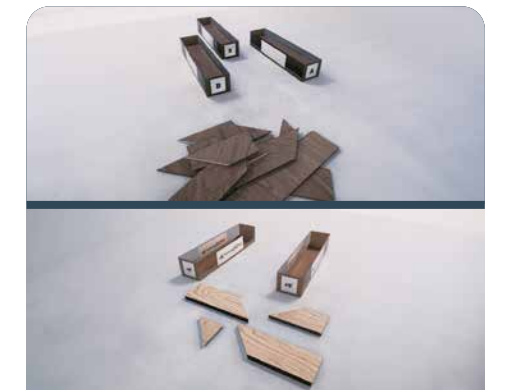
End-users also benefit from a reduction in panel wastage by being able to accurately calculate the required number of boxes according to their space's surface area.

Simplifying the timeless elegance of herringbone
**in any direction
and space**

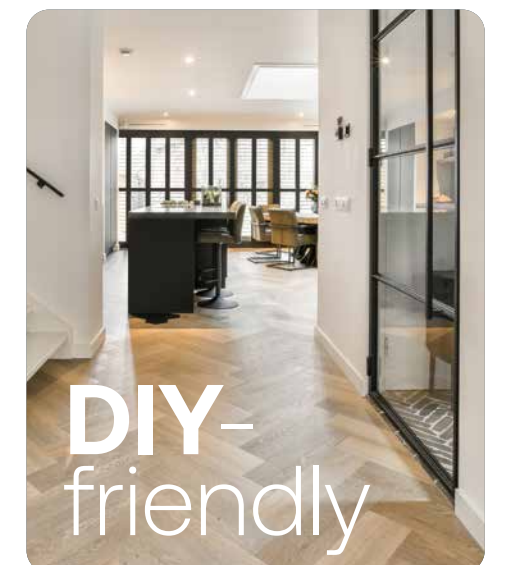


ONE panel. ONE breakthrough.
ONE way to **revolutionise**
herringbone flooring

Intuitive,
simplified
installation
& replacements



Avoids multi-panel
packaging & inventory



Reduces
waste



Streamlines
production

— All the benefits of a floating floor + the beauty and strength of real ceramics

Real ceramic floors that just “Click”

i4F’s Ceramic Click patented system takes all the benefits of a floating, modular floor and combines it with the beauty and strength of real ceramics by delivering a click installation system for ceramic tiles enhanced with an i4F drop-lock.

The best of both worlds

By being able to click ceramic tiles into place quickly and easily, consumers can save on installation costs by doing it themselves.

Professionals can pack in more floors per day, and need less materials and just a few tools.

i4F Ceramic Click offers a unique combination of a real ceramic tile attached to board – featuring an i4F drop-lock system – joined together by super thin grouts (1mm).

The world’s first Ceramic Click system means ceramic manufacturers can now compete with alternative floating floors. The system is also ideal for non-residential projects as there is virtually no waiting time.

Easy i4F drop-lock installation system for real ceramic tiles



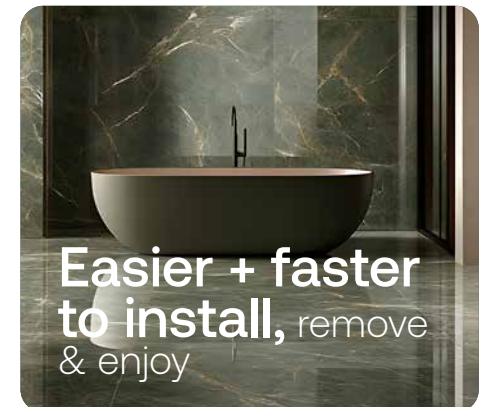
Takes all **benefits** of a floating, modular floor, combined with the **beauty and strength** of real ceramics



Saves on installation time & money



Patented i4F drop-lock **click installation system** for real ceramic tiles



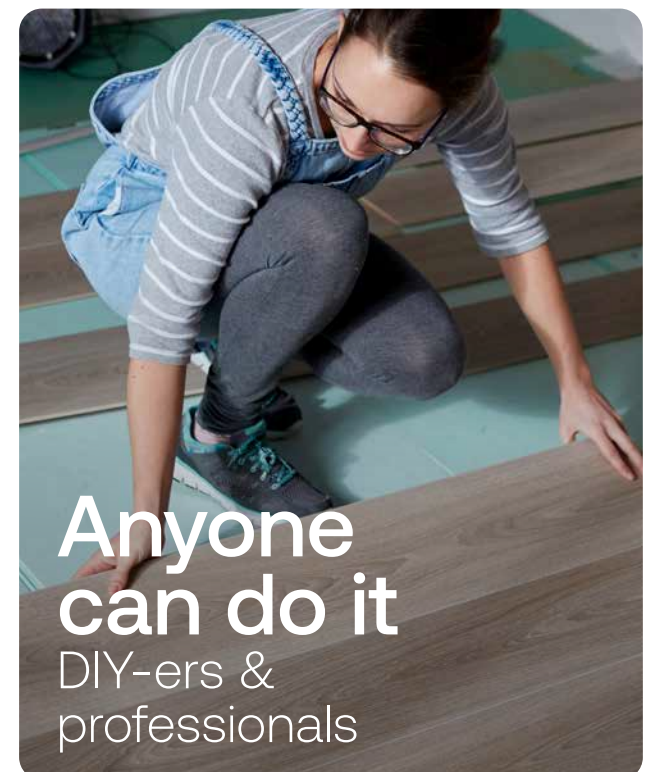
Easier + faster to install, remove & enjoy

