

SPECIAL BOARDS



FIRE-RETARDANT  
SOLUTIONS



**FINSA**

# FIRE-RETARDANT SOLUTIONS IN WOOD

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# ENVIRONMENT AND SUSTAINABILITY

## LEED® CREDITS: SUSTAINABLE CONSTRUCTION

With our products, LEED® credits can be achieved in different areas:

- Recycled content
- Regional materials
- Rapidly renewable materials
- Certified wood
- Low-emission materials



## CERTIFICATIONS: WOOD FROM SUSTAINABLE FORESTS

The Chain of Custody certifies the path followed by raw materials from the forest to the consumer/customer, including every stage of the process; i.e., it guarantees that the products purchased are made from materials originating from sustainably managed forests.

This warranty is materialized in the PEFC™ and FSC® certificates, for production and marketing of wood-based products.



The mark of responsible forestry

## ENVIRONMENTAL PRODUCT DECLARATION (EPD®): ECOLOGICAL FOOTPRINT AND TRANSPARENCY

The EPD is a tool for conveying clear and transparent information on the impact of a given product on the environment throughout every stage of its life cycle.

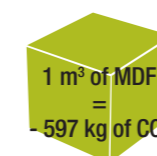
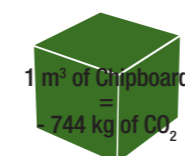
With regard to our products, it confirms that wood is a material that keeps on capturing greenhouse gases throughout our entire production process.

This calculates the carbon footprint of your product based on our products' Environmental Product Declaration (EPD).



### DID YOU KNOW...?

Wood products play a very important role in preserving the environment and making the most of natural resources. Both our environmental policy and our commitment to sustainability constitute a guarantee.



# WOOD AND FIRE SAFETY

## FIRE SAFETY IN CONSTRUCTION

All over the world, fires cause a large number of human victims and considerable property damage. When designing a facility, it is important to find out what materials can slow down the spread of fires, thereby contributing towards a swift evacuation and enabling the use of extinguishing agents to minimise possible damage caused.

While designing the facilities, it is therefore crucial to select materials that limit the development and spread of fire and, consequently, mitigate all the associated risk situations.

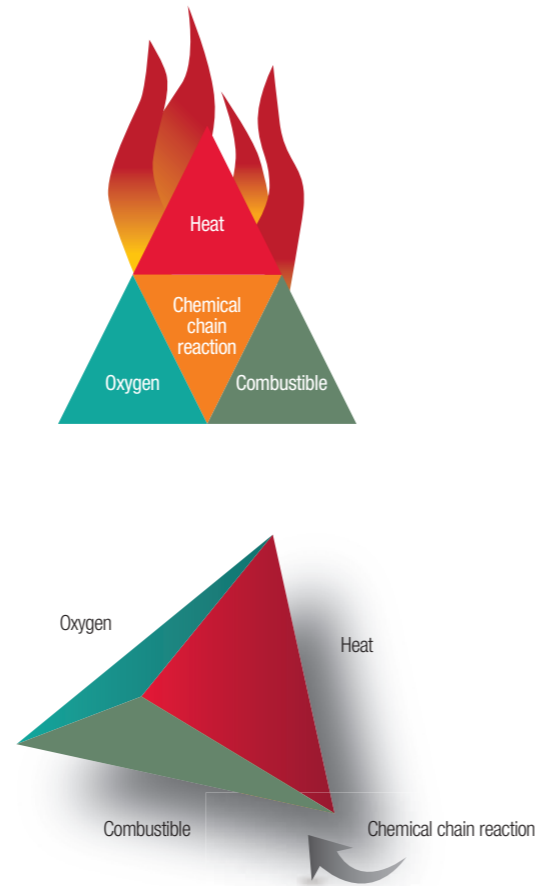
**Fire** is a chemical combustion reaction, a process of rapid oxidation of a material releasing heat, flames and gases.

We normally talk about the **fire triangle**, which is based on the assumption that, for a fire to start and develop, three elements have to be present at the same time:

- Combustible
- Combustion agent (Oxygen)
- Activation energy: Energy (heat) required for the start of the reaction.

However, another element (the chain reaction) needs to be included for this fire to spread and continue without the source of ignition. The inclusion of this fourth factor results in the **fire tetrahedron**, which helps explain the combustion process.

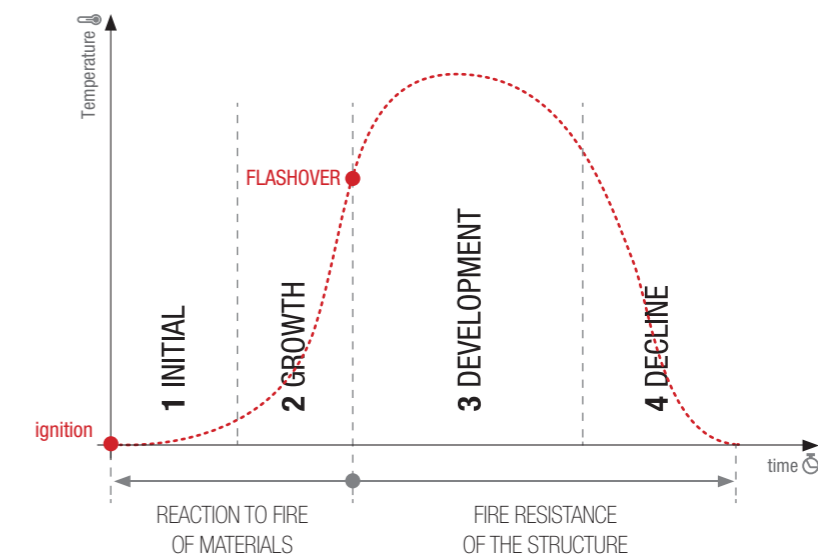
Fire tetrahedron



## HOW DOES A FIRE DEVELOP?

### DEVELOPMENT STAGES AND KEY FACTORS

There are several stages in the development of a fire:



**1. INITIAL:** Fire is dormant. A small part of the combustible burns

**2. GROWTH:** The rate of combustion increases and the fire is stoked. The fire starts to spread (by radiation or through direct contact with the flames).

**Flashover:** the point where there is a sudden increase in temperature, giving rise to a fully developed fire.

Fire protection strategies differ according to the fire's stage of development:

**Prior to the flashover,** its development is limited by acting on building materials', furniture's and coatings' flammability and on the way these contribute to fire.  
Key factor: reaction to fire.

**3. DEVELOPMENT:** All combustibles at the premises are burned. The fire's maximum temperature is reached.

**4. DECLINE:** This is where the temperature drops for lack of combustible (used up) or oxygen or the absence of a chain reaction.

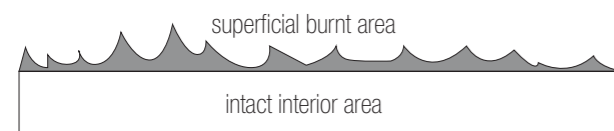
**After the flashover,** the strategy focuses on delimiting the dimensions of the fire (compartmentalising) and protecting the structure to prevent its collapse.  
Key factor: fire resistance.

## HOW DOES WOOD BEHAVE WHEN THERE IS FIRE?

Fire behaviour and the stability of the structure with increased temperature will, to a large extent, depend on the material used for building it.

When a fire starts, wood's low thermal conductivity causes combustion to develop only on the surface.

The charred layer acts as insulation, protecting the inner layers, keeping them at a lower temperature and preserving their mechanical properties. Wood is considered to have **good fire behaviour in a fire at the full development stage.**



### COMPARISON TO OTHER MATERIALS

#### STEEL

A non-combustible material but with little stability against fire, which starts to lose its resistance and become deformed at high temperatures, despite being a very good conductor of heat.



#### CONCRETE

Its resistance will mainly depend on the behaviour of the steel frame.



## REACTION TO FIRE

Reaction to fire tests the ability of a given material to promote the development of the fire, by measuring properties such as flame propagation, heat emission, smoke production and flaming droplets.

### EUROCLASSES

Building products shall be classified according to Euroclasses, as per standard EN 13501-1 + A1 regarding the "classification of the reaction to fire of building materials".

#### Nomenclature

# B<sub>fi</sub> - s2, d0

d (*droplets*): falling flaming droplets/particles.

s (*smoke*): smoke production. In the case of flooring, only this factor is considered.

The capital letter represents the contribution towards fire and is the main part of the classification.

The subscript fl (*floor*) is included when its end purpose is flooring.

