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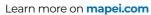
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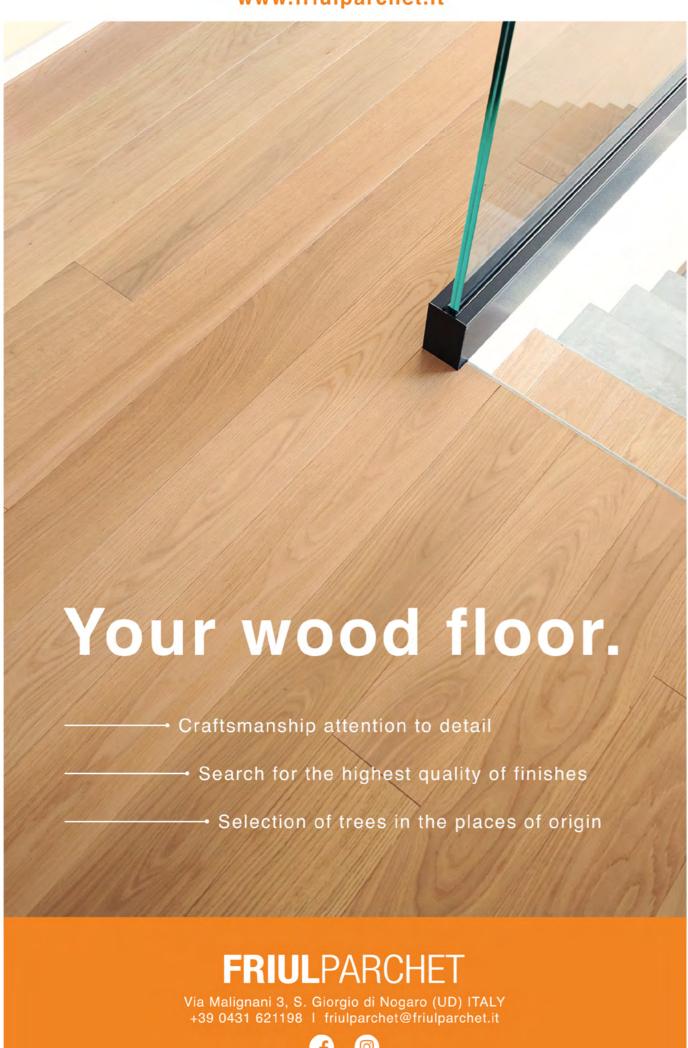


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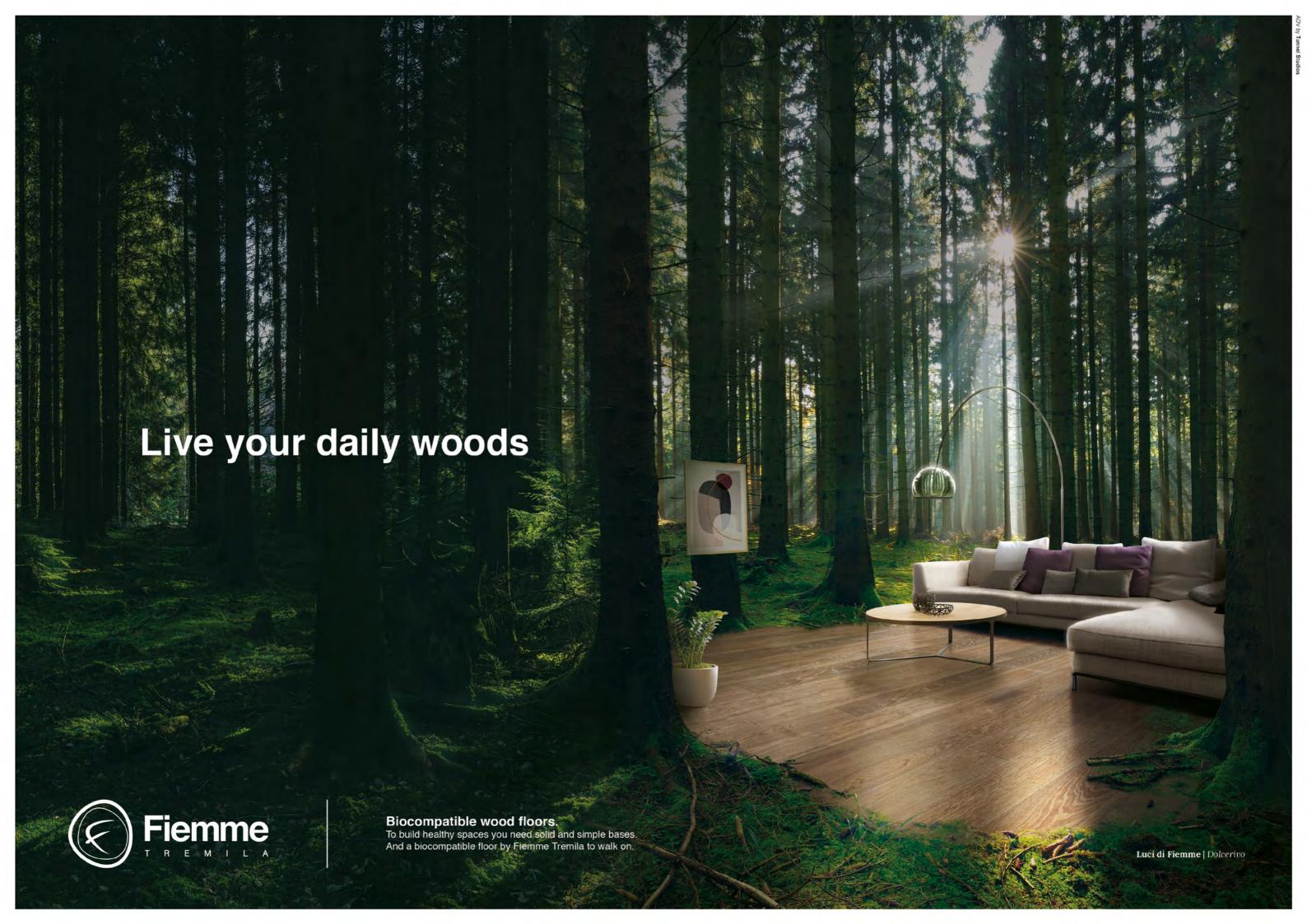
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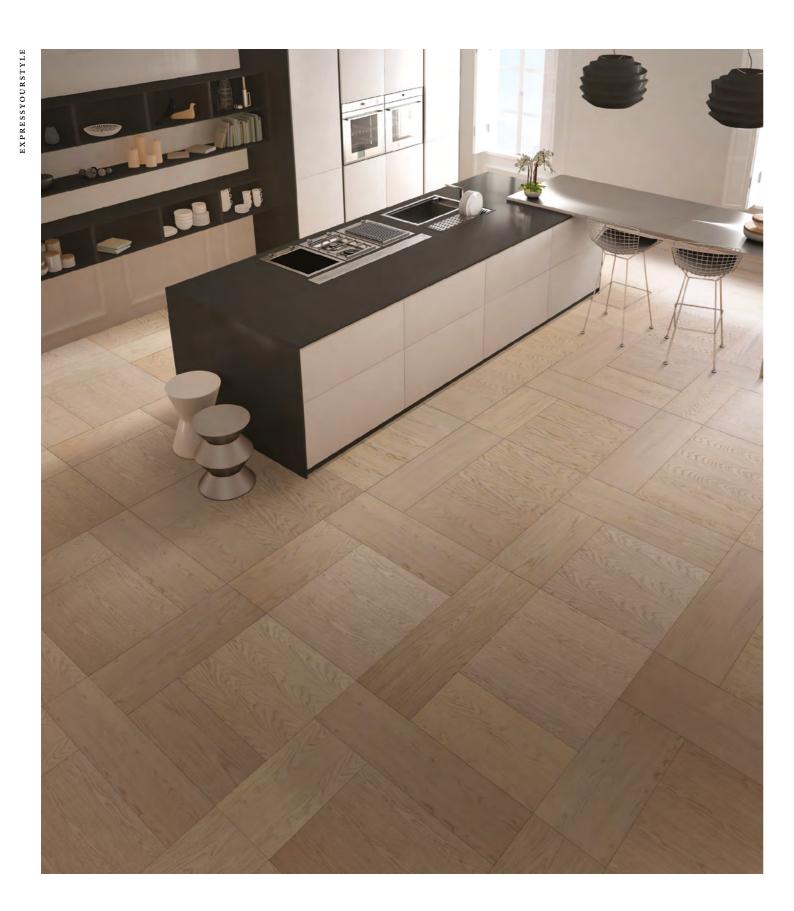
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HUGGING TRESDOES NOTMEAN YOLI'RE

I met a man who talks to trees.

I was on a trip with a group of journalists in Val di Fiemme. We were guests of a company in this sector (a trip I won't forget). They had promised to give us an out -of- the- ordinary experience in the Paneveggio Violini forest with red spruce. I left (early in the morning) with my inborn scepticism towards anything which doesn't have a sound scientific basis, but also with a new desire to slow down, to understand where I am and where I want to go and to start to forge a path towards it. An imperfect path, forged at my pace from materials chosen by me. I'll tell you this story another time. The man who talks to trees is called Marcello Mazzucchi. He has a degree in forest science and is the author of various publications about woods and mountains.

A walk in the woods with Mazzucchi was a moving experience. Some have said that he moves among the trees as if he was navigating among cradles full of sleeping infants and I think that description fits to a t.

"Trees have many stories to tell to those who want to listen with humility", is how he introduced himself. Then he spoke to us about

woods as a 'talking' system, self-sufficient and perennial, which nevertheless allows man's interference, including felling the trees. He told us that sensible, correct management, which does not bring destruction or exploitation, but which is aimed at cultivating and caring for a resource, is possible. Utopia? Maybe it was some years ago, but now it is a necessity. During our walk, he caressed the trees we passed and told us about each one's character and their ability to 'speak' to each other. "If this spruce is big and strong, it's thanks to its friend next to it, which has allowed it to grow peacefully".