super thin grouts

Less mess and tools



Patented



Anyone can do it
DIY-ers & professionals

Water-resistant drop-lock technology
for laminate and wood

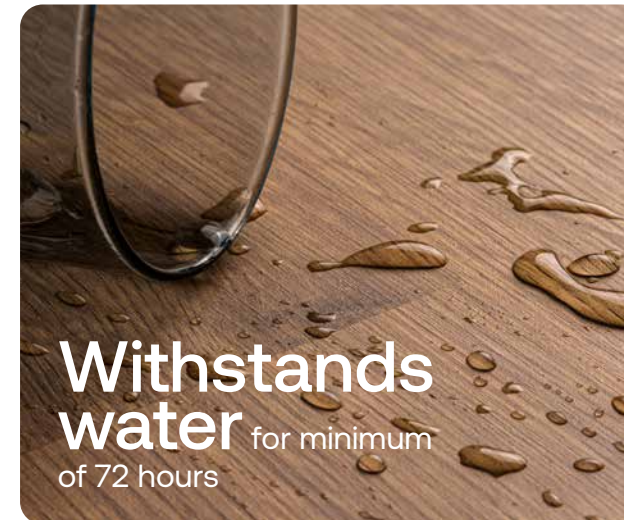
Lock out water damage

i-Click4U® (impermeable-Click4U) is the world's original water-resistant one piece drop-lock flooring installation system, complementing i4F's leading Click4U® technology.

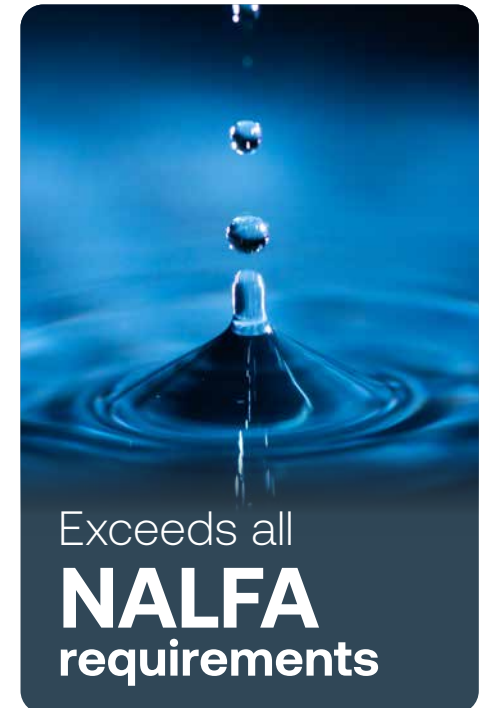
i-Click4U exceeds all NALFA (North American Laminate Flooring Association) requirements relating to water-resistant flooring including the requirement that panels must withstand water for a minimum of 24 hours. The system has also been independently tested and approved

by renowned German and French test institutes. Unlike other one piece floor locking systems, i4F's i-Click4U technology eliminates the need for any chemical sprays or additional sealing substances, like wax or paraffin, normally required to prevent water leaking into flooring panel joints.

Eliminates
the need for any
chemical sprays
or additional sealing
substances



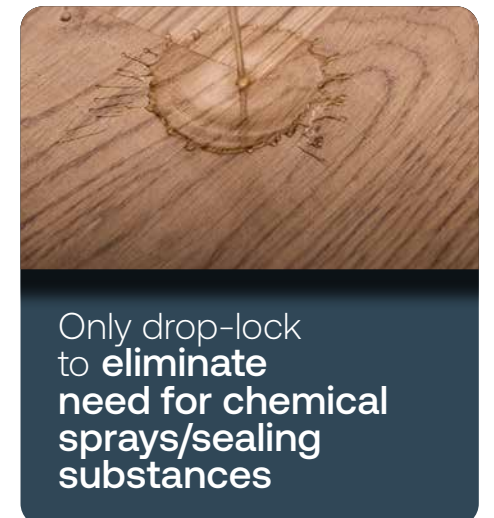
Withstands
water for minimum
of 72 hours



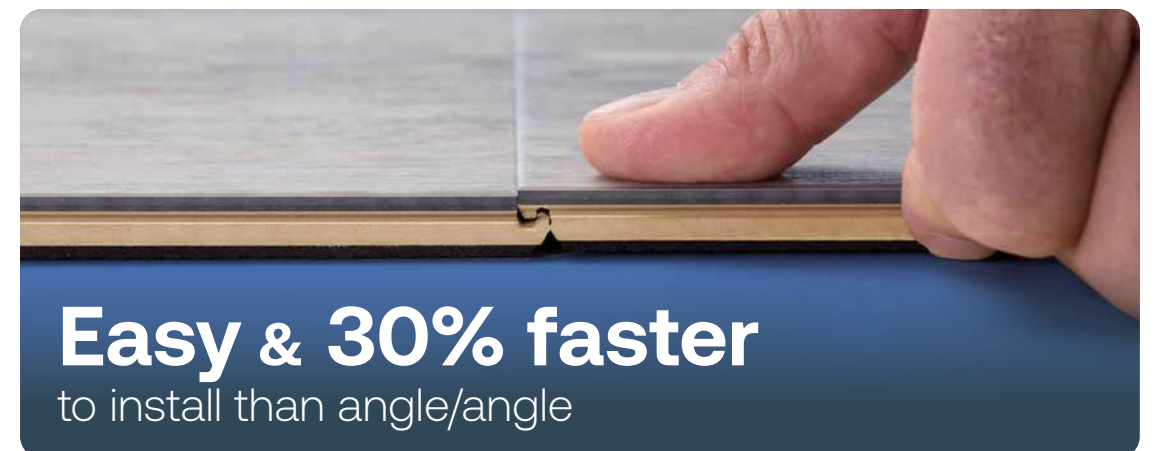
Exceeds all
NALFA
requirements



Independently
approved by
German and French
test institutes



Only drop-lock
to eliminate
need for chemical
sprays/sealing
substances



Easy & 30% faster
to install than angle/angle

Water swell-resistant impregnation technology
for laminate

Stop the swelling. Not the fun

i4F AquaProtect is a high-precision, resource-saving impregnation technology that protects laminate-core HDF boards from water swell by up to 75%, thus dramatically increasing their overall water-resistance.

The technology applies a hydrophobic impregnation agent, avoiding unnecessary overspray, and seals the joint edges of both V-grooved and non-V-grooved laminate panels. Laminate treated with AquaProtect meets all recognized international laminate water-resistance standards and tests, including NALFA and ISO 4760.