#### Classification according to standard EN 13501-1+A1

	COMBUSTIBILITY	FINAL APPLICATION		COMBUSTIBLE	CONTRIBUTION TOWARDS FIRE	
		Walls Ceilings	Flooring			
MAIN CLASSIFICATION	A1	A1	A1 <sub>fl</sub>	NO	NO	To the highest degree
	A2	A2	A2 <sub>fl</sub>	NO	NO	To a lesser degree (flame duration < 20s)
	B	B	B <sub>fl</sub>	YES	YES	Very limited
	C	C	C <sub>fl</sub>	YES	YES	Limited
	D	D	D <sub>fl</sub>	YES	YES	Medium
	E	E	E <sub>fl</sub>	YES	YES	High
	F	F	F <sub>fl</sub>	Not classified		

ADDITIONAL CLASSIFICATIONS	SMOKE PRODUCTION	s1	Low speed and amount
		s2	Medium speed and amount
s3	High speed and amount		
FLAMING DROPLETS / PARTICLES	d0	d0	No production of droplets
		d1	No production of droplets t > 10s
		d2	Not classified

### TESTS

The addition of fire-retardant products enables improved reaction to fire, as the boards are tested and classified by accredited laboratories and they bear the CE marking, which is valid in any European Union country. Materials are classified according to their final application, as different tests will be conducted depending on the target classification. For materials catalogued as combustible (B, C and D):

#### On walls and ceilings:

SBI (*Single Burning Item*) method according to standard EN 13823, which simulates a fire in a litter bin in the corner of a room.



#### On flooring:

Testing on a radiating panel according to standard EN ISO 9239-1, where the coating is submitted to the action of a heat panel and to that of flames at one end of the flooring.

Wood-based boards can be classified without the need for testing, as per Decision 2007/348/CE, according to the product type, end use conditions, minimum density and thickness, as shown in the following example:

Product	EN Standard	End use conditions	Minimum density (kg/m <sup>3</sup> )	Minimum thickness (mm)	Class (except flooring)	Class (flooring)
MDF	EN 622-5	With an air gap confined behind the wood board	600	15	D-s2, d0	D <sub>fl</sub> -s1

## FIRE RESISTANCE

Fire resistance measures the capacity of a building element to maintain its supporting function when a fire develops, as well as its integrity and/or thermal insulation during a given period of time.

This is a property of end building elements, and so, to determine this, testing is conducted on the entire set, which is classified according to standard EN 13501-2, by exposing the building element to rising temperatures over time.

### Nomenclature

**R: Resistance**, referring to maintenance of structural stability.

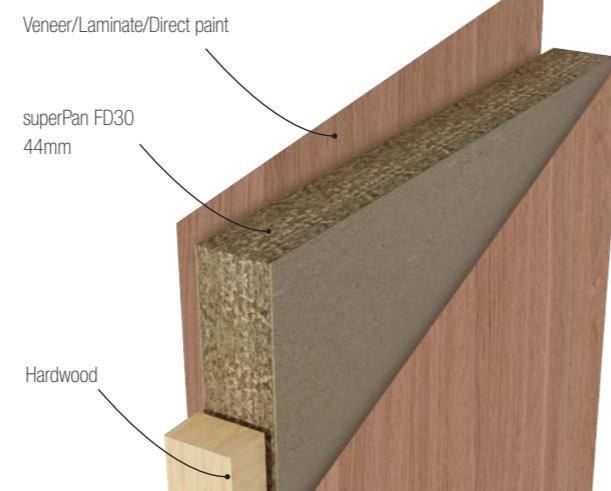
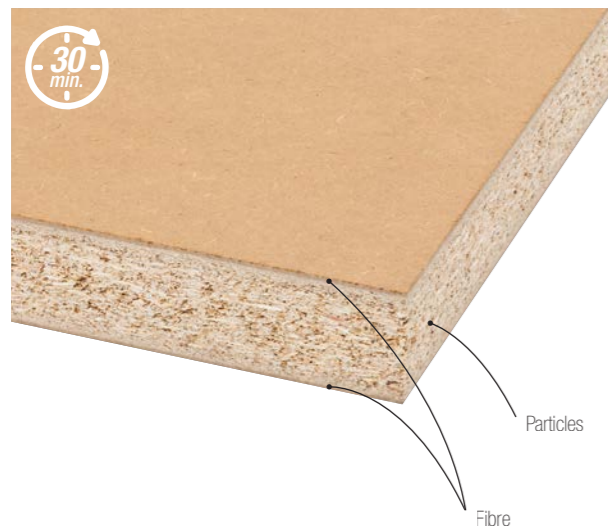
**REI t** — **t: Standardised time scale** expressed in min. e.g.: REI 60, if the element retains said functions (REI) for 60 min.

**I: Insulation** of a building element with a separating function, preventing fire from spreading through excessive heating of the non-exposed area.

**E: Integrity** of a building element with a separating function, to prevent flames or hot gases from entering the non-exposed area or adjacent materials.

## superPan FD30 44mm

...this is an exclusive FINSA board, developed for manufacturing doors certified to be fire-resistant for 30 min, according to British Standard BS 476 part 22.



## BUILDING REGULATIONS

Local construction regulations establish the minimum parameters of behaviour of materials and construction elements in situations of fire.

The legislation for each country:

### UK

Building Regulations, Approved Documents B (Fire Safety)  
Volume 1: dwelling houses  
Volume 2: buildings other than dwellinghouses

### IRELAND

Building Regulations  
Technical Guidance Document B  
FIRE SAFETY



## LIFT STANDARDS

From 31st August 2017, all newly installed lifts shall comply with standards EN 81-20 and EN 81-50, which set forth safety regulations regarding the construction and installation of lifts, basic design requirements, and those pertaining to inspections and testing of their components.

These harmonised standards introduce important developments in terms of accessibility and safety for passengers and maintenance workers. These include introduction and compliance with the following minimum requirements for classifying reaction to fire of finishings inside the cabin, according to standard EN 13501-1, given its field of use:

FINAL APPLICATION	EUROCLASS
Flooring	C <sub>1</sub> -s2
Walls	C-s2, d1
Ceilings	C-s2, d0



## U.S. STANDARD

Testing method ASTM E-84 (Standard test method for surface burning characteristics of building materials) enables evaluating how building materials contribute to fire, according to the U.S. standard. This method is primarily based on determining the Flame-spread to describe the material surface's contribution to the fire, which allows establishing a three-level classification:

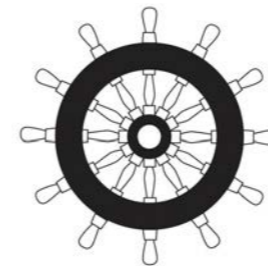
CLASSES	FLAME SPREAD	SMOKE DEVELOPED
A	0-25	0-450
B	26-75	0-450
C	76-200	0-450

FIBRAPAN IGN A E-Z fire-retardant fibreboard has been especially developed to meet U.S. market needs, as it is suited for projects and applications where said regulation against fire is required.