Before saying goodbye, he told us about the composer Ezio Bosso, who died two years ago. In 2010, he adopted a spruce, as other famous international musicians before him had done (a gift from Val di Fiemme to those who play melodies all over the world on instruments which could have come from their forests). "He chose a tree which was like him, with which he felt in harmony, and he often came back to see it. When his illness got worse, his tree, very healthy up to that point, began to get ill".

I am still turning over this story in my head, but I needed it. I often think that there's very little poetic about my work. There are times when I can't imagine myself anywhere but here.



Domotex
Messegelände, Hannover
12 - 15 January 2023
domotex.de

THE GREEN COLLECTION IS THE CENTERPIECE OF DOMOTEX 2023

2023 will see Domotex spotlight the current and at the same time key topics of sustainability and environmental protection in the carpet and flooring industry. The lead theme Floored by Nature itself underscores the value-based orientation of Domotex. The special show The Green Collection - the centerpiece of the fair - is aimed at making the lead theme tangible and bringing it to life for the event's attendees. The exhibiting companies have the opportunity to help shape the Green Collection area by showcasing their products or production processes, and thereby highlight solutions they have developed themselves.

Sonia Wedell-Castellano, Global Director of Domotex, emphasizes the intention behind the show: "The Green Collection, our aim is to create a space for sustainable products that serves as a platform for stimulus and inspiration and as a forum for important topics such as the circular economy and sustainable production, as well as social responsibility, while giving exhibitors the opportunity to have their products honored by a highcaliber jury. We also aim to bring our value-based lead theme Floored by Nature to life, so as to make for more awareness of sustainability in the carpet and flooring industry in the future". The Green Collection show also includes a conference program, a material show and the award ceremony.

BAU 2023

Trade Fair Center Messe München 17 - 22 April 2023 bau-muenchen.com

SOLUTIONS FOR ENVIRONMENT-AND CLIMATE-CONSCIOUS CONSTRUCTION

Summer 2022 was characterized by droughts and record temperatures, with people affected by heat and storms. Climate change is here to stay and it affects all sectors of the economy, especially the construction industry in two regards. On the one hand, it must find solutions to make buildings and cities more resilient. On the other, it is required for the energy transition, which is to achieve climate neutrality by



2045.
BAU 2023 - the world's leading trade fair for architecture, materials and systems that will be held from April 17 to 22, 2023 - are moving full speed ahead. will present solutions for environment- and climate-conscious construction in all exhibition areas. Rounding off the offering are corresponding presentations in the forum.



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Salone del Mobile.Milano Fiera Milano, Rho, Italy 18 - 23 April 2023 salonemilano.it

THE SALONE DEL MOBILE. MILANO IS BACK

The Salone del Mobile. Milano is looking ahead to the 2023 edition, which will be held in the Fiera Milano district in Rho from April 18 to 23, with Maria Porro reconfirmed as its president.

During this 61st edition, the annual events International Furnishing Accessories Exhibition, Workplace 3.0, the third edition of S.Project and the event dedicated to schools, universities and under-35 designers SaloneSatellite - which will celebrate its 24th edition in 2023 - will be held among the pavilions.

Also eagerly awaited is the return of Euroluce, the event

dedicated to lighting design, which after a 4-year hiatus brings the best brands in the industry to the pavilions. The last edition was attended by more than 420 exhibitors, half of whom came from abroad, who met and confronted each other on technological and lighting innovation, eco-sustainability of lighting appliances and sources, energy saving and the most up-to-date software, including home automation and IoT. As usual, the events will be accompanied by a jam-packed cultural program, yet to be unveiled, full of outstanding guests who will bring to the stage unprecedented perspectives and exclusive viewpoints on the world of design.

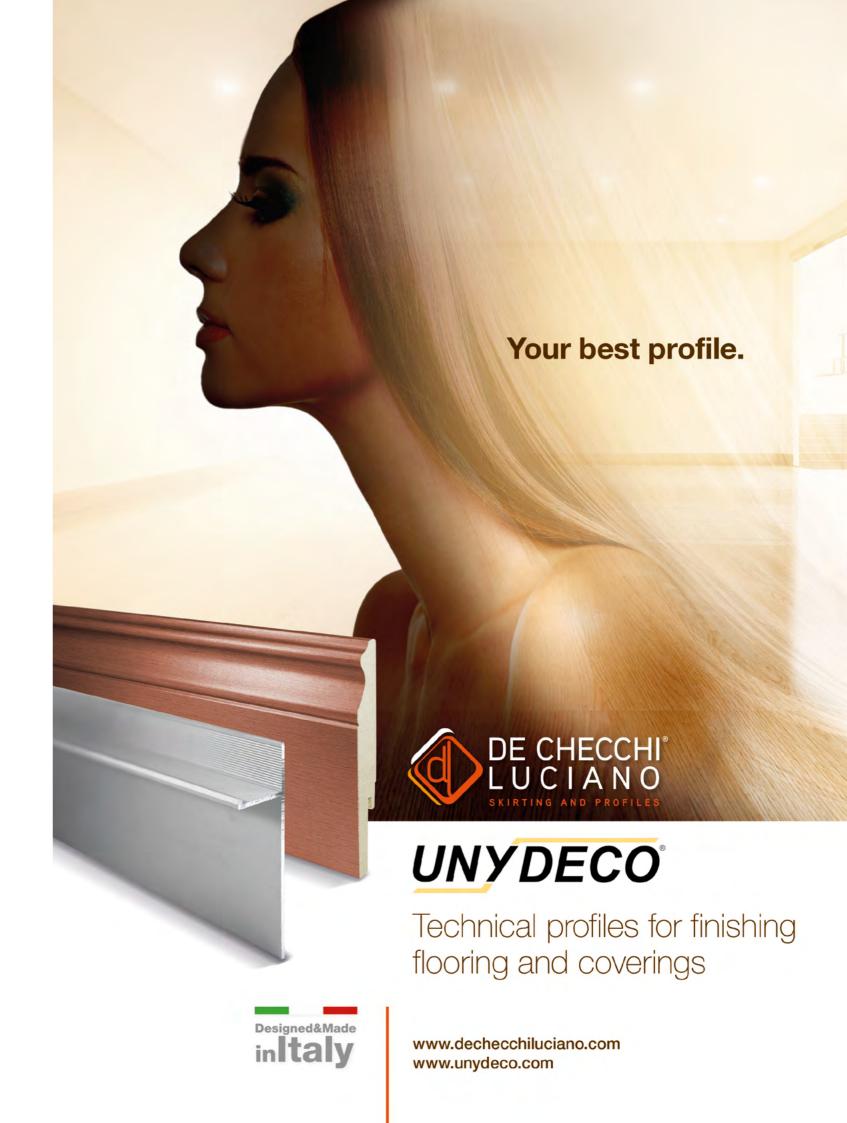


Ligna 2023 Messegelände, Hannover 15 - 19 May 2023 ligna.de

75% OF DISPLAY SPACE AT LIGNA 2023 ALREADY BOOKED

Despite a series of extraordinary challenges, including rising energy prices, material shortages and economic uncertainties in many markets, the woodworking and wood processing industry is in good spirits some six months before LIGNA. Around twothirds of LIGNA's longstanding exhibitors have already confirmed their participation for 2023, with 75 percent of the available exhibition space already occupied. From 15 to 19 May 2023, the industry will convene at its flagship trade fair in Hannover, Germany. "This positive trend underscores the importance of LIGNA for the woodworking community as a key networking hub and platform

for development and innovation" commented Dr. Bernhard Dirr, Managing Director of the VDMA Woodworking Machinery Association, referring to the high level of registrations. The world's leading trade fair for the woodworking and wood processing industry is jointly organized by Deutsche Messe and VDMA Woodworking Machinery. It showcases the entire range of products and services for the primary and secondary industries - tools, machines and systems for custom and mass production, surface technology, wood-based panel production, sawmill technology, energy from wood, machine components and automation technology, as well as machines and systems for forestry, round wood and sawn wood production.



CASELLI GROUP: WOODWORKING MACHINES, SINCE 1920

Located in San Giovanni al Natisone (Udine), Caselli Group has been in the wood industry since 1920: we provide complete machines and machining systems, and integrated turnkey solutions.

The company has a professional business department, constantly updated on the latest

innovations, operating on the international market. We also provide after sales service: our store supplies spare parts and accessories of the best brands and assists in choosing the best solutions. Our team of specialized technicians provides an emergency service, both in Italy and abroad.



GT 635 ARD



GT 635 ARD DOUBLE SURFACE PLANER

This model has characteristics of high efficiency and suitability for all heavy-duty planing operations in wood production. Feeding mechanism is flexible and can cut and straighten warped sections of wood.

TS 400 / TS 650



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Heavy duty machine with sturdy frame. Digital readout assures high accuracy cutting and convenient thickness control. Variable speed is controlled by a frequency inverter, a movable control box.

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WIDE BELT SANDING MACHINE SGJ 1300 R-R-R-A BSG 1300 K-R-RP

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MAPEI GROUP INVESTS IN GERMANY

Mapei continues to invest and consolidate its position in Germany through its subsidiary Sopro Bauchemie, Germany's leading company in the production of chemical products for the building industry, and currently also operating in Poland, Austria, Hungary, the Netherlands and Switzerland. This important investment is for the construction of new headquarters in Mainz-Kastel in the Wiesbaden district, north Germany, and a complete upgrade of the Research & Development laboratories and training centre, with the design and artistic direction by the Milan architecture firm, Onsitestudio, in collaboration with Milan Ingegneria and Drees & Sommers. Opening the groundbreaking ceremony, held Tuesday 2 November in the presence of Mapei management, Sopro staff and various representatives of Weisbaden city council at the site where the new complex is to be built, Veronica Squinzi, Mapei CEO, declared: "It is so exciting to celebrate the start of work on this project launched in 2015 thanks to the will, including of my father Giorgio, to strengthen research activities with new laboratories, and to have spaces dedicated to training and offices in a modern, stimulating work environment. A project that unites functionality and architectural beauty, and that represents an example of the kind of sustainable building which, as a group, we also foster and promote through our business activities".