Fully compatible with existing laminate manufacturing lines, AquaProtect is a unique proposition as it enables

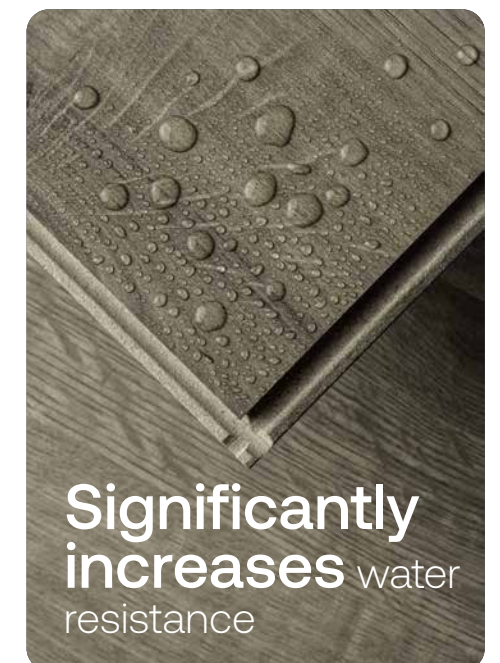
producers to significantly upgrade their offerings for a relatively low investment. The technology delivers the same moisture-resistance performance as standard laminate-core HDF boards with a 20% higher resin content and it also works on any type of locking. The impregnation agent's unique formula is supplied by Riepe, a market-leading company that delivers spraying solutions for the woodworking industry, and is exclusively available for AquaProtect licensees.

Fully compatible
with existing laminate
manufacturing lines



Meets all
international
laminate
water-resistance
standards
and tests including
NALFA and
ISO 4760

Protects
laminate-core
HDF boards from
water swell by up
to 75%



Significantly
increases water
resistance



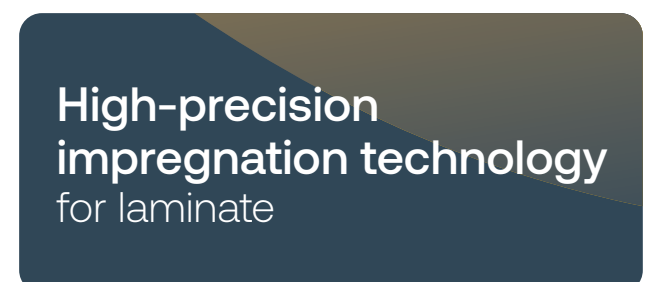
Seals
joint edges
of both V- and
non-V-grooved
panels



Higher
quality
results
with standard
HDF boards



Works on
any
type of
locking



High-precision
impregnation technology
for laminate

— Endless designs, superior optics & haptics

Digital printing for flooring is here!

Cutting-edge digital printing technologies enabling flooring manufacturers to create unique designs, achieve superior optical quality, and avoid unnecessary inventory on pre-printed materials.

i4F licenses the world's most advanced digital printing technologies delivering results so close to the real thing that it's almost impossible to tell the difference. Cutting-edge technologies immediately available via an i4F license enable the creation of unique designs and avoid

unnecessary inventory on pre-printed materials. i4F's strong digital printing portfolio now also includes exclusive access to all Hymmen digital printing technologies, including its award-winning Digital Lacquer Embossing Plus (DLEplus) technology offering unbelievably real optics and haptics.

Looks so real you have to look twice



Avoids unnecessary inventory on pre-printed materials

Spectacular results

© Hymmen


Less waste

Exclusive access to all Hymmen digital printing technologies:

includes **award-winning** Digital Lacquer Embossing Plus (DLEplus)

© Hymmen

NEW!