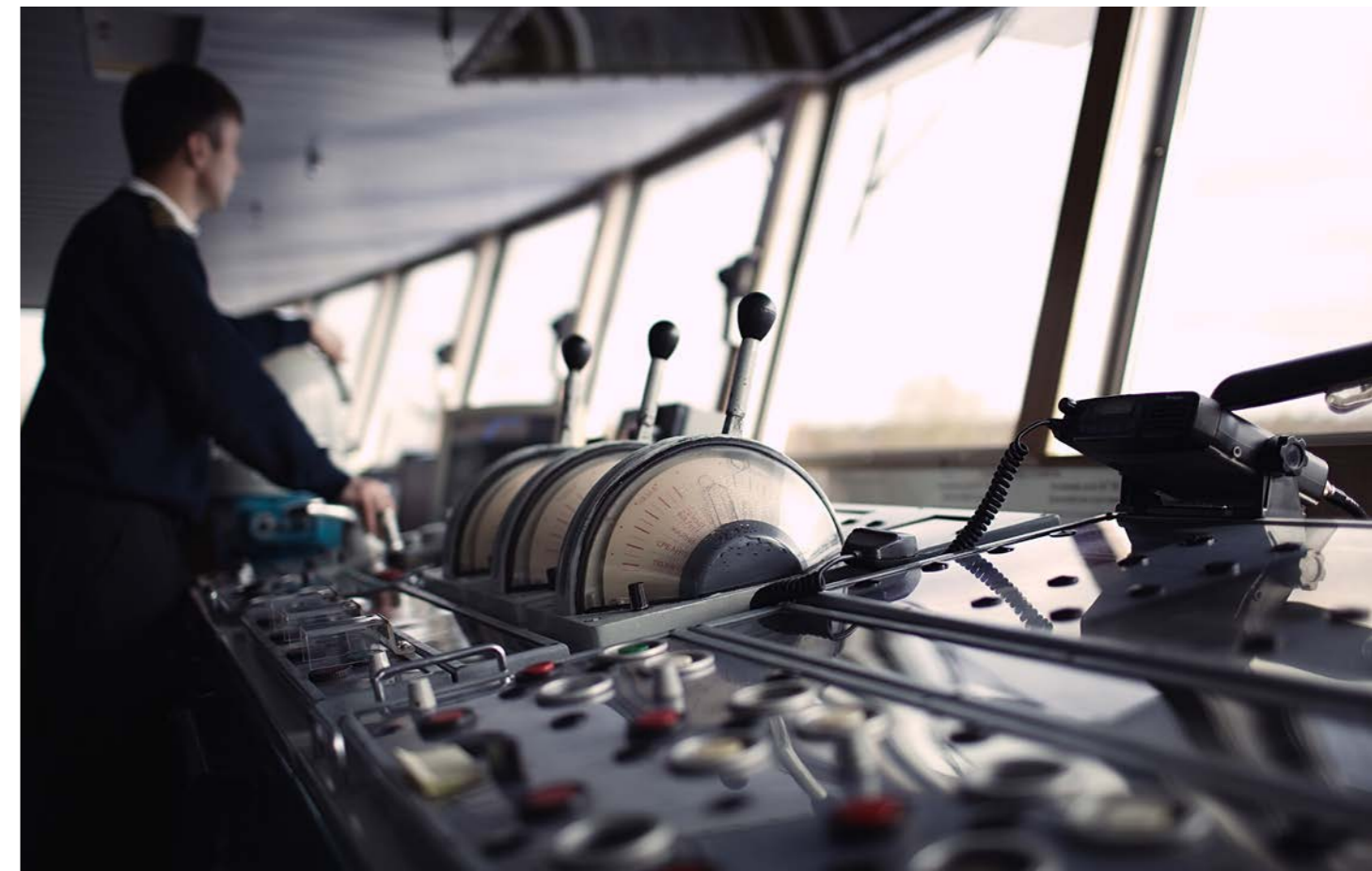
## SPECIFIC CERTIFICATIONS FOR NAVAL SHIPPING

Materials intended for shipbuilding or ship repairs and vessel equipment shall meet a set of minimum safety requirements set forth in the **International Convention for Safety of Life at Sea (SOLAS)**, adopted by the International Maritime Organisation (*IMO*). Therefore, the materials shall be tested in order to evaluate how they respond to fire, according to their type and end use.

The *Wheelmark* brand sets forth Finsa's conformity with Directive 2014/90/EU on Marine Equipment (*Marine Equipment Directive or MED*).



The Finsa Range includes products bearing the Wheelmark brand, such as FIBRAPAN HID IGN E-Z, products specifically certified for use by naval material suppliers in shipbuilding.





# PROJECTS AND IDEAS

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For more information, please visit the Works and Projects section of our official website [www.finsa.com](http://www.finsa.com)

 FIND OUT MORE  
USES OF  
FIRE-RETARDANT BOARDS

Tatel Restaurant  
Designer: ILMIODESIGN



**Durango Station, commercial area**

Designer: GLM proyectos

Location: Durango

Product: Fire-retardant Fimaplast Joplin Oak Deep pore

Applications: Ceilings panels



**Proyecto Español Language School**

Designer: Ángel Cremades (Antioquia Diseño)

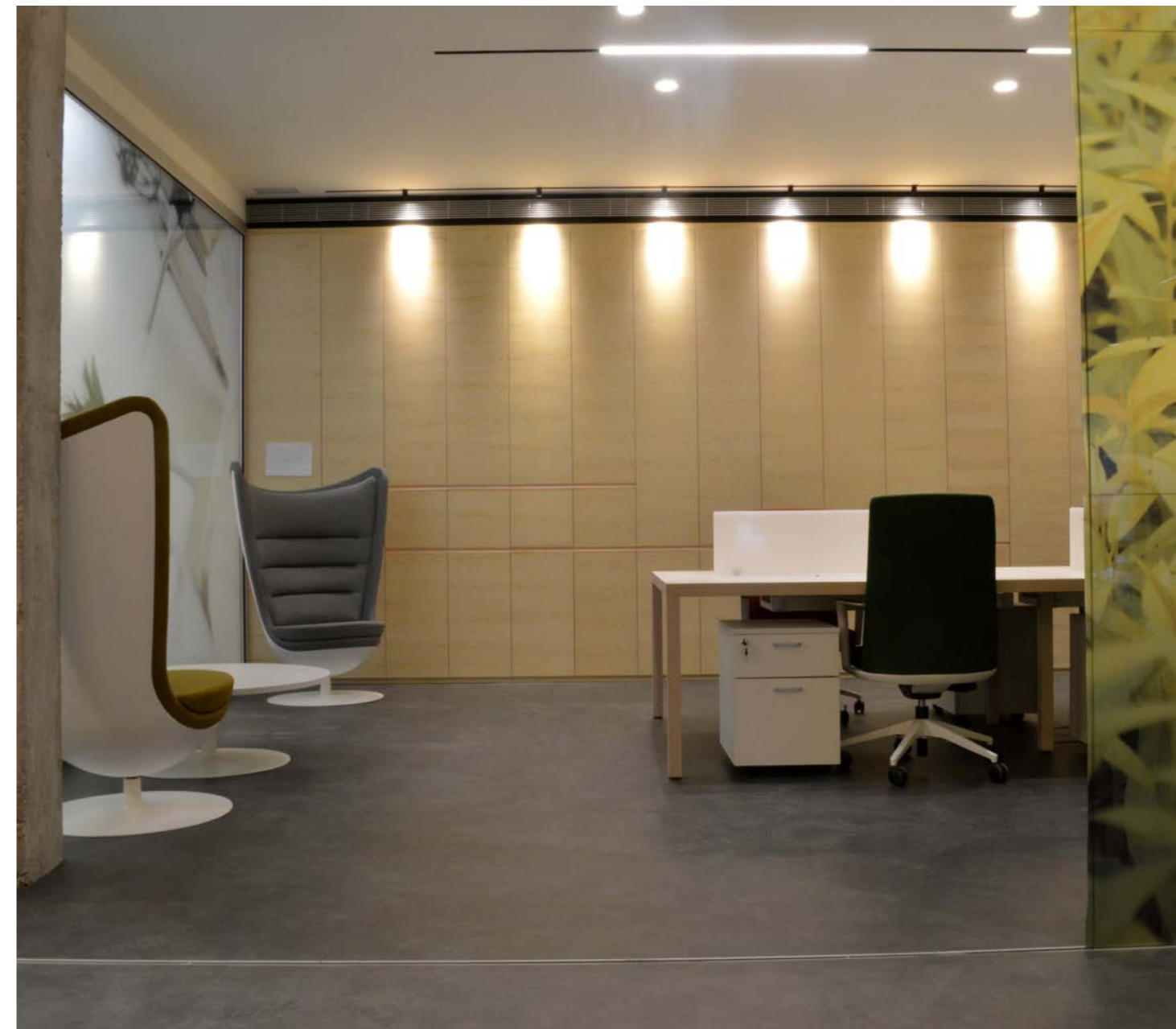
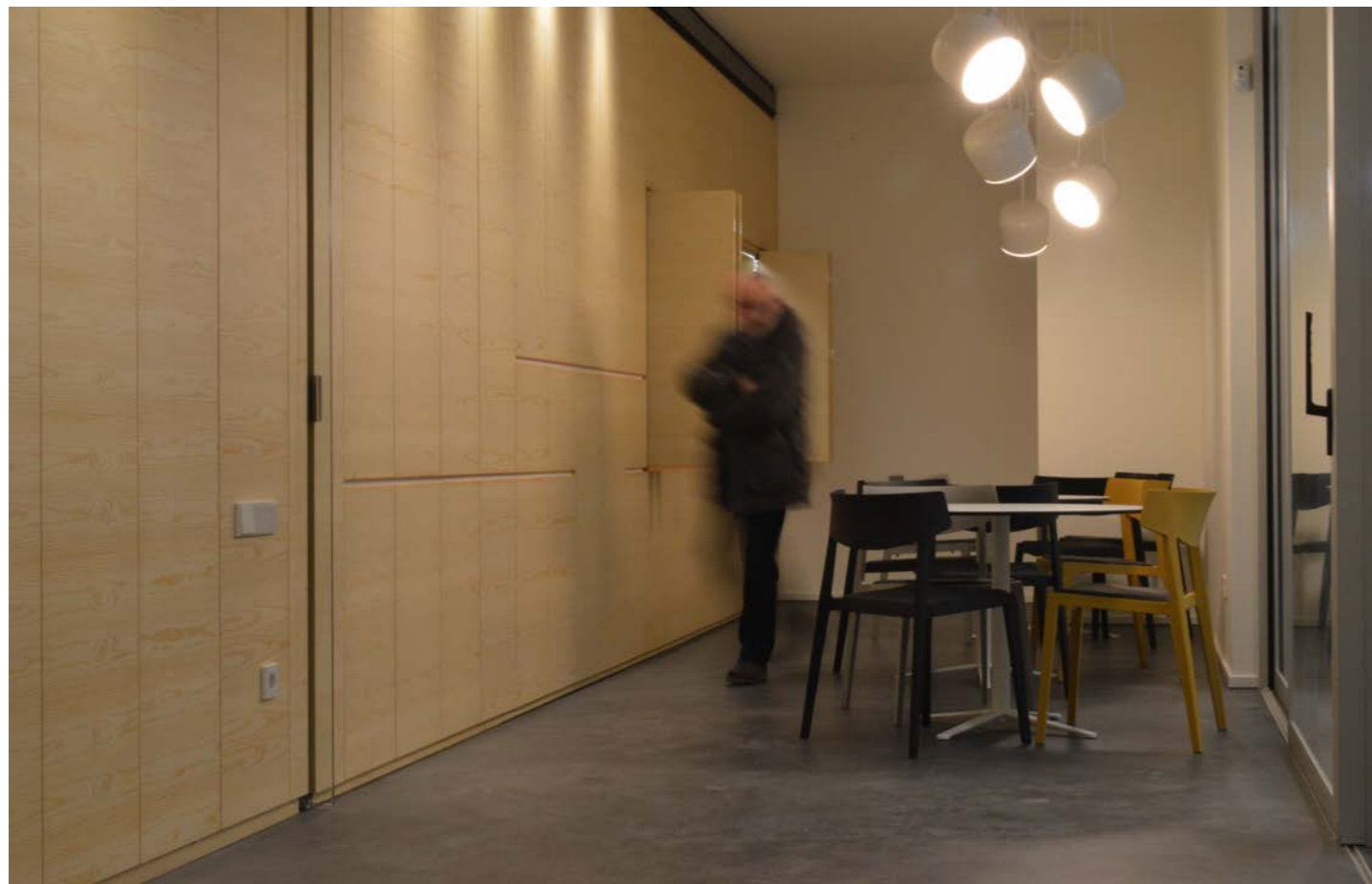
Location: Alicante