Construction of the new headquarters, extending over an area of 20,000 square metres, addresses the need to group all management and administration offices, the technical services department, training centre and the Research & Development laboratories within one single site

Marco Squinzi, Mapei CEO, declared: "When Mapei invests in a territory, it brings with it all its characteristics and values. The construction of these new research laboratories will help us leave an innovative imprint and create new expectations in wellbeing for society. Our training centres are also fundamental, where we teach designers how to integrate our solutions to extend the durability of buildings and, as a result, their sustainability".

The new space also an answer to the company's need to increase production capacity at the Mainz-Amöneburg facility, a short distance from the new offices, which is currently commissioning a new mixing line for an additional annual production capacity of 70,000 tonnes. In addition, there is also the complete replacement and upgrading of the entire process technology control system to bring it in line with the most modern standards. And lastly, the production plant has 14 steel silos which are scheduled to be brought on line in December this year.

PANTONE'S 2023 COLOR OF THE YEAR IS VIVA MAGENTA

It's official: 2023 is the year of magenta. That's according to the Pantone Color Institute, the authoritative consultancy that's christened an "it color" every year for more than two decades. Pantone's Color of the Year, Viva Magenta 18-1750, vibrates with vim and vigor. It is a shade rooted in nature descending from the red family and expressive of a new signal of strength. It is brave and fearless, and a pulsating color whose exuberance promotes a joyous and optimistic celebration, writing a new narrative. "In this age of technology, we look to draw inspiration from nature and what is real. Pantone 18-1750 Viva Magenta descends from the red family, and is inspired



by the red of cochineal, one of the most precious dyes belonging to the natural dye family as well as one of the strongest and brightest the world has known. Rooted in the primordial, Pantone 18-1750 Viva Magenta reconnects us to original matter. Invoking the forces of nature, Pantone 18-1750 Viva Magenta galvanizes our spirit, helping us to build our inner strength", Leatrice Eiseman, Executive Director, Pantone Color Institute.

EUROPEAN PARQUET CONSUMPTION HAS STARTED TO DECLINE

The Board of Directors of the European Parquet Federation, FEP, met physically early October 2022 in FEP premises, Brussels, and discussed amongst others the parquet situation on the European markets. Generally speaking, the very beginning of the year 2022 was still positive but parquet consumption quickly started to decline in most of the FEP countries. The decreases were especially significant in France and Germany, while Sweden and Switzerland were still experiencing relatively good conditions during the first part of the year. In the given context, with staggering energy bills and inflation, consumers' confidence is very low, meaning less spendings which are focused on essential needs. If consumers are still investing in buildings, it is more for insulation than interior design. Additionally, renovation works began during the covid time are reaching an end. All in



all, parquet markets are down in most of the FEP countries for the first semester 2022 compared to the same period last year. Those countries which were still experiencing relatively good conditions, are now facing a slowing down of consumption, and are pessimistic for the months and year ahead. Availability and/or affordability of raw material wood are still critical.

The situation is a bit different in Switzerland where inflation is limited to 3% thanks to a strong currency. The Swiss parquet consumption has increased by 12% during the 1st semester 2022 compared to 2021. *Photocredit: Bruno Parquet*

OH MY



Hug **▼**

The precious olive trees dotting the Salento region in Apulia inspired the exquisite design of this compact armchair. Conceived with the idea of making the user feel tied in a reassuring embrace, the curved plywood shell features sloping profiles and boasts a stunning veneer in true olive wood. The cylindrical seat is richly padded and covered in a soft fabric.

barbadesign.it



◀ Tokyo

It is through this veritable piece of design history that Cassina expresses its exceptional wood-working mastery. Designed, but not realised, in 1940, by Charlotte Perriand during her time in Tokyo, this chair uses bamboo to revisit the famous LC4 chaise-longue. Its organic form, curvy and inviting, has been re-issued and is now available in teak, and well as bamboo wood. The seat of this recliner is made of twelve curved strips of wood while the joining elements are satin-finish brass studs. Adding mattresses for outdoor use provides dashes of colour to help furnish a veranda, terrace, or any other kind of outdoor space.

cassina.com



Belt & Cross

The Belt & Cross pouffes have been conceived as siblings with common traits, but individual personalities. They share an upholstered upper part, but their unique bases give them their very own personality. The round metal base of the Belt pouf is pushed inwards, giving it its unique outline, and playing with the limits of stability, while the wooden cross-shaped base is an unusual feature, making the Cross pouf instantly recognizable.

Thanks to their shared body, this pair can easily be used together; they complement each other like brother and sister.

bonaldo.com



◀ My bed

A charming bed with structure in solid wood and padded headboard with soft and rounded shapes, covered with fabric or leather. Removable covers for the fabric version. Rounded bed sides.

Design: Studiozero for Riva 1920

riva1920.it

Sunset **▼**

Sunset is a wood-frame and leather chair, created by Time & Style for furniture makers Boffi De Padova in homage to a 1960s seating design by Danish modernist Børge Mogensen. The Sunset chair has a solid oak frame and a soft leather seat and backrest, which are wrapped around portions of the wood to create a seamless look. The design is available in either a grey charcoal-stained frame or a snow-white oak, while the leather is a vegetable-tanned cowhide that comes in camel and dark brown.

depadova.com



Sabot A

Sabot is a playful arrangement of abstract volumes supported by characterful timber feet that are a celebration of Prostoria's woodworking capability. The modular sofa system takes its name from a type of simple, timber shoe – a nod to these wooden feet. The soft and approachable design language is inspired by residential interiors, and brings a strong playful identity to commercial spaces. Each module has a super-soft, friendly silhouette that floats above the exposed timber legs in a cloud-like way, and these modules can be combined to create linear or island configurations.

prostoria.eu



Tramè **▶**

Tramè, designed for Orografie and made of solid wood and metal sheet, is easy to handle and simple in shape. The mirror surface embedded in the structure makes it usable as an hand mirror also and, thanks to the calibrated incline of the upper portion, allows for the simultaneous view of the device in use and one's own image. This is because behind the screen we are alone and nothing more than our own gaze can keep us present to ourselves and consciously accompanied within the overflowing stream of data, information and images in which real and virtual, true and false, smoothly go on merging together.

orografie.com







of transforming the unusual shape of the site into a symbolic building. The building consists of a triangular based prism developed on four floors above ground and two underground.

The latter were already there as

the area. They were an obstacle

in the planning because it was

they had been part of a project for

necessary (and not easy) to find the

perfect morphological and structural

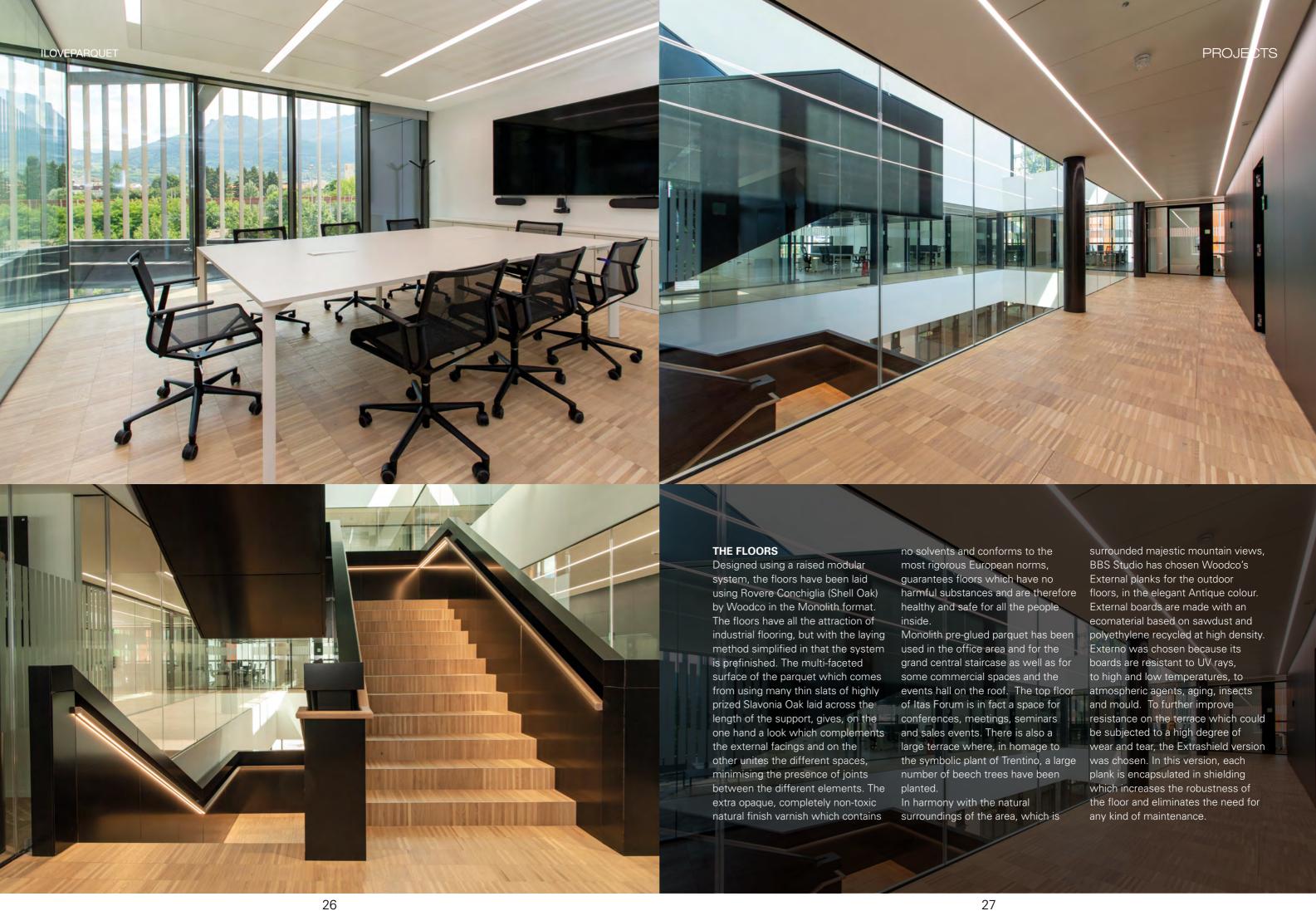
Piano: the glass at ground level, which allows the surrounding nature to become part of the architecture and the rhythmic and sequenced verticality of the upper floors".