Patented technologies for more silent,
soft-touch laminate

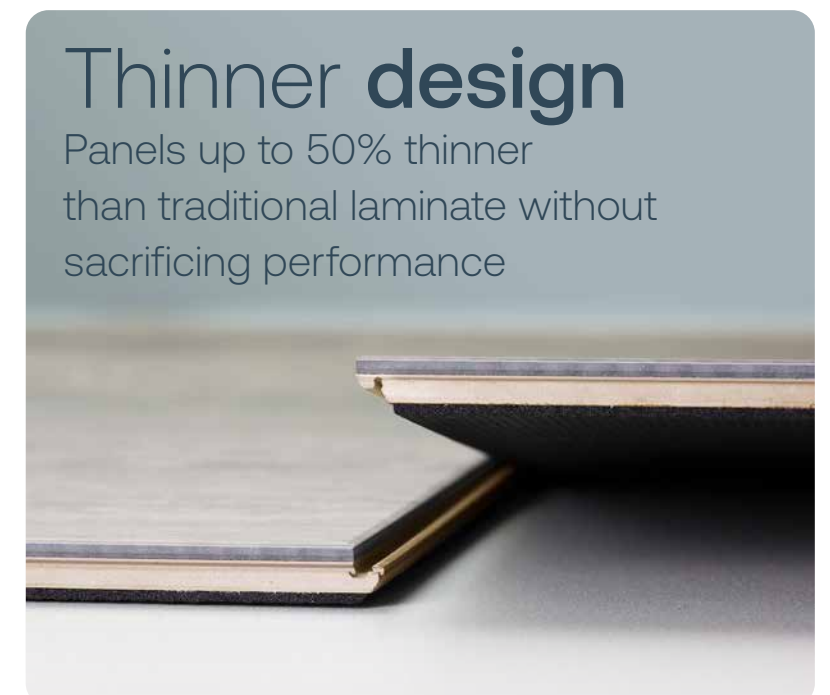
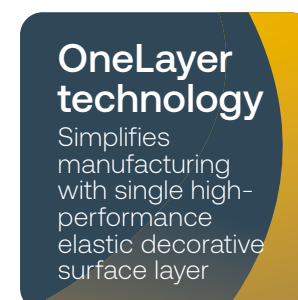
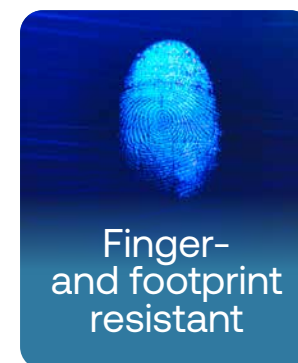
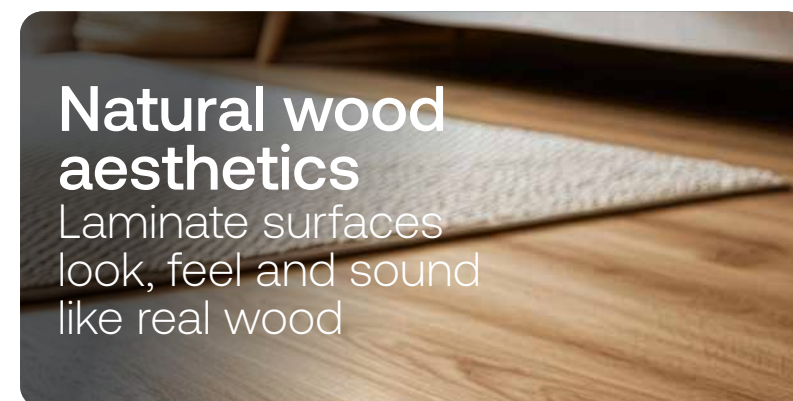
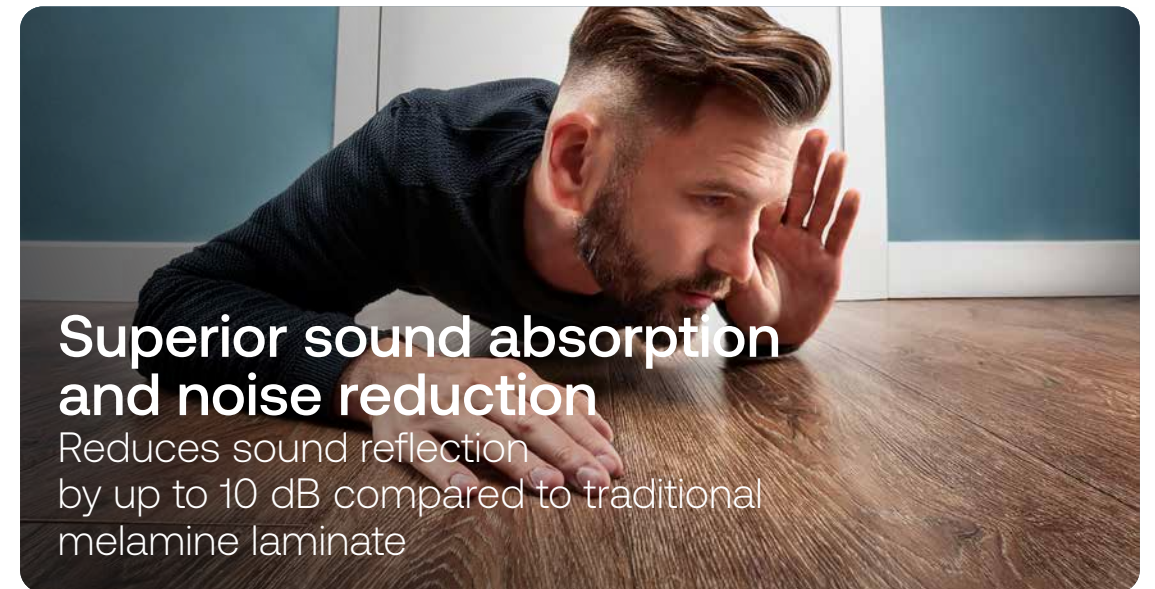
Laminate and SPC that sound as good as they feel

SilentTouch® enhances laminate surfaces to look, feel, and sound like natural wood, offering a durable, noise-reducing alternative for flooring and furniture. SilentTouch treated overlay papers are elastic, enabling HDF panels to be relaxed and stress-free as well as flexible and up to 50% thinner than traditional laminate. The patented elastomer treated paper layers also absorb room and footfall sound energy. Traditional melamine laminate surfaces amplify and reflect sound energy up to 10 times more (+10 dB louder) than SilentTouch.

OneLayer® is an innovative coating system that simplifies production by applying a single, high-performance layer to surfaces, enhancing durability, aesthetics, and efficiency while reducing material and energy use.

These technologies provide significant advantages over traditional laminate flooring as well as decorative furniture panels, and greatly improve in-room acoustics. Additionally, innovative technologies make panels softer to the touch as well as fingerprint and footprint resistant.

Offering a
durable, noise-
reducing
alternative for flooring
and furniture



NEW!

Patented multi-layer technologies for
quieter, softer-feel SPC flooring

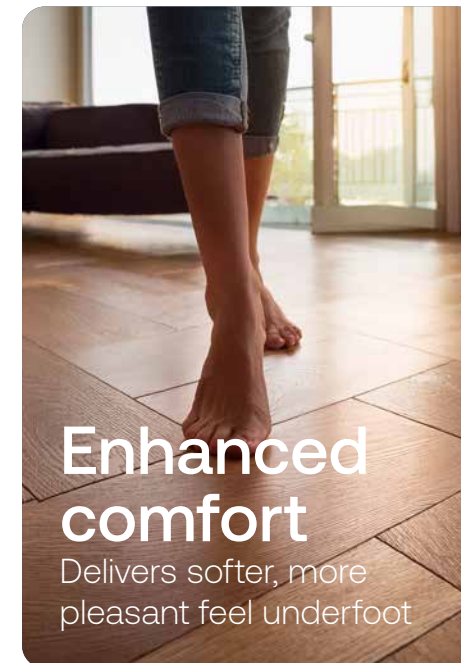
Easy to install rigid core products that look and sound better

While hard surface flooring options, such as laminate, wood, tiles, and SPC have evolved in terms of durability, aesthetics, and waterproof capabilities, they still encounter the challenge of noise.

This patented technology enhances acoustic properties by reducing noise from walking, room echoes, floor squeaking, and insulates sound transmission to lower floors, while also providing a softer feel underfoot.