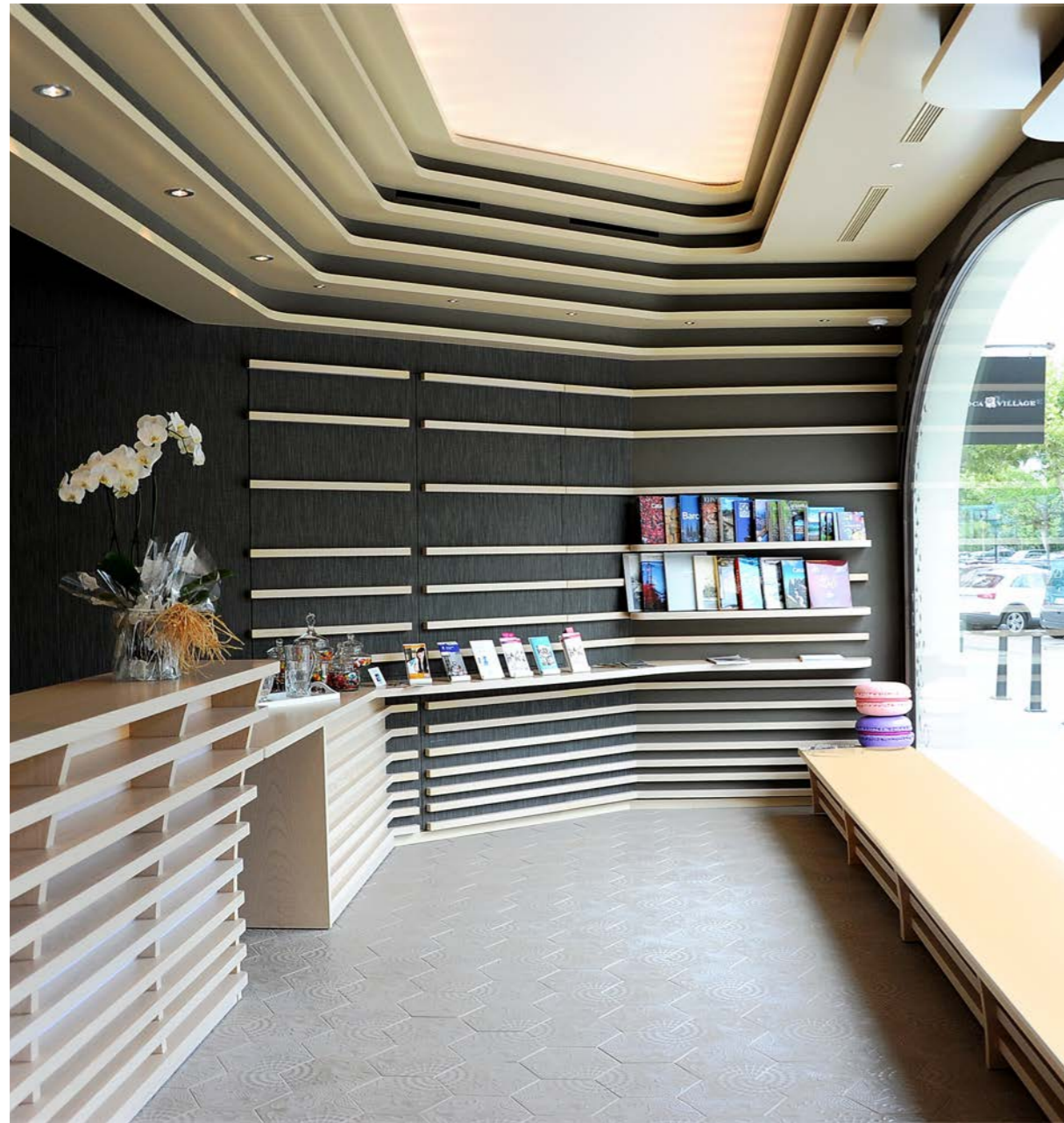
Product: Mediland M1 and Fimapan IGN

Applications: Ceilings, furniture and door frames



**Agromillora Catalana S.A. Offices**  
Designer: Francisco Mestre Jordá  
Location: Valencia  
Product: Fimanatur IGN Pino (Pine)  
Applications: Ceilings, panels and cabinets





**New Tourism Information Center**

Designer: 2jg-architects & Verum Hotel Development // Realizamos tu proyecto, S.L. (AXC Projects)  
 Location: La Roca Village, Barcelona  
 Product: Fire-retardant Fibrapan with fire-retardant lacquer  
 Application: Ceiling



**Tatel Restaurant**

Designer: ILMIODESIGN  
 Location: Madrid  
 Product: Mediland M1 and Fibratur IGN  
 Applications: Coating, ceilings, columns and walls



**Index Showroom**

Designer: Index

Location: Madrid

Product: Veneer, Compacmel Plus, Fenix, Vinyl and laminated flooring, various melamine designs.

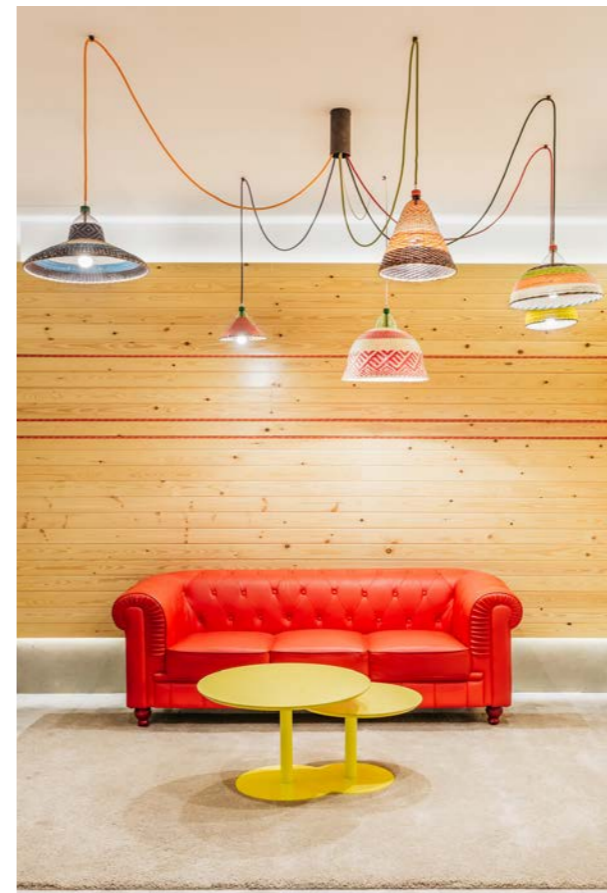
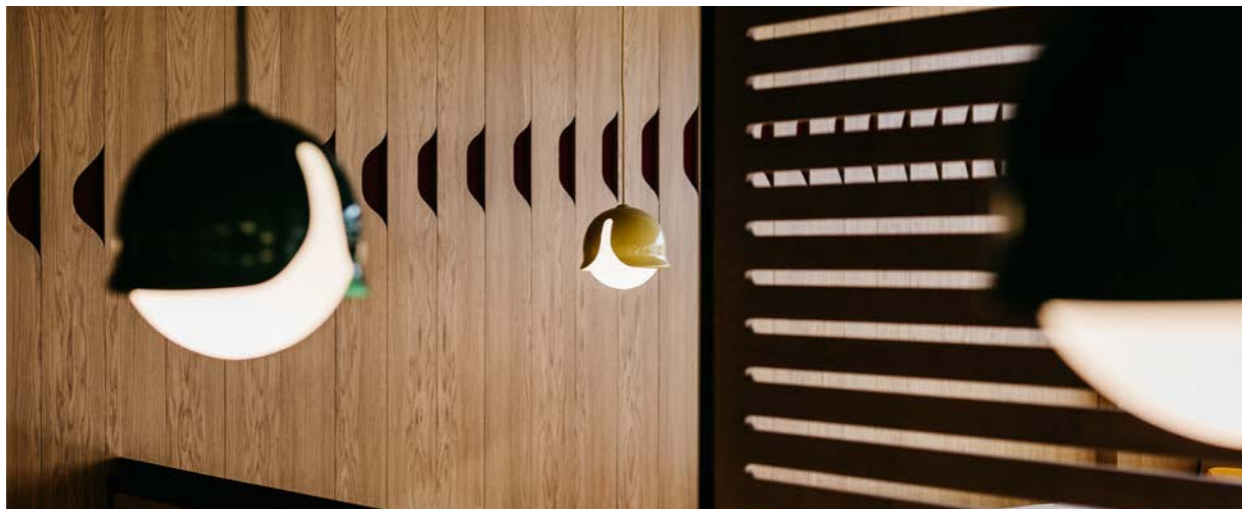
Applications: Coating, flooring and furniture.



