



PATENTS & TECHNOLOGIES

SHOWCASE 2023

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, wall and ceiling installation systems, board and panel compositions as well as sustainable manufacturing processes.

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.

i4F has strategic partnerships with the industry's most important IP players, including Classen, Kronospan, HMTX, CFL Flooring, Tarkett, Kingdomfloors, Li&Co, Benchwick, QuickStyle Industries, Hymmen and Wellmade.

Lock into faster flooring installation

The world's easiest and best flooring installation systems

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.

INSTALLS UP TO
30% FASTER THAN
BASIC CLICK SYSTEMS

ALL MATERIALS, ALL FORMATS

NO INSERTS

MEETS ALL EN
PERFORMANCE
STANDARDS

IMPROVED
PRODUCTIVITY

STRONG PROVEN
PERFORMANCE

SUITABLE FOR
HIGH-SPEED
MACHINES

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

Professionally perfect pattern change

Unique i4F drop-lock in/angle out system for professionals

i4F has launched a new, patented drop-lock system specifically designed for the installation of herringbone floor panels, whereby a panel's short side fits into the long side of an adjacent panel. The main advantage of this is that it enables easy installation, disassembly and replacements of panels in a herringbone pattern without compromising on high locking strength and the performance characterized by i4F drop-lock technologies.

FACILITATES
EASY REPLACEMENT
OF PLANKS
HIGH LOCKING STRENGTH

EASY TO INSTALL
AND DISASSEMBLE
SUITABLE FOR USE ON
ALL MATERIALS

IDEAL FOR
HERRINGBONE AND
PATTERNED FLOORING

LESS TIME WASTING
ON ADJUSTMENTS

EASIER TO INSTALL
COMPLEX DESIGNS

i4F | Click4U® PRO

Lock out water damage

Water-resistant drop-lock technology

i-Click4U® (impermeable-Click4U) is the world's first 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.

FAST AND EASY TO INSTALL

NALFA-APPROVED

NO CHEMICAL SPRAYS OR SEALING SUBSTANCES

Stop the Swelling. Not the Fun

Water swell-resistant impregnation technology for laminate



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

HIGH-PRECISION IMPREGNATION TECHNOLOGY FOR LAMINATE

MASSIVELY REDUCES THE RISK OF SWELLING

SIGNIFICANTLY INCREASES WATER-RESISTANCE

HIGH-QUALITY RESULTS WITH STANDARD HDF BOARDS

WORKS ON ANY TYPE OF LOCKING

Doing it Right

Protecting our planet and reducing costs

Sustainable material savings are a win:win for our industry and our planet. i4F licenses manufacturing processes that help global flooring manufacturers achieve their sustainability and cost management goals.

LLT LIGHT
CHEMICAL PROCESS
FOR LAMINATE
—
LESS WASTE
—
MORE SUSTAINABLE

Liquid Laminate Technology (LLT) Light

LLT is a patented chemical process that makes the production of high-quality melamine surfaces on laminate floorboards very cost-effective. LLT "Light" is specifically designed to meet the needs of customers and the increasing amounts of Embossed-in-Register textures.

Barrier against glue, ink & claims!

This manufacturing process helps prevent glue and ink marks from penetrating through to the surface of vinyl flooring. Which also helps to stop costly financial claims, post installation.

LEVIOTECH

OPTIMIZED EXTRUSION
PROCESS FOR
RIGID POLYMER BOARDS
—
IMPROVES PRODUCTIVITY
—
15%+ MATERIAL SAVINGS

LevioTech

i4F's patented extrusion technology helps manufacturers save up to 15% percent on materials in the production of rigid polymer boards. The technology enhances productivity by optimizing the extrusion process during production of expanded polymer core (EPC) and solid polymer core (SPC) panels.

Sustainable savings and unbelievable light



The more sustainable way to make SPC panels

i4F Be-Lite® is a new, 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%.

REDUCES THE USE OF TOTAL CORE MATERIALS BY UP TO 20%
SLASHES AT LEAST 5% OFF THE COST OF RAW MATERIALS, PER PANEL
CUTS TRANSPORT COSTS BY AT LEAST 6% ACROSS THE WHOLE SUPPLY CHAIN

NEW

SIGNIFICANT SAVINGS ON MATERIALS AND TRANSPORT COSTS
OPTIMAL PERFORMANCE
MUCH LIGHTER SPC PANELS

i4F Be-Lite is exclusively available via an i4F license as part of its portfolio of sustainability-focused process technologies.



i4F | PROCESS TECHNOLOGIES

Digital Printing that's out of this world

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 (DLE+) technology offering unbelievably real optics and haptics.