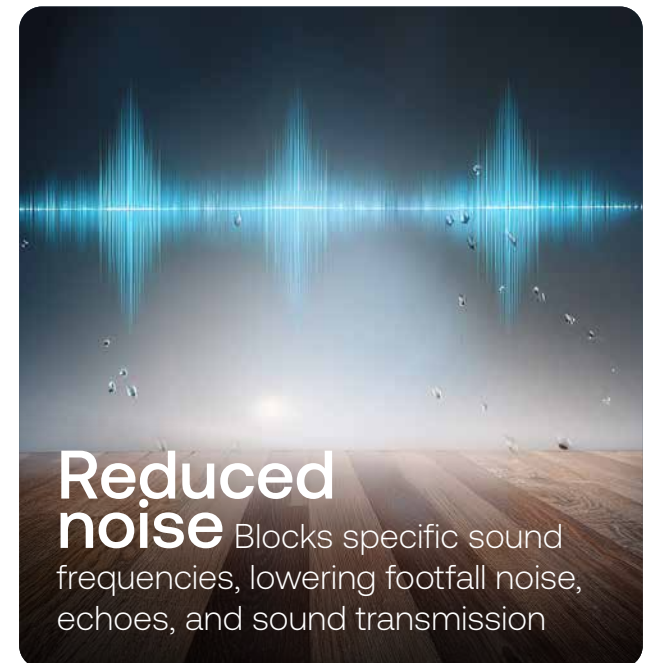
Reflection and transmission footfall noise is significantly reduced by utilizing multiple layers of specifically engineered materials, each designed to block specific sound frequencies. As a result, it offers improved acoustic performances across these flooring categories, addressing the noise issue more effectively than traditional solutions.

Patented technology **enhances
acoustic properties**



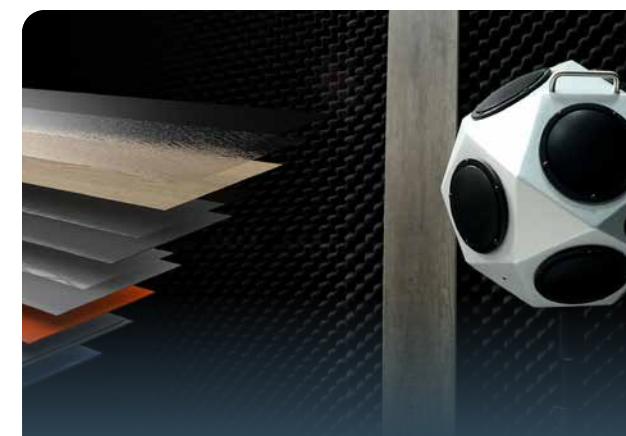
Enhanced comfort

Delivers softer, more
pleasant feel underfoot



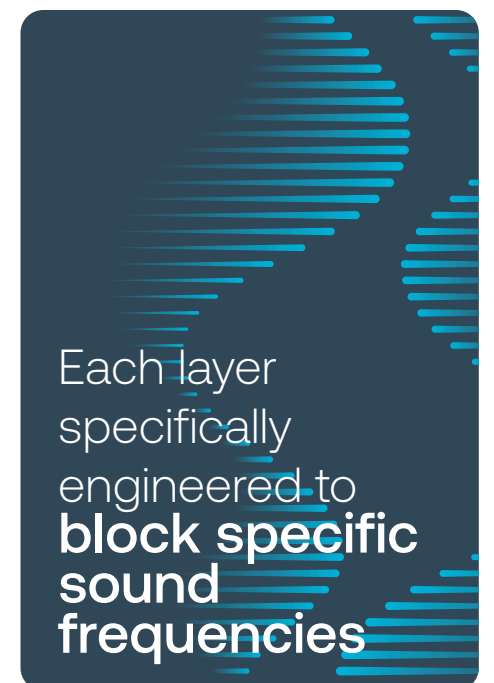
Reduced noise

Blocks specific sound
frequencies, lowering footfall noise,
echoes, and sound transmission



Advanced construction

Multi-layer
design targets
sound reduction
more effectively
than traditional
solutions



Each layer
specifically
engineered to
**block specific
sound
frequencies**



Patent- protected:

exclusive to licensees,
giving you a market
edge

Mimics perfectly the beauty
of ceramic-looking floors and walls

Perfect Ceramic Look, Without the Hassle

i4F CeraGrout® mimics perfectly the aesthetics of modern 'rectified' ceramics by providing an integrated grout pre-attached to each tile or panel. Water-resistant, extremely durable and delivering superior resistance to wear and tear, stains, and chemical household agents, i4F CeraGrout enhanced tiles are super easy to install as well as replace, especially when compared to traditional ceramics. Beautiful for both floors and walls, floor collections to wall applications provide manufacturers and retailers with a huge opportunity.

i4F CeraGrout-enhanced tiles may look identical to traditional ceramics, but their advantages become clear from the moment installation begins. With an integrated grout and advanced technology, many of the inconveniences associated with traditional tiles are eliminated. No messy grout applications, no need for specialized tools, and no waiting time linked to drying. Once installed, these tiles continue to impress, remaining pristine for years while resisting water, stains, wear, and even harsh chemical agents.

Effortless Installation, Every Time

The hassle and mess of traditional ceramic tile installation are things of the past. Thanks to pre-attached grouts, panels featuring i4F CeraGrout can be installed quickly and cleanly, requiring no specialized tools or grouting expertise. This saves time and reduces labor costs, offering an easy and efficient solution for professionals and DIYers alike.

Love the look,
Love the difference

More
realistic,
visible joints

Fully water-
resistant

More
hygienic,
less stains

Easier
to install
and maintain

Imitates
traditional
ceramics

Floor and wall panels **with**
grout features

No waiting time,
immediately
walkable

Robust & stays
pristine
longer

— 100% free of plastic and PVC

Patented, sustainable rigid bio-cork composite

Experience the perfect blend of sustainability and performance with i4F's unique sustainable rigid bio-cork composite technology. Exclusively available via i4F, the new sustainable rigid bio-cork composite patented technology offers a revolutionary solution that is 100% free of plastic and PVC.