**Dental Clinic**  
 Designer: Jaime Sepulcre  
 Location: Valencia  
 Product: Finfloor Dálmata Gaia Oak  
 Applications: Flooring



**C.C. Vialia Málaga (shopping centre)**  
 Designer: Broadway Malyan  
 Location: Málaga  
 Product: Fire-retardant Fimaplast with Denver Oak Melamine  
 Application: Ceiling slats



**Coca-Cola Offices**  
 Designer: Tetris & Stone Designs  
 Location: Madrid  
 Product: Fire-retardant Fibrplast, Aurora Oak and Rustic Oak  
 Application: Panelling and furniture.



# RANGES, QUALITIES AND APPLICATIONS


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32 FINSA FIRE-RETARDANT SOLUTIONS

33 APPLICATIONS

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For more information, please visit our website: [www.finsa.com](http://www.finsa.com)

 CHECK OUT THE  
CLASSIFICATION OF  
OUR BOARDS



# FINSA FIRE-RETARDANT SOLUTIONS



BOARDS						
TYPE	PRODUCT	ADDITIONAL PROPERTIES	CLASSIFICATION			
			EU			U.S.
			B-s1, d0	B-s2, d0	C-s1, d0	A
<b>Baseboard</b>						
PARTICLE BOARD	FIMAPAN FR			8-40 mm		
MDF	FIBRANOR / FIBRAPAN / IBERPAN FR		10-30 mm	3-<10 mm		
	MEDILAND M1			>30-50 mm		
	FIBRAPAN FR C			10-40 mm		
	FIBRAPAN FR A			10-30 mm		10-30 mm
	FIBRAPAN LIT FR			10-30 mm		
	FIBRAPAN FR E-Z			10-30 mm		
	FIBRAPAN FR E-Z A			10-30mm		10-30mm
	FIBRANOR/FIBRAPAN FR NAF			5-18 mm		
	FIBRAPAN MR FR E-Z			10-22 mm		
	FIBRACOLOUR BLACK FR			10-19 mm		
	COMPAC PLUS FR			8-13 mm		
SUPERPAN	SUPERPAN FR		12-44 mm	8-<12 mm		
	SUPERPAN TECH P4 FR		12-44 mm	8-<12 mm		
<b>with Melamine</b>						
PARTICLE BOARD	FIMAPLAST FR		10-40 mm			
MDF	FIBRAPLAST FR		10-30 mm			
	FIBRAPLAST FR E-Z		10-30 mm			
	COMPACMEL PLUS FR			8-13 mm		
SUPERPAN	SUPERPAN DECOR FR		8-44 mm			
	SUPERPAN TECH P4 DECOR FR		8-44 mm			
PHENOLIC COMPACT	COMPACFEN			6 & 12 mm		
<b>FLOORING</b>						
TYPE	RANGE/PRODUCT	PROPERTIES	EU CLASSIFICATION			
LAMINATE FLOORING	FINFLOOR	(see page 37)	B <sub>fl</sub> -s1			
TECHNICAL FLOORING FOR MEZZANINES	SUPERPAN TECH P6 DECOR 38mm GREY   Anti-slip		B <sub>fl</sub> -s1			
	SUPERPAN TECH P4 FR		B <sub>fl</sub> -s1			
	SUPERPAN TECH P4 DECOR FR		B <sub>fl</sub> -s1			

# APPLICATIONS

The broad range of FINSA Fire-retardant Solutions enables responding to the most demanding projects while covering numerous applications, where regulations call for proper behaviour in the presence of fire.

We will guide you in your quest for the best solution for every application.

Please contact our sales network for the offer and service available for every product or range, or visit our website: [www.finsa.com](http://www.finsa.com) for more information.

- Type/Range
- Fire Retardant
- Compact
- Light
- - - With melamine
- Naval
- NAF
- Moisture Resistant
- CARB2
- Decorative colouring
- Structural

## STRUCTURAL APPLICATIONS



These boards combine, in the same product, the properties of structural boards with those of fire-retardant boards.

This is especially recommended for use in office mezzanines, where fire-resistant requirements have to be combined with structural properties. The boards can also be used for mezzanine flooring and shelving, or whenever the designer requires greater reaction to fire, thereby attaining B-s1, d0 and B<sub>fl</sub>-s1 certification.

They can be combined with a broad range of melamine designs and finishings, and so they also provide a decorative solution for your project.



SuperPan Tech P6 Decor is a suitable material for applications in mezzanines and industrial shelving with a wide range of decors and with an anti-slip finish. They come with the B<sub>fl</sub>-s1 certification, for projects calling for improved reaction to fire.



# INDUSTRIAL APPLICATIONS

Within the range of fire-resistant boards, industrial customers can select the quality most suited to their needs. Baseboards for lacquering, painting, covering with veneer and laminate, or the use of other finishings along with certified decorative boards. Special-interest offers in industrial carpentry specialising in coating for ceilings and walls, as well as acoustic solutions, among others.



Service is key in every project, as this factor takes on greater relevance in projects requiring materials with fire-retardant certification. FINSA has special baseboards in stock providing swift service.

Please contact our sales network or visit our website for more information on the types and references included in our offer.



## INDUSTRIAL APPLICATIONS (\*)

<b>Baseboard</b>						
PARTICLE BOARD	FIMAPAN FR		•		•	
MDF	FIBRAPAN FR	•		•	•	•
	MEDILAND M1	•		•	•	•
	FIBRAPAN FR E-Z	•		•	•	•
	FIBRAPAN FR NAF	•		•	•	
	FIBRAPAN MR FR E-Z	•		•	•	•
	FIBRACOLOUR BLACK FR	•	•	•	•	•
	COMPAC PLUS FR	•		•	•	•
SUPERPAN	SUPERPAN FR	•	•		•	
<b>with Melamine</b>						
PARTICLE BOARD	FIMAPLAST FR	•	•			
MDF	FIBRAPLAST FR	•		•		•
	FIBRAPLAST FR E-Z	•		•		•
	COMPACMEL PLUS FR	•		•		•
SUPERPAN	SUPERPAN FR DECOR	•	•			

Panels    Screens    Acoustic walls and ceilings    Coating baseboard    Surface machine work

(\*) Orientation guidelines.



## DECORATIVE APPLICATIONS

The selection of FINSA decorative applications allows perfectly combining technique with design and the latest trends:

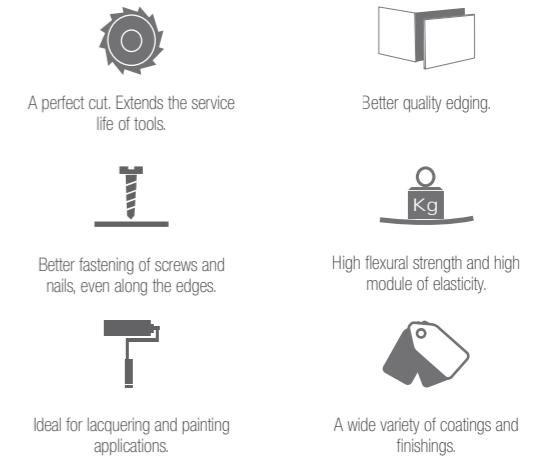


## superPan DECOR FR

superPan is FINSA's innovative and exclusive board, which combines the main advantages of MDF and particle board. This consists of a multi-layered structure made up of a interior of particles with two outer wood fiber faces, bonded with synthetic resins under pressure and heat, while improving the boards' physical and mechanical properties, making them more versatile and suited to multiple applications.