WELL DESIGNED MINIMALISM

There are many functions inside the complex. The ground floor has been developed at two heights and is for communal activities - an entrance

Minimalism is the dominant idea and led to a careful choice of colours, finishes, furnishings and to alternating opaque and glass walls. The choice of floors was of the utmost importance. They reflect the fragmented appearance of the outside walls while, at the same time being in harmony with indoor wellbeing, which is the aim of all the planning and system choices".

- Trento, Larentis Lorenz srl, Trento, Giacca srl, Trento, Gruber srl, Trento
- Internal floors: Rovere Conchiglia (Shell Oak) parquet by Woodco in Monolith format
- Rooftop floor: Woodco Externo planks in the Extrashield version, colour Antique
- Interior design: Habitat Ufficio srl, Trento
- Photos: Lucio Tonina





SIGNATURE Noce Veste di Monaco | Tavola woodco.it



RISTORANTE ANDREA APREA

has opened in the setting of Milan's historic Palazzo dating back to 1871 and today home to Fondazione Luigi Rovati and its Museo d'Arte (Art Museum). Located at number 52 on Corso Venezia, on the top floor of the Palazzo, the restaurant was designed by Flaviano Capriotti Architetti, which also curated the design of the Caffè Bistrot overlooking the secret green courtyard. What results is therefore a dialogue between ancient and present, memory and culture, materiality and emotion: to enjoy a gastronomic and environmental experience capable of helping us discover a new era.

The design of the restaurant brings all the values of the gastronomic experience that Chef Andrea Aprea has defined over his twenty-year research journey together in an aesthetic setting. The environment is characterised by a space with a great visual impact, where a surprising panoramic window opens out onto the Porta Venezia park and the city skyline. The interiors develop the rapport between expectation and delivery of the gastronomic experience with a contemporary twist, creating subtle relationships of meaning with the Palazzo's new calling, the cultural context, the noble materials and the continuous dialogue with the works of art, among which the site-specific work created by Andrea Sala, "Il vestito di un riflesso" ["The Dress of a Reflection"] for the Palazzo's tympanum stands out. The restaurant is spread over 400 m², divided into a 210 m² dining room, private dining, cellar, entrance hall and a 190 m² kitchen. There is room for 36 diners, with eight tables arranged in the central dining room, where the guests' eyes take in the ineffable expressive linearity of the kitchen: completely on show.

The large central dining room is characterised by walls covered with ashlars made from bucchero - the characteristic black ceramic with which the Etruscans produced their vases - made to a design chosen by Capriotti to create a line of continuity with the Art





Museum which houses an important collection of Etruscan finds.

The profiles were handmade by an artisan from Viterbo on the border between Lazio, Tuscany and Umbria, who works in a small kiln where the terracotta is cooked according to ancient techniques, in the absence of oxygen, which results in the characteristic iridescent black colour of Etruscan origin.

A spectacular circular chandelier in Murano glass and gold leaf - designed by Capriotti and produced by Barovier&Toso using the ancient "dew" process - marks the central position of the room and dialogues with the sloping perspectives of the walls and ceiling that make the entire space a sort of proscenium from which to observe haute cuisine at work.

A setting designed for the senses, a place to experience the relationship with food, between the expectation of the presuppositions and the sharing of the gustatory consequences: in a dimension of continuous aesthetic surprise, straddling intimacy and completeness.

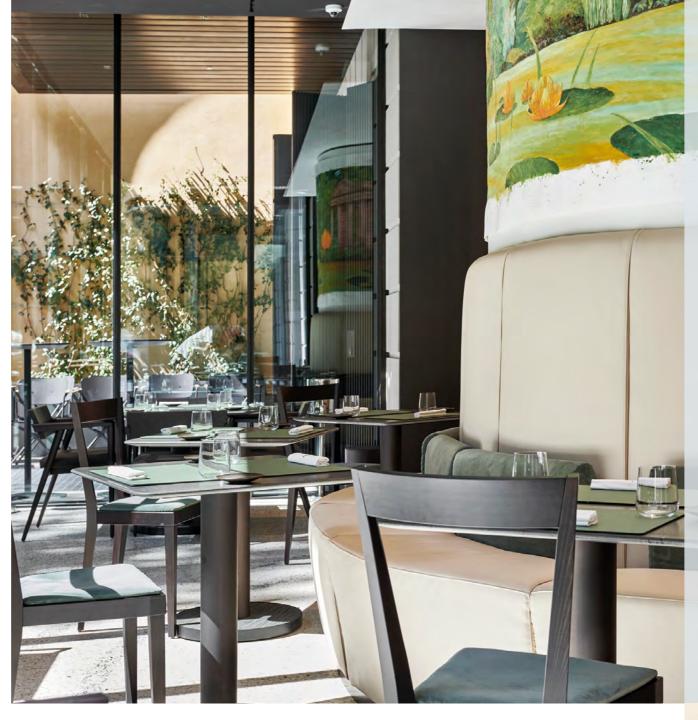
The restaurant space allows you to look in two directions: on the one hand, the creative act of preparing the dishes can be observed through the large glass wall that separates the kitchen from the dining room; on the other side, diners can allow their eyes to wander from

the "Indro Montanelli" public gardens of Porta Venezia to Milan's symbolic buildings, such as the Museum of Natural History, Piero Portaluppi's Planetarium and the Torre Rasini tower by the architects Ponti and Lancia, through to embracing the contemporary architecture that has redefined the city skyline.

"The project is the meeting point between Andrea Aprea's gastronomic philosophy and my design vision - explains Flaviano Capriotti - in a perfect synthesis between two ways of understanding the theme of sensory experience: between haute cuisine and perception of space, involving sight, touch and hearing. Great importance has been given to acoustic and light-related comfort. The very issue of comfort is one of the keys to understanding, where the guest indulges in a series of sensations produced by the food and the environment. Innovation, modernity, recollection, attention to memory and tradition are the ingredients with which we have designed the spaces."

THE RESTAURANT

From the entrance hall of the Palazzo in Corso Venezia 52, you enter the garden, the Caffè Bistrot and Restaurant through a gallery of works from the Fondazione Luigi Rovati's contemporary art collection. The selected works





design studio based in Milan, operating in the fields of architecture and interior and product design. With a degree in Architecture from the Politecnico di Milano, Flaviano Capriotti has been working in the luxury residential design and hospitality sector since 1998, having spent a large part of his career involved with Antonio Citterio & Patricia Viel; a particularly valuable period of time on both a professional and human level, in which for 20 years he directed and coordinated projects around the world, including the birth and development of the hotel project for the Bylgari brand with hotels in Milan, Bali, London, Beijing and Shanghai, as well as Alain Ducasse's Rivea restaurant in London and the W Hotel in Saint Petersburg. Recent and ongoing projects that deserve a mention include the new Bulgari Suite at the Bulgari Hotel Milan, the Poliform Café at the Inverigo headquarters, the Mio Bar and the Vun Andrea Aprea restaurant at the Park Hyatt Milan, the Faloria Mountain Spa Resort in Cortina and the new Pellico 3 restaurant, again at the Park Hyatt

Flaviano Capriotti Architetti is a multidisciplinary

Projects that are underway include the new home of the Franklin University of Lugano, a new headquarters in Kuwait and residential projects in Italy and abroad.

flavianocapriotti.it









have characteristics reminiscent of the Mediterranean and Naples in particular, in homage to the Parthenopean origins of the Chef: "Mercato Ittico di Napoli" ["Naples Fish Market"] by Thomas Ruff, "Il Mare e l'Amazzone Ferita" ["The Sea and the Wounded Amazon"] by Mimmo Jodice, in a sort of prologue with strong artistic influences. From here, you can access the lift to go up to the third floor where the restaurant is located.

The space opens up into a reception area, covered with dark-stained walnut wood panelling, almost as if it were a space without boundaries, from which the guest accesses a mechanism of gradual aesthetic surprises, in the progressive unveiling of space, of its relationship between the external landscape and the set designed for the senses.

Flaviano Capriotti has designed an aesthetic frame to contain and express Andrea Aprea's gastronomic philosophy, giving rise to meanings, a backdrop for expectations, a context to the relationship between form and substance.

The interiors of the restaurant have been designed to create a surprising cognitive pathway, in a continuous alternation between light and dark, as demonstrated by the dialogue between the black bucchero surfaces and the long glazed pathway, designed to give a sense of theatrical intensity to the space.

In the central room, measuring 210 m², the contemporary dialogues with the ancient, as if in an alchemical encounter: the walls and the ceiling slope to direct the gaze towards the open kitchen, which is the centre of the whole performance and the aesthetic counterpoint to the palatal experience. The ceiling is made from a soundabsorbing material and consists of slats and planes without thickness which overlap with different inclinations, so that the very course of the ceiling helps break down the sound waves. Small LED spotlights are inserted in

millimetric grooves to achieve precise, flexible lighting.

Stage effects dictated to create surprise and amazement create the relationship between movement and the unveiling of space, in a sequence of progressive discoveries.

The materials are pure, left in their natural state, with no added decoration or colour; the textures are those of the materials themselves: wood, bucchero, plaster and stone.