Hymmen

ALL MATERIALS
—
SPECTACULAR RESULTS
—
LESS WASTE

Matt is the new Gloss

Rise to the Surface

Matt finish floors continue to be in high demand. Achieved through a sophisticated curing process, i4F's surface finishing treatment delivers the ultimate matt look and enhanced

benefits. It also has some serious benefits for flooring; reduced light reflection, less maintenance and better surface performance.



REDUCED LIGHT
REFLECTION
—
IMPROVED SURFACE
PERFORMANCE
—
LESS MAINTENANCE

Love the look and difference


i4F Grout Technologies

i4F CeraGrout delivers a more cost-effective, easy-to-install and maintainance alternative to real ceramics.

Tiles and planks featuring i4F grout technologies mimic perfectly the aesthetics of modern 'rectified' ceramics with an integrated grout. Extremely durable and delivering superior resistance to wear and tear, stains, and chemical household agents, tiles/planks featuring i4F grout technologies are very easy to install as well as replace, especially when compared to traditional ceramics. Beautiful for both floors and walls. This offers a huge opportunity to extend floor collections to wall applications. The trend for wet rooms and en-suite bathrooms is driving demand for floor and wall products that imitate ceramics. Unique grout

technologies, exclusively available via an i4F license, deliver more realistic, visible joints via integrated grout lines for both flooring and wall panels.

i4F's exclusive patent partnership with Quickstyle Industries, gives i4F the sole licensing rights for Quickstyle's grout patent portfolio in all major markets worldwide, including the US, Europe and Asia/Pacific.



FLOOR AND
WALL PANELS WITH
GROUT FEATURES
—
MIMICS PERFECTLY THE
AESTHETICS OF CERAMICS
—
MORE REALISTIC,
VISIBLE JOINTS



IMITATE CERAMICS
WITHOUT ITS
INCONVENIENCES
—
EASY TO INSTALL
AND MAINTAIN
—
MORE HYGIENE,
LESS STAINS

Climb the Walls

Drive your flooring business upwards

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.

NEW FLOOR TO WALL
COLLECTIONS

ENDLESS DESIGNS

ALL MATERIALS

MOISTURE AND HEAT
RESISTANT



Game Changers

Designed for real life

i4F uses technology and innovation to empower our licensees to create floors, walls, and ceilings designed for real life. To produce flooring systems that are tough in sensitive environments. Because the more places our technology can go, the more markets you can move into.

SUSTAINABLE
—
MOISTURE & HEAT RESISTANT
—
ANY ROOM, ANY FLOOR –
INCLUDING WET-ROOMS AND
BASEMENTS

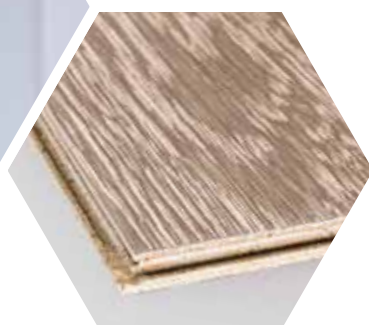
Natural harmony with breakthrough MgO wood veneer board

i4F's technology resolves virtually all the disadvantages of natural wood flooring, by reducing moisture intake and flammability. This sound-absorbing board has a stone-wood composite base that substantially retains moisture and heat, keeping the wood veneer level dry and heat-resistant. As a result, it can be used in any room, on any level – even areas prone to high heat and humidity like wet rooms and basement kitchens. Using less wood, and eliminating the need for any sub-flooring, the board is environmentally friendly too.

MAINTAINS EVEN LEVEL
OF CONDUCTIVITY
—
WORKS ON ALL TYPES OF
ADHESIVES AND SUB-FLOORS
—
LOW MAINTENANCE

Safety first with static-control, dissipative flooring

A high-performance static dissipative and static conductive flooring solution designed to keep sensitive, high-traffic environments like operating theatres and computer rooms safe. This technology is highly resistant to any issues and easy to maintain.





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