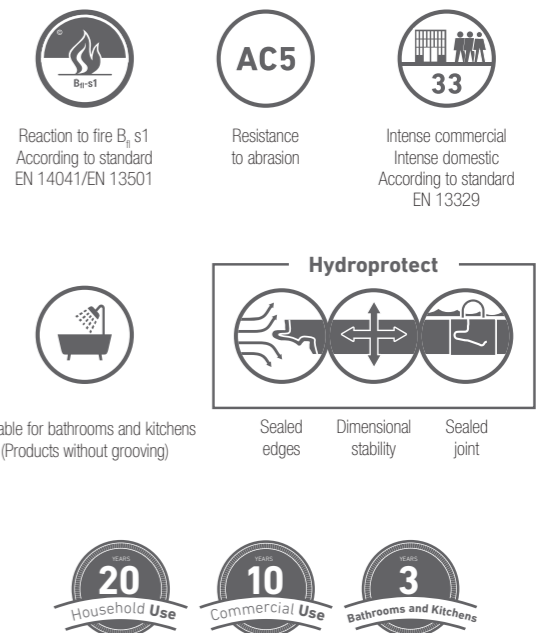


**PATENTED**  
#byFinsa



## FINfloor

In any interior design project, the flooring is the key element, as it will shape a space's personality and character. Functionality, personalisation and well-being are some of the essential criteria that Finsa projects in its ranges of flooring, thus comprising an invaluable aid to professionals thanks to its variety and versatility. With FINfloor, not only will you have at your disposal a wide range of designs, but you will be assured of having chosen high-quality flooring: resistant, with all the benefits of installation, maintenance and durability.

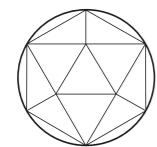


For more information, visit:



[www.finfloor.com](http://www.finfloor.com)

\*the warranty for commercial uses is 5 years if the product is grooved.  
\*the warranty for bathroom and kitchen uses is limited to household installations and non-grooved products.



•GAMA DUO•

Derive inspiration from the DUO Range, designed to fit any style and trend, combining baseboards, textures and colours. Explore every possibility, and we will help you infuse your space with character and identity.



[www.finsa.com](http://www.finsa.com)



STUDIO  
NATUR

Finsa also makes it possible to cover its broad range of baseboards with other decorative ideas, including the option of veneers. Wood veneers add naturalness and warmth to your decorative project, and we offer a broad range of veneers while providing our assistance during the creation stage to bring your idea to life.



# TECHNICAL INFORMATION

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40 GENERAL RECOMMENDATIONS

42 TECHNICAL DATA SHEETS (DoP)

50 CERTIFICATIONS

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This technical information is merely indicative. Due to continuous product development, as well as that of the standards by which products are governed, some parameters may change.

For more information, please visit the website: [www.finsa.com](http://www.finsa.com)

 DOWNLOAD THE  
COMPLETE TECHNICAL  
DATA SHEETS

# GENERAL RECOMMENDATIONS

## FIRE-RETARDANT BOARDS

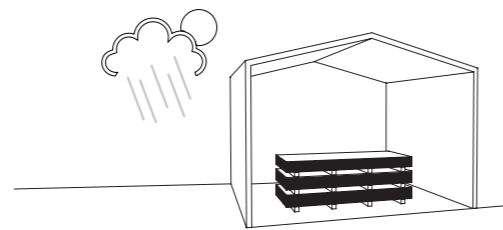
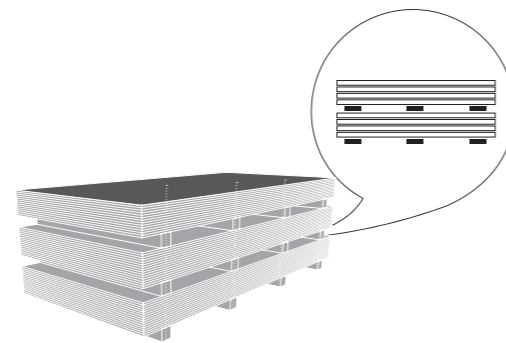
Storage is especially critical, and so it is very important to keep the original packaging or one that is very similar, to avoid moist environments, so that all physical and mechanical properties can be preserved.

## STORAGE AND CONDITIONING RECOMMENDATIONS

### STORAGE

It should be stored in closed, ventilated, dry storage rooms, protected from sun, rain, frost and chemical splashes, in compact stacks. Packages shall be placed on a flat, level surface, and boards shall remain packaged in similar conditions to those of the original packaging, in order to properly retain their properties.

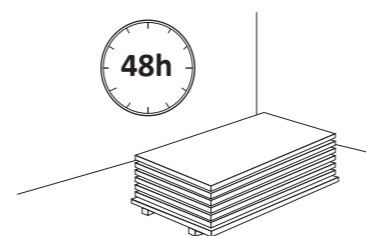
When packages are stacked, it is recommended that the runners be aligned vertically to prevent warping. Prevent boards from being subject to different humidity and temperature conditions on each of their sides.



### CONDITIONING

Wood and all wooden boards, given their hygroscopic properties, capture and release moisture to surrounding environment, depending on the temperature and humidity of such environment, causing dimensional variations. Preconditioning of boards is recommended.

Before installation, it is recommended to let them get adapted to the environment for at least 2 days before use. In case of on-site use (coatings, etc.), the boards must be stabilised at the installation site, in order to achieve balance and minimise dimensional variations once installed.



## HANDLING AND CLEANING RECOMMENDATIONS FOR MELAMINE-FACED BOARDS

### HANDLING

The product shall be handled with the proper care, while avoiding hard abrasions between the faces that can produce damage to the decorative surface.



### CLEANING

The product may be cleaned with a damp cloth and a neutral cleaning agent in small doses. Abrasive elements and excessively acidic or alkaline solutions should be avoided. Prolonged exposure to wet surfaces and/or direct contact with water should be avoided.



# TECHNICAL DATA SHEETS

## FIMAPAN FR

TEST	PROPERTY	THICKNESS (mm)					UNITS
		8/13	>13/20	>20/25	>25/32	>32/40	
EN 323	Density (*)	740	710	695	675	660	kg/m <sup>3</sup>
EN 319	Internal bond	0.28	0.24	0.20	0.17	0.14	N/mm <sup>2</sup>
EN 310	Bending strength	10.5	10	10	8.5	7	N/mm <sup>2</sup>
EN 317	Swelling in water at 24 hours	≤6	≤6	≤6	≤6	≤6	%
EN 322	Moisture content	7±3	7±3	7±3	7±3	7±3	%
EN 13501-1	Reaction to fire	B-s2, d0	B-s2, d0	B-s2, d0	B-s2, d0	B-s2, d0	Euroclass

(\*) This information is merely indicative.

This product complies with the Class E1 requirements (tested according to standard EN 12460-5), as set forth under European Standard EN 312:2010.

### FIMAPLAST FR

Reaction to fire classification: B-s1, d0 (thicknesses: 10 to 40mm), according to standard EN 13501-1.

## FIBRANOR FR / FIBRAPAN FR / IBERPAN FR

TEST	PROPERTY	THICKNESS (mm)										UNITSS
		3/4	>4/60	>6/<7	7/9	>9/<10	10/12	>12/19	>19/30	>30/45	>45/50	
EN 323	Density (*)	890/880	870/850	840/830	840/830	820/800	830/790	790/770	760/740	760/720	720/680	kg/m <sup>3</sup>
EN 319	Internal bond	0.65	0.65	0.65	0.65	0.60	0.60	0.55	0.55	0.50	0.50	N/mm <sup>2</sup>
EN 310	Bending strength	23	23	23	22	20	22	20	18	17	15	N/mm <sup>2</sup>
EN 310	Modulus of elasticity	2700	2700	2700	2700	2500	2500	2200	2100	1900	1700	N/mm <sup>2</sup>
EN 317	Swelling in water at 24 hours	35	30	17	17	15	15	12	10	8	6	%
EN 322	Moisture content	7±3	7±3	7±3	7±3	7±3	7±3	7±3	7±3	7±3	7±3	%
EN 13501-1	Reaction to fire	B-s2, d0	B-s2, d0	B-s2, d0	B-s2, d0	B-s2, d0	B-s1, d0	B-s1, d0	B-s1, d0	B-s2, d0	B-s2, d0	Euroclass

(\*) This information is merely indicative.

These physical and mechanical values meet/improve standard EN 622-5:2009, Table 3. -Requirements for boards used in dry environments (MDF Type).

This product complies with the Class E1 requirements (tested according to standard EN ISO 12460-5), as set forth under European Standard EN 622-1:2003.