The smoked oak of the floor marks a chromatic continuity interrupted only by the light shades of the common walnut used to line the entire space, which at the same time acts as a mechanism for cabinets and drawers - all concealed designed to store the working tools for the room, creating a continuity between aesthetics and functionality that leaves no room for uncertainty or randomness. The space is completed by furnishings - all designed by Capriotti- exemplary linearity and delicacy: like the seats upholstered in caramel-coloured leather. Two delightful trolleys on wheels designed by Capriotti for handling spirits and coffee in the room stand out: small gems of cabinet-making, they are the bearers not only of precious comfort in terms of taste, but also of a vision of service in which the design of the gastronomic experience has found completeness.

The project as a whole does not add frills or make concessions to affectations. The space remains intact, in favouring concentration towards the experience of the senses, where the only protagonist must be the relationship between man and food, the intimacy of taste and the amazement of the gaze.

THE CAFFÈ BISTROT

Overlooking the Palazzo's green courtyard is the Caffè Bistrot, for which chef Andrea Aprea has redefined the canons of popular Italian cuisine through a selection of great classics.

The space - measuring 135 m² with

room for 22 diners inside and 12 in the

ILOVEPARQUET

open air section

- harks back to the tradition of the cafés of cosmopolitan and bourgeois Milan of the early twentieth century, to showcase the key elements of Italian cuisine, from breakfast to dinner, with a range capable of accommodating the desire for conviviality and good taste at any time.

The design of the flows revolves around an iconic semi-circular counter in burnished brass which dictates the progression of the space and directs the guests' gaze, always towards the green of the exteriors, whether for a quick coffee, a cocktail at the counter or a meal sitting at the tables alongside the window.

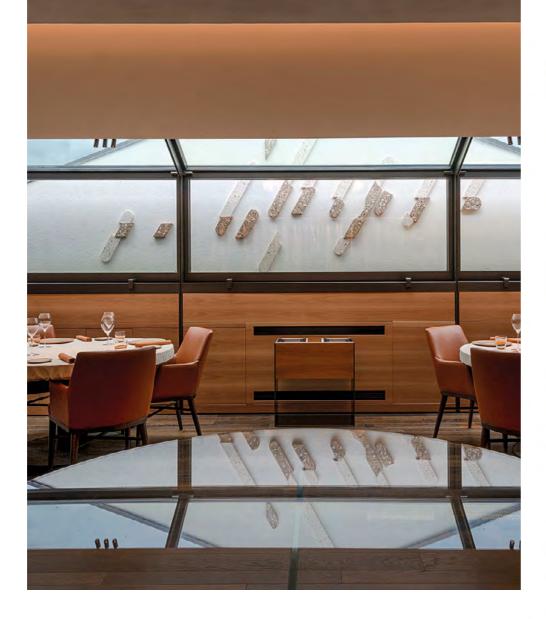
Fondazione Luigi Rovati commissioned the artist Mauro Ceolin to embellish the space thanks to the work entitled "Entrare nel tempo, omaggio a L.R." ["Entering Time, a Tribute to L.R.]. The flooring is Venetian-style, designed by the architect Capriotti and made by Laboratorio Morseletto with a decoration featuring concentric circles that start from the central counter and expand outwards through a succession of nuances ranging from cream to hazelnut, from dark brown to stone grey. The selected materials - both polished basalt used for the table tops and the bar counter, as well as bronze, used as a line of continuity in the architectural details - are homages to the manufacturing and material tradition already developed by the Etruscan civilisation.

The chairs at the Caffè Bistrot were selected from Gio Ponti's extensive production, in particular the Livia chair was designed in 1937 for the Faculty of Arts of the University of Padua, with a new edition produced in 2005.

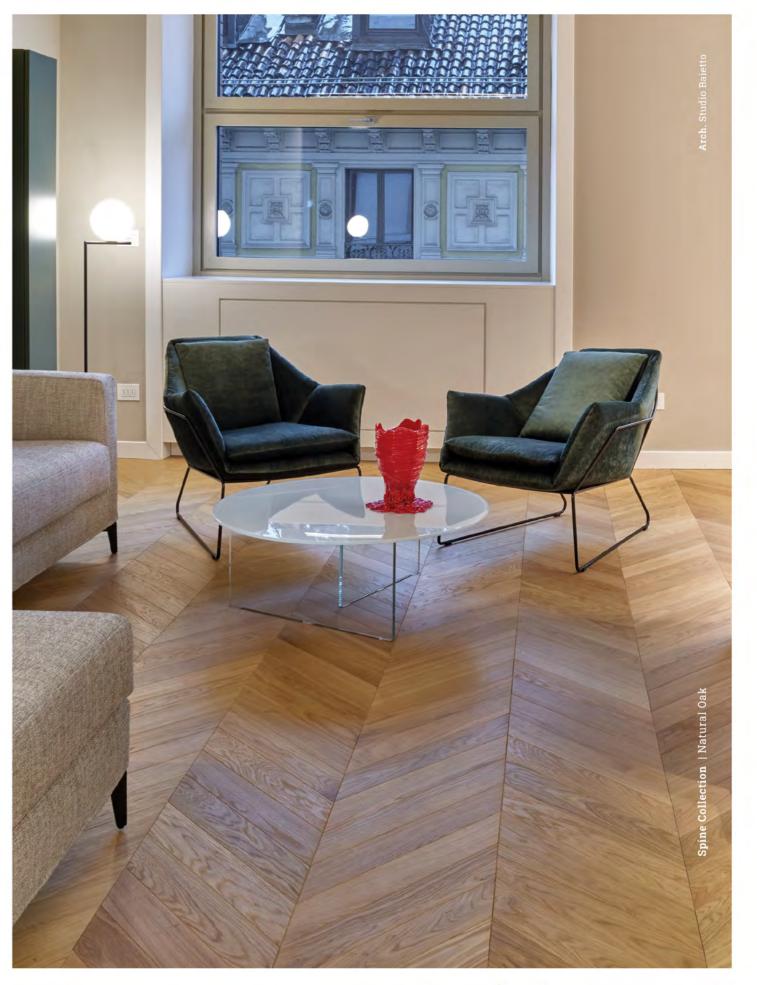
The space expresses the characteristic themes of the best tradition of Milanese design in a contemporary language, to offer guests at the Fondazione and the

local public a new place where beauty, nature, good taste and savoir faire

come together.







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f 🖸 📵 🛭 almabygiorio





There are numerous, marvellous timber species from Africa, Asia and South America, which are used in different ways in the furnishing sector. And in the finishes sector. It is important to know about them, to use only the certified ones and perhaps to enlarge choices

GIANNI CANTARUTTI

Exotic timbers are all those "marvels" of nature which come together in the species of timber we know well because we find them in our homes and we live with them. Historically, Europe imported species which were similar to South American mahogany from Africa (khaja, sipo, sapelli) all belonging to the family of Meliaceae (like Swietenia). There were also Ebonies (genus Diospyrus), the most sought-after of them coming from Madagascar, like the socalled "Ebony of the Pharoahs", which is really a dark, almost black, rosewood similar to real ebony, but whose genus is from the Dalbergie. And Coral Wood or Padouk (genus Pterocarpus) as well as many others. The English, Dutch and Danish imported Teak (Tectona grandis) from Asia because of its strength and used it for pontoons and external work as well as for highly prized floors. All European and North American merchants wanted the Burled Amboyna (Pterocarpus indicus) from southeast Asia and Makassar ebony (Diospyros celebica) to decorate the mansions and villas of the rich and noble.

THE DISCOVERY OF THE AMERICAS

With the discovery of the Americas, officially dated 12 October 1492 and attributed to Christopher Columbus, a world of new knowledge opened up, in our timber sector too. Numerous botanical species were identified from that moment on and were used for many different things, among them carpentry work. First of all, Mahogany (genus Swietenia) from the Caribbean was felled and transported to Europe, principally by the French and English, for furniture making and decoration. This was followed by Rosewoods (genus *Dalbergia*) from Brazil. Three particular species were: the one called "Rio" with different tones ranging from

yellowish brown ochre (Dalbergia nigra) to almost black, "Violeta" (Dalbergia cearensis) from the coastal region of Crearà and, last, but not least, "Bois de rose" (Dalbergia decipularis) from Bahia. The three species were used for inlays on furniture and floors, as well as for making high quality furniture (especially "Rio").

Pau Brasil, or Pernambucan

Pau Brasil, or Pernambucan wood (Paubrasilia echinata) was discovered for making musical instruments. In time this tree grew all along the Brazil coastline.

LOOKING FOR ALTERNATIVES TO AVOID EXTINCTION

Nowadays, the above-mentioned species have become difficult to find because of intense exploitation of forests by man and the absence

of reforesting. But there are other alternatives whose appearance and colour are just as good. There are various exotic timber species which can be found with a certificate which guarantees they have been felled correctly in accordance with programmes for forest provisions (which guarantee the continuity of the species and safeguard the ecosystem, including respect for indigenous tribes who live in the forest). Now more than ever, we need to know about this world of varied exotic timbers so that we use the highest number possible of different species. This is vital for the correct use of overall environmental resources so that demand is not concentrated exclusively on a few, particular species, which could be extinct within a few years.