At its core lies a unique bio-cork composite, meticulously crafted from cork particles and other bio and recycled materials. End products boast an exceptionally low-to-negative carbon footprint.

Despite its eco-friendly composition, it equals, and even outperforms traditional rigid-core products, delivering durability and sustainability in equal measure.

A magic formula delivering
the perfect blend
of sustainability and
performance



NEW!

Sustainable, lightweight & recyclable core technologies

i4F's patented PET and PP technologies offer a lightweight patented, 100% recyclable solution that combines environmental responsibility with high performance. Free from formaldehyde and safe for indoor air quality, these boards are exceptionally lightweight - making transport and installation easier - while also being water- and chemical-resistant.

Despite their reduced weight, they deliver the durability and flexibility required for demanding applications. Made using recycled content to help reduce plastic waste, they offer a lower carbon footprint than traditional core boards and provide a cost-efficient alternative to high-end materials without compromising on quality.

A lightweight patented,
100% recyclable solution

i4F | **Board Composition**
Technologies



Formaldehyde-free and
**safe for indoor
air quality**



**Durable
and
flexible**

**Exceptionally
lightweight**
ideal for
transport and
installation

**Made with
recycled content:**
reducing plastic waste



**Lower carbon
footprint** than
traditional core boards



Cost-efficient
with performance to
match high-end
materials



**Water-
resistant**
and chemical
resistant



— The more sustainable way to make SPC panels

Sustainable savings and unbelievable light



i4F Be-Lite® is a patented technology that enables a significant reduction in the use of core SPC raw materials during the manufacturing process of decorative panels without compromising on performance. Because SPC panels produced using i4F Be-Lite are significantly lighter, it is a lot less expensive to make and transport them.

i4F Be-Lite significantly improves the flooring industry's carbon footprint while remaining attractive to manufacturers by also delivering cost savings. That makes a meaningful difference and is truly a win: win for the industry and the planet. i4F Be-Lite is a thermoforming technology that, depending on panels' core thicknesses and the i4F Be-Lite shape chosen, uses up to 20% less raw materials during the panel's core manufacturing process.

This differs from other existing material savings techniques that remove and recycle materials after the panel production process creating more costs and CO₂ emissions linked to the transport and recycling of scrap. The resulting, lighter SPC panels maintain optimum performance while easily reducing by at least 5% of a panel's total manufacturing raw material costs as well as decreasing transport costs by at least 6%.

Significantly **improves** the flooring industry's carbon footprint

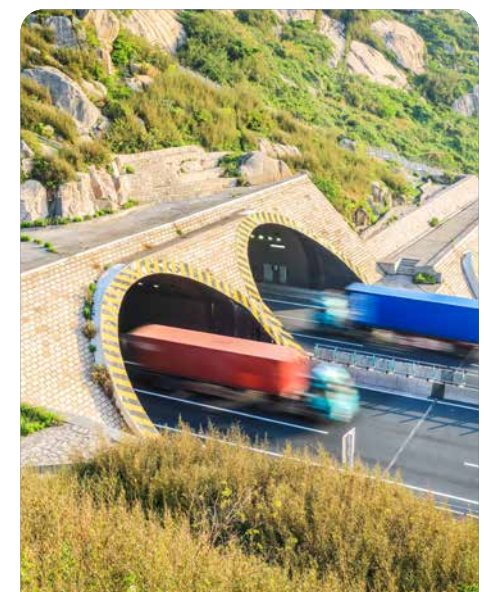


Reduces the use of total core materials by **up to 20%**



Optimal performance

Slashes at least 5% off the cost of raw materials, per panel



Cuts transport costs by **at least 5%** across the whole supply chain

— Drive your flooring business upwards

Smart mounting systems for walls & ceilings

i4F wall and ceiling installation systems enable flooring manufacturers not only to enter new markets, but to leverage existing designs – by launching new collections that combine flooring, walls and ceilings.

i4F Wall Panel installation system

i4F has developed a new installation system for locking wall panels. The system enables panels to be either screwed onto slats or glued against a wall. A key innovative aspect is that screws may be fastened into the locking without hindering the installation of the next panel. The system works on all materials and is moisture as well as heat-resistant.

3D Wall Installation systems

A patented installation system enabling three different levels of panels to connect for the creation of an amazing 3D effect on walls.

Installation systems for Walls & Ceiling panels

A wall and ceiling panel click-system using an innovative profile providing variable joint options for easy installation and diverse design possibilities. A specific locking application for wall panels using glue is also available.

Works on all materials and is **moisture as well as heat-resistant**



All materials



Endless designs



Moisture & heat resistant



New floor to **wall collections**

Durable coatings for wood parquet and engineered wood

Deep pore coating for all wood surfaces

POREGUARD is a patented technology delivering advanced deep-pore coating suitable for all wood surfaces, including parquet, wood, furniture, etc.

POREGUARD's uniqueness lies in its ability to reach and coat the pores of deep pored and brushed structured wood while keeping pores open. This provides deep pore protection while preserving the natural look and feel of wood structures.

Moisture and dirt resistant, POREGUARD enables easy cleaning and upkeep as well as avoids discoloration and shiny, lacquered surfaces.

Suitable for use with existing lacquering lines, the introduction of the technology into production incurs little, or no, investment.