### FIBRAPLAST FR

Reaction to fire classification, B-s1, d0 (thicknesses: 10 a 30 mm), according to standard EN 13501-1.

## FIBRAPAN LIT FR

TEST	PROPERTY	THICKNESS (mm)			UNITS
		10/12	>12/19	>19/30	
EN 323	Density (*)	630	600	600	kg/m <sup>3</sup>
EN 319	Internal bond	0.45	0.45	0.45	N/mm <sup>2</sup>
EN 310	Bending strength	20	18	15	N/mm <sup>2</sup>
EN 310	Modulus of elasticity	1700	1600	1500	N/mm <sup>2</sup>
EN 317	Swelling in water at 24 hours	16	14	12	%
EN 322	Moisture content	7±3	7±3	7±3	%
EN 13501-1	Reaction to fire	B-s2, d0	B-s2, d0	B-s2, d0	Euroclass

(\*) This information is merely indicative.

These physical and mechanical values meet/improve standard EN 622-5:2009, Table 7. -Requirements for light MDF boards used in dry environments (L-MDF Type).

This product complies with the Class E1 requirements (tested according to standard EN ISO 12460-5), as set forth under European Standard EN 622-1:2003.

## MEDILAND M1

TEST	PROPERTY	THICKNESS (mm)				UNITS
		10/12	>12/19	>19/30	>30/40	
EN 323	Density (*)	760/750	750/720	710/700	700/675	kg/m <sup>3</sup>
EN 319	Internal bond	0.60	0.55	0.55	0.50	N/mm <sup>2</sup>
EN 310	Bending strength	22	20	18	17	N/mm <sup>2</sup>
EN 310	Modulus of elasticity	2500	2200	2100	1900	N/mm <sup>2</sup>
EN 317	Swelling in water at 24 hours	15	12	10	8	%
EN 322	Moisture content	7±3	7±3	7±3	7±3	%
EN 13501-1	Reaction to fire	B-s2, d0	B-s2, d0	B-s2, d0	B-s2, d0	Euroclass

(\*) This information is merely indicative.

These physical and mechanical values meet/improve the values set forth in European Standard EN 622-5:2009, Table 3. -Requirements for boards used in dry environments (MDF Type).

This product complies with the Class E1 requirements (tested according to standard EN ISO 12460-5), as set forth under European Standard EN 622-1:2003.

# TECHNICAL DATA SHEETS

## FIBRAPAN FR E-Z



TEST	PROPERTY	THICKNESS (mm)			UNITS
		10/12	>12/19	>19/30	
EN 323	Density (*)	830/790	790/770	770/740	kg/m <sup>3</sup>
EN 319	Internal bond	0.60	0.55	0.55	N/mm <sup>2</sup>
EN 310	Bending strength	22	20	18	N/mm <sup>2</sup>
EN 310	Modulus of elasticity	2500	2200	2100	N/mm <sup>2</sup>
EN 317	Swelling in water at 24 hours	15	12	10	%
EN 322	Moisture content	7±3	7±3	7±3	%
EN 13501-1	Reaction to fire	B-s1, d0	B-s1, d0	B-s1, d0	Euroclass

(\*) This information is merely indicative.  
These physical and mechanical values meet/improve standard EN 622-5:2009, Table 3. -Requirements for boards used in dry environments (MDF:E1 Type).  
The FIBRAPAN FR E-Z comes with a Certificate of Conformity with phase 2 of low CARB formaldehyde emission.

## FIBRAPLAST FR E-Z

Reaction to fire classification, B-s1, d0 (thicknesses: 10 a 30 mm), according to standard EN 13501-1.

## FIBRAPAN MR FR E-Z



TEST	PROPERTY	THICKNESS (mm)			UNITS
		10/12	>12/19	>19/22	
EN 323	Density (*)	840/830	820/810	810/790	kg/m <sup>3</sup>
EN 319	Internal bond	0.80	0.75	0.75	N/mm <sup>2</sup>
EN 310	Bending strength	26	24	22	N/mm <sup>2</sup>
EN 310	Modulus of elasticity	2500	2400	2300	N/mm <sup>2</sup>
EN 317	Swelling in water at 24 hours	10	8	7	%
EN 322	Moisture content	7±3	7±3	7±3	%
EN 13501-1	Reaction to fire	B-s1, d0	B-s1, d0	B-s1, d0	Euroclass

(\*) This information is merely indicative.  
These physical and mechanical values comply with the values set forth in European Standard EN 622-5:2009, Table 4, Option 1. Requirements for boards for general use in humid environments (Type MDF:H).  
The FIBRAPAN MR FR E-Z comes with a Certificate of Conformity with phase 2 of Formaldehyde CARB emission, as issued by AIDIMA (TPC-15)

## FIBRANOR FR NAF / FIBRAPAN FR NAF



TEST	PROPERTY	THICKNESS (mm)				UNITS
		5/≤7	7/9	>9/12	>12/18	
EN 323	Density (*)	870	870/860	860/850	850/840	kg/m <sup>3</sup>
EN 319	Internal bond	0.65	0.65	0.60	0.55	N/mm <sup>2</sup>
EN 310	Bending strength	23	23	22	20	N/mm <sup>2</sup>
EN 310	Modulus of elasticity	2700	2700	2500	2200	N/mm <sup>2</sup>
EN 317	Swelling in water at 24 hours	30	17	15	12	%
EN 322	Moisture content	7±3	7±3	7±3	7±3	%
EN 13501-1	Reaction to fire	B-s1, d0	B-s1, d0	B-s1, d0	B-s1, d0	Euroclass

(\*) This information is merely indicative.  
These physical and mechanical values meet/improve standard EN 622-5:2009, Table 3. -Requirements for boards used in dry environments (MDF Type).  
Formaldehyde-free resins are used in manufacturing the FIBRAPAN FR NAF.

## FIBRACOLOUR BLACK FR

TEST	PROPERTY	THICKNESS (mm)		UNITS
		10/12	>12/19	
EN 323	Density (*)	860/820	800/780	kg/m <sup>3</sup>
EN 319	Internal bond	0.60	0.55	N/mm <sup>2</sup>
EN 310	Bending strength	22	20	N/mm <sup>2</sup>
EN 310	Modulus of elasticity	2500	2200	N/mm <sup>2</sup>
EN 317	Swelling in water at 24 hours	15	12	%
EN 322	Moisture content	7±3	7±3	%
EN 13501-1	Reaction to fire	B-s2, d0	B-s2, d0	Euroclass

(\*) This information is merely indicative.  
These physical and mechanical values meet/improve the values set forth in European Standard EN 622-5:2009, Table 3: Requirements for boards used in dry environments.  
This product complies with the Class E1 requirements (EN ISO 12460-5), as set forth under European Standard EN 622-1:2003.

# TECHNICAL DATA SHEETS

## COMPAC PLUS FR

TEST	PROPERTY	THICKNESS (mm)		UNITS
		8/12	>12/13	
EN 323	Density (*)	1050	1050	kg/m <sup>3</sup>
EN 319	Internal bond	1.8	1.8	N/mm <sup>2</sup>
EN 310	Bending strength	45	45	N/mm <sup>2</sup>
EN 310	Modulus of elasticity	4000	4000	N/mm <sup>2</sup>
EN 317	Swelling in water at 24 hours	8	6	%
EN 322	Moisture content	7±3	7±3	%
EN 13501-1	Reaction to fire	B-s1, d0	B-s1, d0	Euroclass

(\*) This information is merely indicative.  
 These physical and mechanical values meet/improve the values set forth in European Standard EN 622-5:2009, Table 6. "Requirements for structural boards for general use in humid environments (Type MDF.HLS)."  
 FIRE-RETARDANT COMPAC PLUS meets Class E1 requirements (analysed according to EN ISO 12460-5), as set forth in European Standard EN 622-1:2003.

### COMPACMEL PLUS FR

Reaction to fire classification, B-s1, d0 (thicknesses: 8 a 13 mm), according to standard EN 13501-1.  
 The swelling value in H<sub>2</sub>O 24h, according to standard EN 317, is 2%.

## SUPERPAN FR

TEST	PROPERTY	THICKNESS (mm)						UNITS
		8/<12	12/20	>20/25	>25/32	>32/40	>40/44	
EN 323	Density (*)	760/730	730/690	680	660	650	650	kg/m <sup>3</sup>
EN 319	Internal bond	0.40	0.35	0.30	0.25	0.20	0.20	N/mm <sup>2</sup>
EN 310	Bending strength	14	14	13	12	11	10	N/mm <sup>2</sup>
EN 310	Modulus of elasticity	2200	2100	1800	1500	1300	1150	N/mm <sup>2</sup>
EN 317	Swelling in water at 24 hours	6	6	6	6	6	6	%
EN 322	Moisture content	8±3	8±3	8±3	8±3	8±3	8±3	%
EN 13501-1	Reaction to fire	B-s2, d0	B-s1, d0	B-s1, d0	B-s1, d0	B-s1, d0	B-s1, d0	Euroclass

(\*) This information is merely indicative.  
 These physical and mechanical values comply with the P2 classification defined under European standard EN 312:2010, Table 3. -Boards for indoor applications (including furniture) for use in dry environment (Type P2)-Requirements for the specified mechanical properties.  
 This product complies with the Class E1 requirements (tested according to standard EN ISO 12460-5), as set forth under European Standard EN 312:2010.