Bostamarinde, Zygia racemose



Guibourtia spp., Bubinga



Floral design in Maclura Pink Ivory



Astronium spp., Tigerwood







Oil Bee is a high resistance oil-wax mixture containing European beeswax, which gives the wood a natural and uniform appearance, giving excellent water repellency, hardness and softness to the touch. It is ideal for parquet and for all wooden surfaces. For each purchase of Oil Bee, Chimiver will donate part of the turnover to "BeeLife European Beekeping Coordination", an NGO formed by professionals in the beekeeping sector who work for the protection of pollinators in Europe.

chimiver.com

HEXAGON BY WOODCO: DYNAMIC GEOMETRIES FOR AN ICONIC PARQUET

Movement, originality, colour: thanks to the Hexagon format of Woodco's Signature collection, parquet changes its look and becomes a floor with a strong and iconic character. The hexagons (231 x 200 mm), in fact, give life to a precious honeycomb design, further enhanced by the high quality of the woods, the beauty of the colours and the refined workmanship. The suggestive look goes hand in hand with the great attention that Woodco has always dedicated to the well-being: all the proposals in the Signature collection are free from emissions of harmful substances thanks to the natural finishes, for healthy and safe floors.

woodco.it

QUICK-STEP CASCADA: WATER-RESISTANT PARQUET

Watertight Cascada range is beautifully suited to every room, including your kitchen and bathroom: this floor is up for anything. Cascada will never look dirty or dark. With a unique coating system that covers the full surface, even in the deepest brushings, Quick-Step protect the wood from water absorption and make it easy to clean. Liquids and dirt don't get a chance to infiltrate the wood surface. The new and improved click design ensures a tight fit on all sides. On top of that, the Hydroseal coating on all 4 sides stops all water from leaking through and causing damage to the bottom of floor.

unilin.com



■ ULTRACOAT RENEW FL

Ultracoat Renew FL primer for wood flooring is the best choice for refurbishment work; no sanding required and no need to remove the old finish, it also avoids creating dust and shortens the time required to complete work. It is used when applying two-component varnish on existing parquet treated with UV-resistant or oil-based finish (except oily wax finishes), or with solvent-based or water-based varnish. Along with Ultracoat Remover Plus, Ultracoat Cleaner and Ultracoat HT 2K it gives a new lease of life to the surface of wood flooring and preserves the natural beauty of parquet floors.

mapei.com

THERMOWOOD FLOORS BY FIEMME TREMILA

Nocciolieve from the collection Luci di Fiemme of Fiemme Tremila is a Thermowood oak processed with a light and natural lightening, softening the lively brown of the essence and dissolving it in light hazelnut nuances, as a powder pink lightened by constant rays of light. Thermowood floors go through a 24-hour-long thermal modification which not only brings out the innate colour of the material with unique and always different nuances but makes the wood more stable, durable, water-repellent and easy to restore, if necessary. Photocredit: Carlo Baroni

fiemmetremila.it

PATENTED AND EXCLUSIVE INSTALLATION SYSTEM

Clip Up System® is Garbelotto's Parchettificio patented and exclusive installation system for wooden floors which allows you to install a 100% Made in Italy wooden floor without glue and make it inspectable. Installation is quick thanks to the use of recyclable polymer clips placed on any flat substrate and makes the floor immediately walkable. Clip Up System® is available in all laying geometries and infinite combinations of wood species and finishes from the Garbelotto catalogue.

garbelotto.it

BIO LINEA COLLECTION BY FRIULPARCHET

The European oak of the Bio Linea collection by Friulparchet, in the "Effetto Grezzo" shade, is one of the most requested of the moment thanks to its authentic, natural and delicate appearance. Its particularity lies in the treatment carried out with natural-based oils or varnishes, which make the wood more warm and satiny without altering its natural characteristics.

friulparchet.it





horizontal to vertical, the wooden paneling proposed by Ravaioli Legnami give elegance, warmth and refinement to indoor spaces. A 3D profile called "Pettine", available in different wood species and finishing. In the picture, a wooden paneling made with Pettine profile in Abodo®, thermo-treated FSC® certified laminated wood from New Zealand, guaranteed for 15 years, whose warm brown tones give the surroundings an engaging atmosphere. In 2023 new profiles will enrich Ravaioli Legnami wooden paneling range.

ravaiolilegnami.com



BEAUTY AND PROTECTION FOR THE WHOLE SEASON

Loba brings a breath of fresh air to the sun deck: The eco-friendly Deck Line opens up exciting new design options for your favorite spot in the sun. The varied color palette of the Deck Line makes the hearts of terrace lovers beat faster! Thanks to its superb application properties, the Deck Line is ideal for use by professionals and consumers alike. Procedures: Cleaning the surface and degraying preparation with DeckDegrayer, then the water-based primer DeckPrepare, for delaying the weather-related graying of wood, and lastly DeckOil Transparent for deep protection and glow.

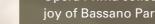
classic.loba.de

yellowing with excellent build characteristics, Mega ONE functions as your one partner in









OPERA PRIMA

Opera Prima collection is the pride and joy of Bassano Parquet. A compendium of our handicraft expertise thanks to its very irregular hand planing, deep brushing, marked grouting and varnished finishes in eight shades. Bassano Parquet's love for wood began in 1832. With nearly 200 years of experience, this historic Italian company presents a rich catalogue with 16 types of wood in different collections, exclusive finishes and creative geometries. Every choice converges in one direction only: total quality. Such as this wonderful Oak Effetto Storico of our Opera Prima collection that makes every room unique. In photo: Opera Prima collection in a splendid location in Istanbul, curated by the famous Turkish architect Mahmut Kefeli.

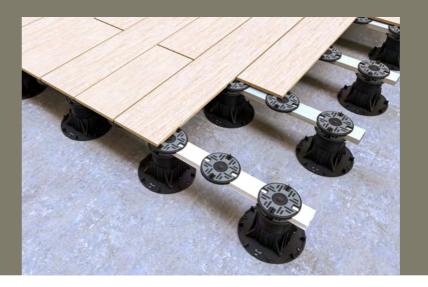
bassanoparquet.com



◄ CLEAN LINES

Clean lines are one of the most important features in renovation of both residential and commercial buildings, and skirting boards in metal or aluminum can be the perfect solution to give a contemporary look to indoor spaces. These skirting boards are also very resistant, ensuring long-lasting wall protection and they can therefore be laid even near fireplaces or radiators. Progress Profiles offers over 30 different skirting boards to enhance any floor, creating elegant chromatic contrasts or perfect continuity with the coverings: among them, there are flush-to-the-wall models or those with integrated LEDs, and some can reach the height of 150 mm. The latest model produced by Progress Profiles is Proskirting List: available in anodized, polished, brushed or varnished aluminum and in white or silver colors, it can be fixed directly to the wall with adhesive or with aluminum supports, and it's suitable for every indoor.

progressprofiles.com



◆ BALANCE PRO AND RAIL SYSTEM

Balance Pro supports and Rail System by Impertek are the best choice for the installation of any type of raised outdoor flooring. Balance Pro allows you to cover heights from 25 to 1025 mm with only 6 items and its self-levelling head guarantees perfect flatness of the flooring. Rail System, on the other hand, is the modular system that allows you to install every type of flooring, both decking, stone or ceramic tile and slabs of any shape and size. The extraordinary combination of Balance Pro and Rail System ensures a fast, simple and stable installation for every type of outdoor flooring.

impertek.com



◆ BEYOND RETRO COLLECTION: BACK TO THE FUTURE

Kährs Beyond Retro is a new 3-Strip Collection with six different colors and an ultra-matt lacquered surface. The classic nuance of the nature was the inspiration for our Product Manager- and Designer Petra Lundblad to create this six design floors and to realize a timeless collection appropriate for every lifestyle. The wood for the Beyond Retro Collection comes from the Sweden forest and the floors are producing in our factory in Småland/Sweden. The surface is looking really natural and lively, as usual in Scandinavian design. The ultra-matt lacquered finish enhances the grain of the wood, arouses the felling of the fresh sawn wood and protect the floor from the daily wear.

kahrs.com

STEFANO BOERI INTERIORS AND MARDEGAN LEGNO ▶

Stefano Boeri Interiors encounter with Mardegan Legno has led to the wood flooring collection. The collection has the aim of expand and intensify the research and development of solutions increasingly in balance with the ecosystem, forests and nature. The architect sums up the concept this way: A design collection that stands out and amplifies the values of Mardegan Legno: sustainability, beauty, attention to details and durability. The project aim is to focus on the raw material and its transformation: ideas in compliance with wood sustainability, from the very first step as the material selection. Nature, respect, balance and sustainability are merely few of the principles that represent and describe the activity and culture behind the collaboration between Stefano Boeri Interiors and Mardegan Legno.

boeri.mardeganlegno.com





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◀ NOUVEAU COLLECTION

Vimini of the Nouveau Collection is a parquet that offers a new version of the classic chevron parquet thanks to the pattern created by the use of different timbers (maple, Italian walnut and wenge). As the other solutions of the collection, it is made to measure and customizable upon request.

palazzomorelli.com

A RICH SELECTION OF PROFILES ▶

Tecnorivest skirting range includes a rich selection of profiles, in the shapes currently most in demand on the market. Traditional smooth profiles, square edge profiles for a minimal and modern style, victorian skirting boards for more sophisticated and refined environments. Our products are PEFC certified, guaranteeing a low impact on people and the environment. Produced 100% in Italy, in our factories, Tecnorivest skirting boards are the result of our Team's thirty years of experience and of the careful choice of timber suppliers selected over time.

tecnorivest.com





The system is composed of three elements: PRODESO® HEAT GRIP MEMBRANE, PRODESO® HEAT GRIP CABLE e PRODESO® HEAT GRIP THERMOSTAT KIT. The polyethylene membrane with uncoupling, waterproofing and vapour management features has a 8,5 mm thickness and a thermowelded non-woven fabric on the back side, which guarantees the adhesion to the substrate. The new membrane structure allows a perfect fixing of the heating cable and a crack-bridging ability 5 times more than the PRODESO® HEAT. The cables of last generation are composed of many resistances, each one 60 cm long, in a parallel circuit. If the cable is damaged, only the broken resistance stops working but not the whole cable. The thermostat of last generation interfaces with Android and Apple devices, that is why it is possible to adjust all settings and time schedule using an application with internet connection as remote control.