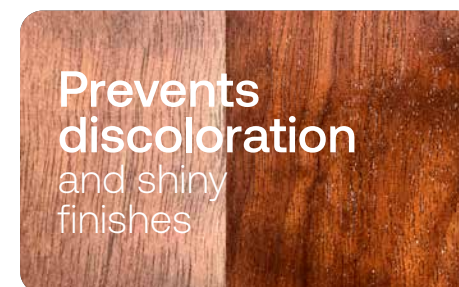
Provides deep pore protection while preserving the natural look and feel



Coats deep-pored and brushed wood while keeping pores open



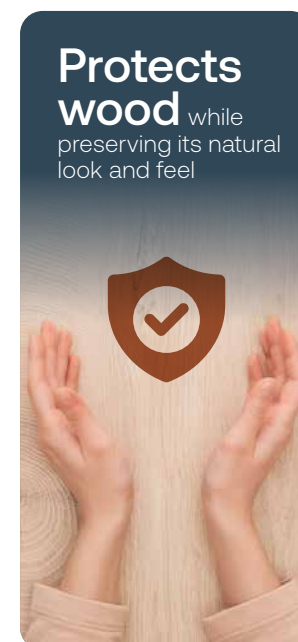
Durable coatings for wood parquet, engineered wood, furniture and table tops



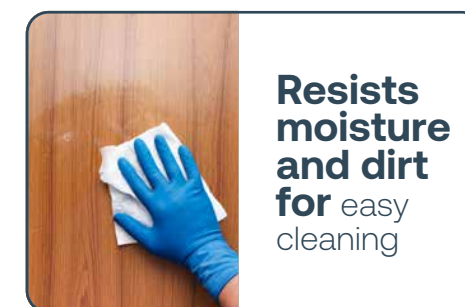
Prevents discoloration and shiny finishes



Robust and easy to maintain



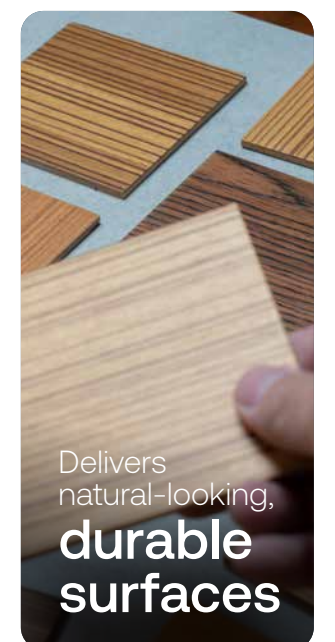
Protects wood while preserving its natural look and feel



Resists moisture and dirt for easy cleaning



Coats the pores not just the surface



Delivers natural-looking, durable surfaces

— Make your decking easy to install, for all

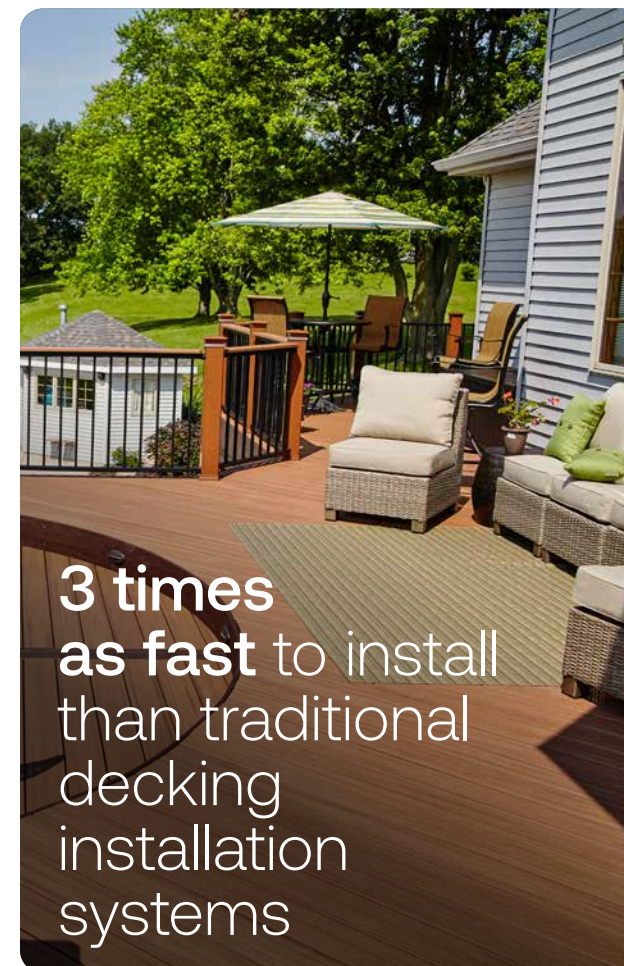
Smart-fixing decking technologies

Screwless click-into-place installation that's 3 x faster than traditional decking installation systems.

i4F KlikDek® is i4F's smart-fixing decking technology, delivering easy installation that's 3 times as fast to install as traditional decking installation system. Our patented smart-fixing method has been acknowledged

by the industry as the best system available for several good reasons. Screwless installation with i4F KlikDek® is **highly flexible**, enabling access anytime, anywhere in seconds and an invisible profile means low maintenance, as the loss of items in between the panels is eliminated. This invisible profile also conceals the clips, adding to the decking's seamless aesthetics.

3 times as fast to install than traditional decking

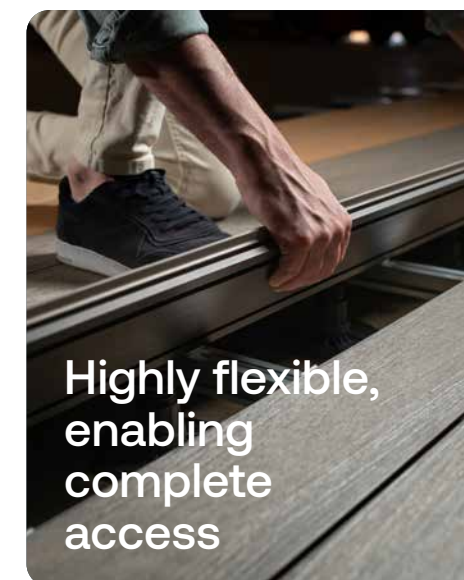


3 times as fast to install than traditional decking installation systems

100%
accessible

Patented
technology

Low
maintenance



Highly flexible, enabling complete access



Invisible profile eliminates loss of items **in between** the panels



Conceals clips, for **seamless aesthetics**



No
screws

NEW!