### SUPERPAN DECOR FR

Reaction to fire classification, B-s1, d0 (thicknesses: 8 a 44 mm), according to standard EN 13501-1.

## SUPERPAN TECH P4 FR

TEST	PROPERTY	THICKNESS (mm)							UNITS
		8/<12	12/13	>13/20	>20/25	>25/32	>32/40	>40/44	
EN 323	Density (*)	760/750	730	690	680	660	650	650	kg/m <sup>3</sup>
EN 319	Internal bond	0.40	0.40	0.35	0.30	0.25	0.20	0.20	N/mm <sup>2</sup>
EN 310	Bending strength	23	23	21	20	19	18	17	N/mm <sup>2</sup>
EN 310	Modulus of elasticity	2900	2900	2800	2500	2200	2100	2000	N/mm <sup>2</sup>
EN 317	Swelling in water at 24 hours	19	16	15	15	15	14	14	%
EN 322	Moisture content	8±3	8±3	8±3	8±3	8±3	8±3	8±3	%
EN 13501-1	Reaction to fire	B-s2, d0	B-s1, d0	B-s1, d0	B-s1, d0	B-s1, d0	B-s1, d0	B-s1, d0	Euroclass

(\*) This information is merely indicative.  
 These physical and mechanical values comply with the P4 classification defined under European standard EN 312:2010, Table 6. -Structural panels used in dry environments (Type P4) - Requirements for the specified mechanical and swelling properties.  
 This product complies with the Class E1 requirements (tested according to standard EN ISO 12460-5), as set forth under European Standard EN 312:2010.

### SUPERPAN TECH P4 DECOR FR

Reaction to fire classification, B-s1, d0 (thicknesses: 8 a 44 mm), according to standard EN 13501-1.

## SUPERPAN TECH P6 DECOR

TEST	PROPERTY	THICKNESS (mm)		UNITS
		>20/25	>32/40	
EN 323	Density (*)	680	650	kg/m <sup>3</sup>
EN 319	Internal bond	0.30	0.20	N/mm <sup>2</sup>
EN 310	Bending strength	20	18	N/mm <sup>2</sup>
EN 310	Modulus of elasticity	2500	2100	N/mm <sup>2</sup>
EN 317	Swelling in water at 24 hours	15	14	%
EN 322	Moisture content	8±3	8±3	%

### COATING PROPERTIES

TEST	PROPERTY	THICKNESS (mm)	UNITS
		38	
EN 438-2	Resistance to abrasion (**)	300	IP número de vueltas
INTERNAL	Porosity	Sin Porosidad	Degree
INTERNAL	Cure grade	5	Degree
EN 14323	Water steam resistance	5	Degree
EN 14323	Resistance to staining	5	Degree
ENV 12633	Slippery resistance on dry surface	>45	Usrv
ENV 12633	Slippery resistance on wet surface	>15	Usrv

(\*) This information is merely indicative.  
 These physical and mechanical values comply with the P6 classification set forth under European standard EN 312:2010, Table 9. -High-performance structural panels used in dry environments (Type P6) - Requirements for the specified mechanical and swelling properties. (Type P4)-Requirements for the specified mechanical and swelling properties.  
 This product complies with the Class E1 requirements (tested according to standard EN ISO 12460-5), as set forth under European Standard EN 622-1:2003.  
 The SUPERPAN TECH P6 DECOR, 38mm, coated on two surfaces, with anti-slip GREY I, applied on flooring, is class Bfl-s1.  
 Any other quality, class D-s2, d0 or Dfl-s1 according to standard EN 13986.



# TECHNICAL DATA SHEETS

## COMPACFEN

TEST	PROPERTY	ATTRIBUTE	SPEC.	UNITS	
EN ISO 1183-1	Density	Density	1350	kg/m <sup>3</sup>	
EN 438-2	Surface wear (abrasion) resistance	Resistance to wear and tear	≥600	Turns	
EN 438-2	Water vapour resistance	Appearance	5	Degree	
EN 438-2	Resistance to dry heat (160 °C)	Appearance	4	Degree	
EN 438-2	Dimensional stability at high temperature	Accumulated dimensional variation	Longitudinal	<0,2	%
			Transversal	<0,4	
EN 438-2	Resistance to impact (from a large-diameter ball)	Fall height	2000	mm	
EN 438-2	Scratch resistance	Strength	3	Degree	
EN 438-2	Stain resistance	Appearance	Groups 1 and 2	5	Degree
			Group 3	4	
EN 438-2	Light fastness (xenon arc)	Contrast	Grayscale	4	Degree
EN ISO 178	Bending module	Load	≥9000	MPa	
EN ISO 178	Flexural strength	Load	≥80	Mpa	
JIS Z 2801	Evaluation of the action of microorganisms	Elimination of bacteria	<99,99	%	
EN 13501-1	Reaction to fire	Contribution towards fire	B-s2, d0	Euroclass	

### TOLERANCE ON NOMINAL DIMENSIONS

TEST	PROPERTY	THICKNESS (mm)		UNITS
		6	12	
EN 438-2:2016	Thickness	±0,40	±0,60	mm
EN 438-2:2016	Length and width	+10 / -0	+10 / -0	mm
EN 438-2:2016	Edge straightness	≤1,5	≤1,5	mm/m
EN 438-2:2016	Squareness	≤1,5	≤1,5	mm/m
EN 438-2:2016	Flatness	≤5,0	≤3,0	mm/m

## LAMINATE FLOORING

PROPERTY	FINFLOOR RANGES			
	STYLE	ORIGINAL	12	SUPREME
Thickness	8mm	8mm	12mm	8mm
Measures	1310x132mm	1200x189mm	1310x189mm	1310x240mm
CLASSIFICATION - USE LEVEL				
Use level, Class	Intense Commercial Intense Domestic Use Class 33			
Abrasion resistance	AC5			
Impact resistance	IC3			
TECHNICAL DATA				
Stain resistance	5 (Groups 1,2)   4 (Group 3)			
Cigarette burn resistance	4			
Determining the simulated effect of a furniture leg	With no visible data for a type 0 leg			
Determining the simulated effect of a wheelchair	No change in appearance or visible data (Standard EN 425) Type W wheels should be used (Standard EN 12529:1998, section 5.4.4.2)			
Swelling in thickness	≤12			
Moisture content when leaving the factory	4-10% Homogeneity between batches: H <sub>max</sub> - H <sub>min</sub> ≤3%			
Appearance, surface defects	Minor surface defects allowed			
Edge sealing (paraffin)	Fully sealed edges for better behaviour in the presence of water			
Electrical behaviour	Compliant with Antistatic Flooring Coating requirements			
Reaction to fire	B <sub>1</sub> -s1			
Coefficient of slipperiness	CLASS 1 ( 15 < Rd < 35 )			
Dynamic friction coefficient of the flooring surface under dry conditions	Class DS (≥0,3)			
Thermal conductivity	0,06 m <sup>2</sup> /K/W FINfloor + Thermo Underlay: 0,26 m <sup>2</sup> /K/W » insulating solution Finfloor + Silent Elite Underlay: 0,127 m <sup>2</sup> /K/W » suitable for radiant heating			



# CERTIFICATIONS

## STANDARDS AND CERTIFICATIONS



### E-Z BOARDS

E-Z boards come with a certificate of conformity with phase 2 of low CARB (California Air Resources Board) formaldehyde emission.



### NAF BOARDS

Certificate guaranteeing that formaldehyde-free resins are used in manufacturing the boards.



### WATER-RESISTANT BOARD

European Standard EN 622-5 Requirements for general-purpose boards in humid environments.

## QUALITY MARKS



CE Marking according to Standard EN 13986 certified by AENOR.



Voluntary quality mark certifying that the boards respond to the regulatory specifications set forth by the Steering Committee for said Seal.

## ENVIRONMENTAL CERTIFICATIONS



The mark of responsible forestry

FSC® certification guarantees the consumer that forest products come from rationally-managed forests, according to the Principles and Criteria of the Forest Stewardship Council.

For more info: [www.fsc-spain.org](http://www.fsc-spain.org)



Forest Management Certificate PEFC/1435-00006. PEFC is an independent, non-governmental and non-profit entity whose aim is to promote sustainable forest management worldwide.

For more info: [www.pefc.org](http://www.pefc.org)





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