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BETWEEN DREAM AND SPIRITUALITY ▶

A Latin term, an ancient name to define a need for aesthetic spirituality that is highly topical in modern times. Factum is this and much more. The direct influence of a master like Carlo Scarpa, this collection of wooden floors designed by Dante Oscar Benini and Luca Gonzo for the iconic Listone Giordano brand reflects the deep-rooted mental percussion of its author. A surprising and unprecedented floor, the deco essence of a Versailles of the new millennium with a sublime rhythm and capable of metamorphosing in every sense. Factum is made up of three elements that make up the quadrotta, each of which can be interpreted in different colour variations or even in monochromatic versions, as in the square element, which can rotate freely and where the insert also aspires to become a different material. And, in turn, the squares can be placed side by side to create surface patterns with infinite compositions and rhythms that extend to become rugs or paintings that are always different - elegant and never banal - with a strong visual impact. With Factum, the floor rises up to the wall and thus also becomes a boiserie, completing an ideal circuit that turns the home into a safe haven of design. A collaboration in which Listone Giordano was deeply involved, contributing decisively to the research and prototyping process.

<u>listonegiordano.com</u>





No sanding and multi-surfaces



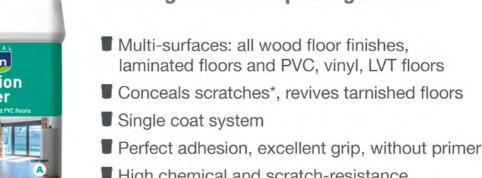




Long lasting renovation without sanding down or replacing the floor

- High chemical and scratch-resistance
- 2-component with hardener

*Surface wear & tear: regular use and small scratches











WHEN THE EU FOCUSES ON FORESTS



From "A new EU Forest Strategy for 2030" to EU Timber Regulation & "Deforestation-free value chains"

On 13 September, the European Parliament approved 'A new EU Forest Strategy for 2030 - Sustainable Forest Management in Europe' and, as FEP, we very much welcome some elements. The new EU Forest Strategy recognises the ability of wood products to both store carbon and substitute more carbon intensive materials. It also acknowledges that wood products are renewable and recyclable: "wood is the only significant natural renewable resource that has the potential to replace some very energyintensive materials, such as cement and plastics, and will be in greater demand in the future".

Of course, the EU authorities are well aware that there are concerns about reliable and sustainable wood supply, a situation exacerbated by

the Russian invasion of Ukraine. They underline the importance of a reliable and sustainable supply of wood along with the need to quantify any effect on the availability of wood following the implementation of measures under the new Forest Strategy. Right conditions are now necessary for allowing the Forest-Based Industries to fully play their recognised role in meeting Green Deal's objectives. In this context, FEP, and other relevant European associations - which include the Woodworking Industries, the industries manufacturing pulp, paper and paper products, the furniture industry and the printing industry - are

following the evolution of

the proposal for a regulation

on deforestation-free value

chains/products in order

to avoid that this new legislation hampers wood availability while sufficient guarantees are given on the legality and sustainability of raw material used, nonetheless by the respect of the existing EU Timber Regulation (EUTR). Together, we have made some voting recommendations ahead of the adoption of the text to ensure that it remains effective and implementable.

THE NEW LAW

On 13 September, the European Parliament adopted its position on the European Commission (EC)'s proposal. The new law would make it obligatory for companies to verify (due diligence) that goods sold in the EU have not been produced on deforested or degraded land anywhere in the world. This would guarantee consumers that the products they buy do not contribute to the destruction of forests, including of irreplaceable tropical forests,

and hence reduce the EU's contribution to climate change and biodiversity loss. The EU Parliament also wants companies to verify that goods are produced in accordance with human rights provisions in international law and respect the rights of indigenous people.

The EC proposal covered cattle, cocoa, coffee, palm-oil, soya and wood, including products that contain, have been fed with or have been made using these commodities (such as leather, chocolate and furniture). The EU Parliament would like to add pig meat, sheep and goats, poultry, maize and rubber, as well as charcoal and printed paper products. Members of the European Parliament (MEPs) also insist that products must not have been produced on land deforested after 31 December 2019. Additionally, the EU Parliament wants financial institutions to be subject to additional requirements to

ensure that their activities do not contribute to deforestation.

We welcome the inclusion

wood charcoal in the scope

of printed products and

of the regulation. This allows to create a level playing field for manufacturing industries located within or outside the EU and avoids the risk of circumvention. While no country or commodity will be banned, companies placing products on the EU market would be obliged to exercise due diligence to evaluate risks in their supply chain. They can for example use satellite monitoring tools, field audits, capacity building of suppliers or isotope testing to check where products come from. The EU authorities would have access to relevant information, such as geographic coordinates. Anonymised data would be available to the public. Based on a transparent assessment, the EC would have to classify countries, or part thereof, into low,

standard or high risk within six months of this regulation entering into force. Products from low-risk countries will be subject to fewer obligations.

FEP CONSIDERATIONS

From our point of view, the requirement to provide geolocation coordinates should remain optional as it presents a challenge to the industry for technical reasons. Delineation of plots of land by polygons is not common practice among forest owners. Moreover, for certain products it is not possible to always pin down the specific location of origin, but operators would be able to give information about the potential areas of origin. In such scenarios, the information requirements should permit operators the flexibility to list potential sources of origin, provided each of those locations can be proven to be 'deforestation-free'. The obligation for operators to provide plot-level/production



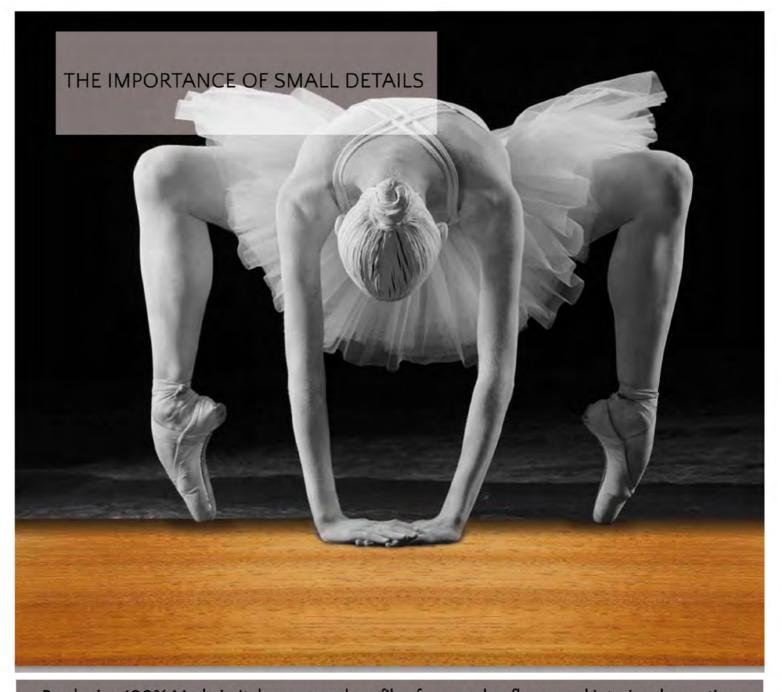
area level geo-localisation data should also not apply for commodities that are sourced from countries classified as low-risk. Furthermore, we ask to recognize the value of high-standard, international voluntary certifications. Third-party certification provides an added credible source of due diligence and verification which can supplement the operator's own efforts without reducing liability. Finally, we point out that the newly introduced obligation to make available to the competent authorities a due diligence statement via the information system entails an additional administrative burden and may force operators and large traders to disclose confidential information along the value chain.

DEFINITIONS CLEAR AND OPERATIONAL

The EU Parliament will now start negotiations on the final law with the EU Council

and Member States. And the work of our coalition will continue, also on definitions, especially of forest degradation which should be as clear and operational as possible. This is necessary to avoid that operators who source wood from sustainably managed forests are put in a situation of legal uncertainty. The proposed definition is too open to interpretation and may even hinder sustainable management practices and/or forest restoration activities, as those often require to bring changes in species composition to adapt forests to changing climate. The term 'forest conversion' in the context of this proposal is neither justified and should be removed. Namely, conversion of forests to other land-uses is covered by the definition of deforestation, and therefore there is no need for duplication. More alarming, introducing this new term of 'forest conversion' in sense

of changes in composition, structure, and function of forest ecosystem will hinder necessary forest management practices, including those for climate adaptation. Therefore, the regulation will become also a tool to regulate and limit forest management, undermining Member States' legal provisions and going against the principles of subsidiarity and proportionality. We also recommend that new requirements for operators should only be decided in co-legislation, i.e. together with the European Parliament and Council. Several articles empower the EC to adopt Delegated Acts to change crucial parts of the regulation, such as the scope of the regulation or the due diligence requirements which operators would have to fulfil. The impact that these changes could have is too high, to simply be extended by a Delegated Act.



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TREESCAN TALKTOO

Trees in the forest emit scents when they are attacked by herbivores. They use the scents to attract predatory insects and even birds, thus freeing themselves from their parasites. Researchers at the Friedrich Schiller University of Jena and the University of Lipsia, guided by the German Centre for integrated research into biodiversity (iDiv), were able to demonstrate something which, up to that moment, had only been shown in laboratory experiments, in a natural habitat, the Lipsia alluvial forest. The chemical substances produced also help us to determine the composition of the communities of insects in the foliage of the trees. Knowledge which may be useful in the future for natural control of parasites in agriculture and forestry.

EVERY TREE HAS ITS OWN VOC

Yes, trees can talk too. Not however, 'acoustically' like we do, but through fragrances. Like human fingerprints, every species of tree has its own unique mix of volatile organic compounds (VOC). Animals have learned to 'read' these in the course of their evolution and it is in this way that the insects which feed from the trees find their hosts. But the trees react: on the one hand they send into action vegetal substances like bitter substances, which herbivores do not like and on the other they emit other VOC to warn other parts of the tree. In this way they attract animals like birds and predatory insects which rush to their aid. The latter have also learned to interpret the VOC to find their prey and defeat parasites.

RESEARCH CONDUCTED BY IDIV

"We have known for some time that plants can chemically attract wasps, killer insects and even birds when they are infested with parasites", states Martin Volf, who led the iDiv research, "however this defence mechanism had never been tested in a realistic environment for adult trees. This was made possible by a combination of

research methods. From experiments on animal behaviour at a height of 40 metres to molecular analysis of the vegetal fragrances using metabolomics (the systematic study of the unique chemical footprints of organisms, in this case leaves of trees, nda)".