— Make your decking easy to install, for all

Smart-fixing decking technologies

Screw-in decking clip with unprecedented accessibility.

i4F ClikDek® ScrewLock is i4F's newest smart-fixing decking technology, delivering an easy screw-in decking clip while introducing

unprecedented accessibility. Remove boards and easily reinstall them in seconds. Additionally, the new system is compatible with ClikDek's invisible profile, resulting in less maintenance, as the loss of items in between the panels is eliminated.

Compatible with ClikDek's invisible profile

100%
accessible

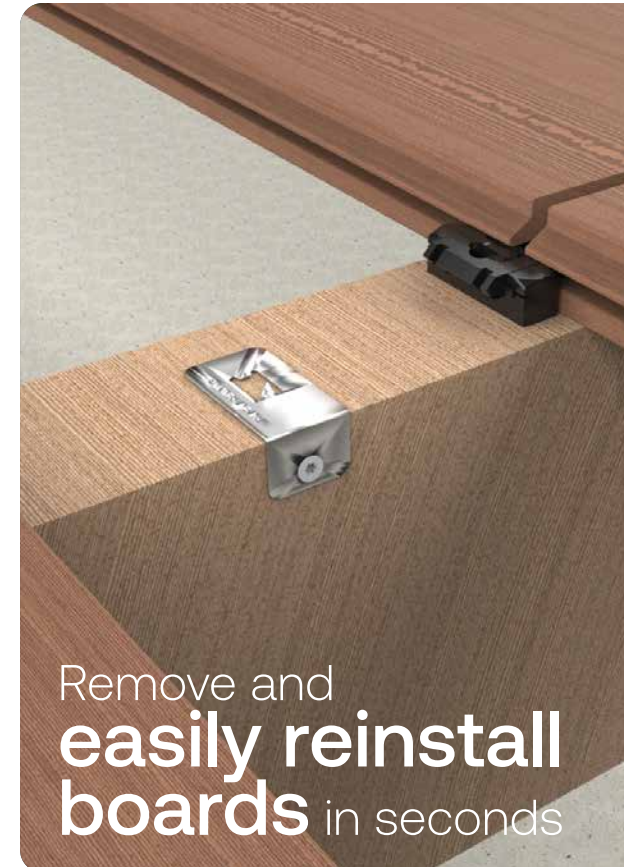


Compatible with
wood joists

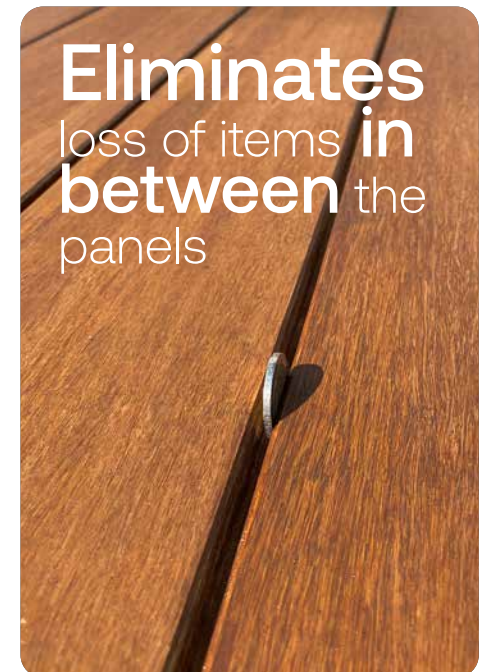
Patented
technology



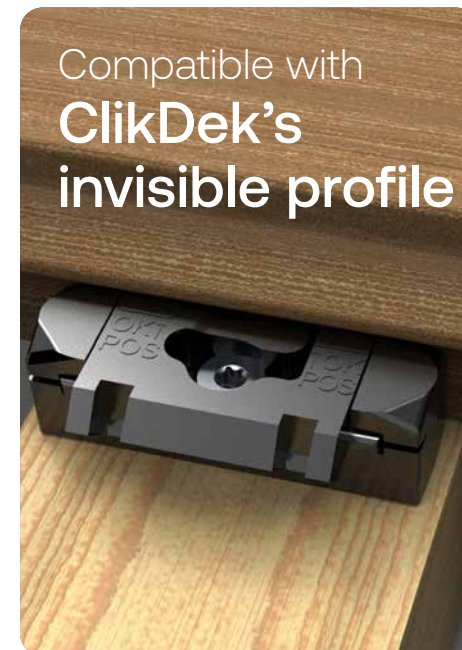
Low
maintenance



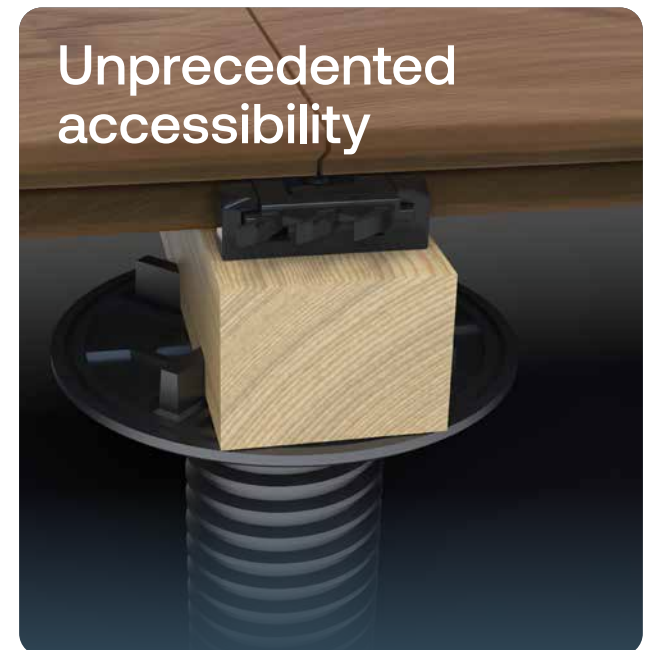
Remove and
easily reinstall
boards in seconds



Eliminates
loss of items **in**
between the
panels



Compatible with
ClikDek's
invisible profile



Unprecedented
accessibility



PATENTS & TECHNOLOGIES



i4F.com