To test the effect of the defences

raised against the herbivores, the

researchers chemically simulated emissions, spraying the branches of the foliage of mature oaks with methyl jasmonate, a vegetal hormone which kicks off a defence response. They also stuck on plastic dummies of caterpillars and regularly documented signs of bites and beaks left by birds and other predators. The presence of real parasitic caterpillars on the oak was registered on treated and non-treated branches. The volatile substances emitted were later analysed in the laboratory. In a behavioural experiment, a possible preference of gypsy moth caterpillars (Lymantria dispar) for treated branches over non-treated was noted. It was demonstrated that the treated branches were attacked by predators like birds, parasitic wasps and killer insects much more than untreated ones. The number of parasites on the oaks was also significantly smaller there. In the emission test, gypsy moth caterpillars avoided the treated leaves, suggesting that the trees excrete antibodies like the tannin identified by molecular analysis. In new research, the chemical defence provoked was shown as the most important control mechanism in the composition of species of insects found in the tree foliage. Professor Nicole van Dam, the head of the Molecular Interaction Ecology group of iDiv and the University of Jena, commented, "The results of the research may help us to find alternative natural strategies for controlling parasites in agriculture and forestry...this research is also an excellent example of successful integrated research into biodiversity".



UNDER STUDY

A laboratory method allows to test wood-based materials subjected to protective treatments and to assign them a durability class in order to allow comparison with the starting material and with other wood species of known durability

ELENA CONTI

Head of Catas Microbiology Test Laboratory

Each wood species is characterized by a certain degree of resistance to attack by biological degradation agents, mainly fungi and insects. This feature is the natural durability of the species. The durability of wood can be improved by some

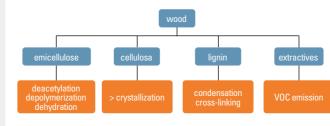
processes, in order to make a wood species more resistant to biological degradation. A laboratory method allows to test wood-based materials subjected to protective treatments and to assign them a durability class in order to allow comparison with the starting material and with other wood species of known durability. This is the case with thermally modified timber (TMT).

Wood originates from renewable sources, and as such it meets the increasing need to ensure environmental sustainability in the supply of raw materials. Being an organic material, however, it is subject to degradation caused by wood decay agents such as fungi, insects, bacteria and marine borers. Over the centuries, various strategies have been employed to increase the resistance of wood to biological degradation, and hence its service life, mostly based on the use of chemicals with

these, heat treatments currently represent the most commercially advanced wood modification technologies, supplying the market with a range of different products known as TMT, Thermally Modified Timber. In addition to the first products made on an industrial scale, including the Finnish Thermo Wood, the Dutch Plato Wood, the German OHT, the French Bois Perdure and NOW, other products have been developed in recent years, such as Vac Wood, made with the contribution of the Italian CNR IVALSA research institute (now CNR-IBE). Heat treatments, carried out at temperatures between 150 °C and 260 °C in the absence of oxygen, cause chemical transformations of the wood through a controlled degradation of the polymers that make up the wood cell wall. In fact, wood that has undergone a thermal process is a new material, with characteristics different from the original: color, density, hygroscopicity, dimensional stability, mechanical resistance and biological durability are altered.

Figure 1 shows the main transformations of the various wood components due to heating to high

FIGURE 1: CHEMICAL MODIFICATIONS OF WOOD COMPONENTS



extractives

OC emission

biocidal action. To meet the needs of a market increasingly oriented towards alternative solutions to chemically treated wood, new types of protective treatments have been developed in the last decades which, by exploiting the irreversible chemical modification of wood, make it less susceptible to attack by decay organisms. Among

temperature.

Several process parameters contribute to the final product, but the treatment temperature is the most relevant as regards the increase in biological durability, that is, the resistance to biological degradation. In practice, it is necessary to treat the wood at temperatures above 200° C to obtain

Catas: WHO WE ARE

Since the foundation of Catas, more than 50 years ago, we have the safety and the quality of raw materials and finished products to our heart: every day in the operating centres of San Giovanni al Natisone (Udine) and Lissone (Monza) we carry out chemical analysis, physical and mechanical tests on raw materials, components and finished products of the wood, furniture and building industry. Thanks to our expertise and specialization we are considered the biggest European laboratory for testing and for applied research in the wood and furniture sector. Main activity areas: Laboratory tests, Product certification, Training. CATAS numbers

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- 2 operating centres: San Giovanni al Natisone (UD) and Lissone (MB)
- More than 50.000 test/year
- More than 50 experts: wood technicians, chemists, biologists, engineers, mathematicians and physicians

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ILOVEPARQUET IN DEPT

a significant increase in biological durability. Only above this temperature the chemical transformation of the wood is such as to make it "indigestible" for decay fungi. content of wood higher than 20%. The laboratory method used to determine the durability class of wood-based products against fungi is described in EN 113-2: 2020 Durability

TABLE 1: DURABILITY CLASSES ACCORDING TO EN 350:2016

Durability class	Description	Percentage mass loss (ML)		
DC1	VERY DURABLE	ML ≤ 5		
DC2	DURABLE	5 < ML ≤ 10		
DC3	MODERATELY DURABLE	10 < ML ≤ 15		
DC4	SLIGHTLY DURABLE	15 < ML ≤ 30		
DC5	NOT DURABLE	ML > 30		



WOOD DURABILITY: DEFINITION AND CLASSIFICATION THROUGH LABORATORY TEST

The term durability is intuitively associated with the service life of a wood product. And in fact, under the same conditions of use and risk of biological attack, a more durable wood will last longer. However, durability is not the only determining factor, as maintenance, exposure to weathering agents and design measures aimed at preventing the entry of water and the formation of condensation, contribute to the performance of wood in service. The durability classification of wood gives a measure of the susceptibility of the various wood species to attack by decay organisms (fungi, insects, bacteria, marine organisms) when this is favored by environmental conditions. As for fungi, the condition that triggers decay is a moisture



of wood and wood-based products -Test method against wood destroying basidiomycetes - Part 2: Assessment of inherent or enhanced durability. As the title suggests, the method is suitable for determining the natural durability of wood species but also that obtained with protective treatments, thus allowing to evaluate whether and to what extent a protective treatment enhances the durability of a wood species, and also to classify a product obtained through an industrial process and compare it with a natural product. For example, ash (Fraxinus excelsior) is classified as "slightly durable" (durability class 4, reference EN 350: 2016), but after heat treatment it can reach durability class 1, "very durable" like the durable tropical wood doussiè (Afzelia spp.). It should be emphasized that heat treatment, in addition to biological

durability, alters other properties of the wood, determining in particular a decrease in mechanical strength. Therefore it is important to take into fungal degradation (DC, durability class) based on the mass loss of the specimens (**Table 1**). **Table 2** summarizes the results of durability

have been carried out over the years for different customers, who have employed different technologies and different process parameters; here we

TABLE 2: ENHANCED DURABILITY BY HEAT TREATMENT: RESULTS OF LABORATORY TESTS

Timber species	Scientific name	DC (natural)	DC (enhanced)	Treatment temperature (°C)
Scots pine/pino	Pinus sylvestris	3 - 4	2	215
Austrian pine/pino laricio	Pinus nigra	4V	3	190
Austrian pine/pino laricio			1	215
Radiata pine/pino radiata	Pinus radiata	4 - 5	3	215
Radiata pine/pino radiata			2	220
Norway spruce/abete rosso	Picea abies	4 - 5	3	190
Norway spruce/abete rosso			2	215
Ash/frassino	Fraxinus excelsior	4	4	190
Ash/frassino			1	210
Ash/frassino			1	215 - 220
American ash	Fraxinus americana	n.a.	1	210
American red oak/rovere rosso	Quercus rubra	3 - 4	1	210
American red oak/rovere rosso			1	215 - 220
European oak/rovere	Quercus robur	2 - 4	1	203
Ma pie/acero	Acer pseudoplatanus	5	1	210
Ma pie/acero			4	190
Beech/faggio	Fagus sylvatica	4 - 5	1	210
Tulipwood/tulipifera	Liriodendron tulipifera	4	1	210

account every aspect to decide on the most suitable final use of the TMT. In general, TMT is not suitable for structural use in buildings, while it can be used where good dimensional stability and durability are required, such as in flooring, cladding, windows, etc. The laboratory test consists in exposing wood specimens obtained from heat-treated sawn wood to the action of laboratory-grown fungi, in conditions of humidity and temperature favorable to their growth. Exposure to fungi lasts 4 months, at the end of which the mass loss of the wood specimens due to decay is measured. The EN 350: 2016 standard Durability of wood and wood-based products - Testing and classification of the durability to biological agents of wood and wood-based materials defines 5 resistance classes to

tests carried out at CATAS over the years on various TMT products. These are mostly wood species from temperate climates growing in European and North American forests, which after heat treatment can acquire a durability comparable to that of tropical species, whose trade is often subject to restrictions due to the threat of extinction of some of the naturally most durable species. The column DC (natural) shows the durability class of each wood species as obtained from Annex B of the EN 350:2016 standard, where most of the wood species of commercial importance are classified. The results of the durability tests carried out in our laboratory on different wood species subjected to heat treatment at different temperatures are presented in column DC (enhanced). These tests

only take into account the treatment temperature as the most significant parameter affecting durability. As can be seen, heat treatment generally improves the biological durability of wood, but it is important to assess the effectiveness of the process by means of a laboratory test in order to optimize the process parameters. In particular, the treatment temperature drastically affects the biological durability. The topic of this article was heat treatment, but the test method EN 113-2:2020, for which CATAS is the only accredited laboratory in Italy, is also suitable for the assessment of the biological durability of natural wood species or those subjected to any another treatment, chemical or otherwise, that alter their natural properties.



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