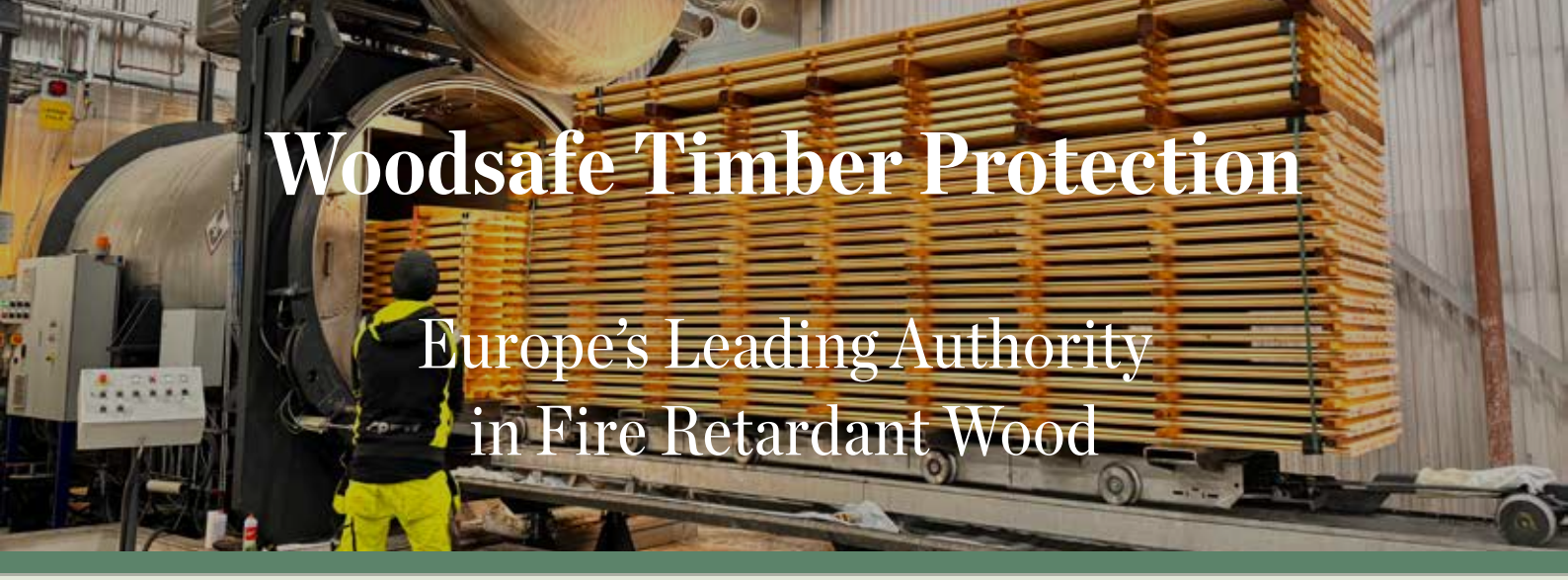
WOODSAFE® WFX™

BACKED BY THE WORLD LEADER IN FIRE-RETARDANT WOOD TECHNOLOGY

2025

Proven Fire Safety – Certified on Both Sides of the Atlantic
Woodsafe WFX™ combines U.S. and European fire standards in one solution — tested, proven, and trusted for facades, frames, and structures where safety is non-negotiable.



Woodsafe Timber Protection

Europe's Leading Authority in Fire Retardant Wood

Woodsafe Timber Protection AB is a leading European authority in fire-retardant treated wood, trusted by architects, engineers, and specifiers across the globe. With decades of experience and a strategic partnership with Hoover Treated Wood Products Inc., Woodsafe combines U.S. code-driven performance with Scandinavian precision – delivering certified fire protection for sustainable timber architecture, from public buildings and high-rises to schools, hospitals, and landmark facades.

A Strategic Alliance in Fire-Retardant Innovation
Since the 1950s, Hoover Treated Wood Products has set the U.S. benchmark for fire-retardant wood – with rigorous testing, certification, and full code compliance under ASTM, UL, NFPA, and ICC standards. As Hoover's selected European technology partner, Woodsafe carries this legacy forward in Europe with certified performance, verified documentation, and strict regulatory alignment.

Exterior FireX™ – Built for the Elements
Woodsafe is the licensed European processor of Hoover's proprietary Exterior FireX™ formulation, marketed as WFX™ (Woodsafe FireX). Engineered for demanding outdoor use, WFX™ meets EN 16755 EXT, ASTM D2898, and other international standards. Each batch is pressure-impregnated and kiln-cured under controlled Nordic conditions – ensuring full traceability and long-term durability.

In-House R&D – Where Precision Drives Progress
Woodsafe operates one of Europe's most advanced R&D centers for fire-retardant timber. Aging simulations, fire testing, and validation to EN 16755, EN 13823, ISO 5660-1, and ISO 11925 are all conducted in-house – enabling faster innovation cycles and uncompromising quality control.

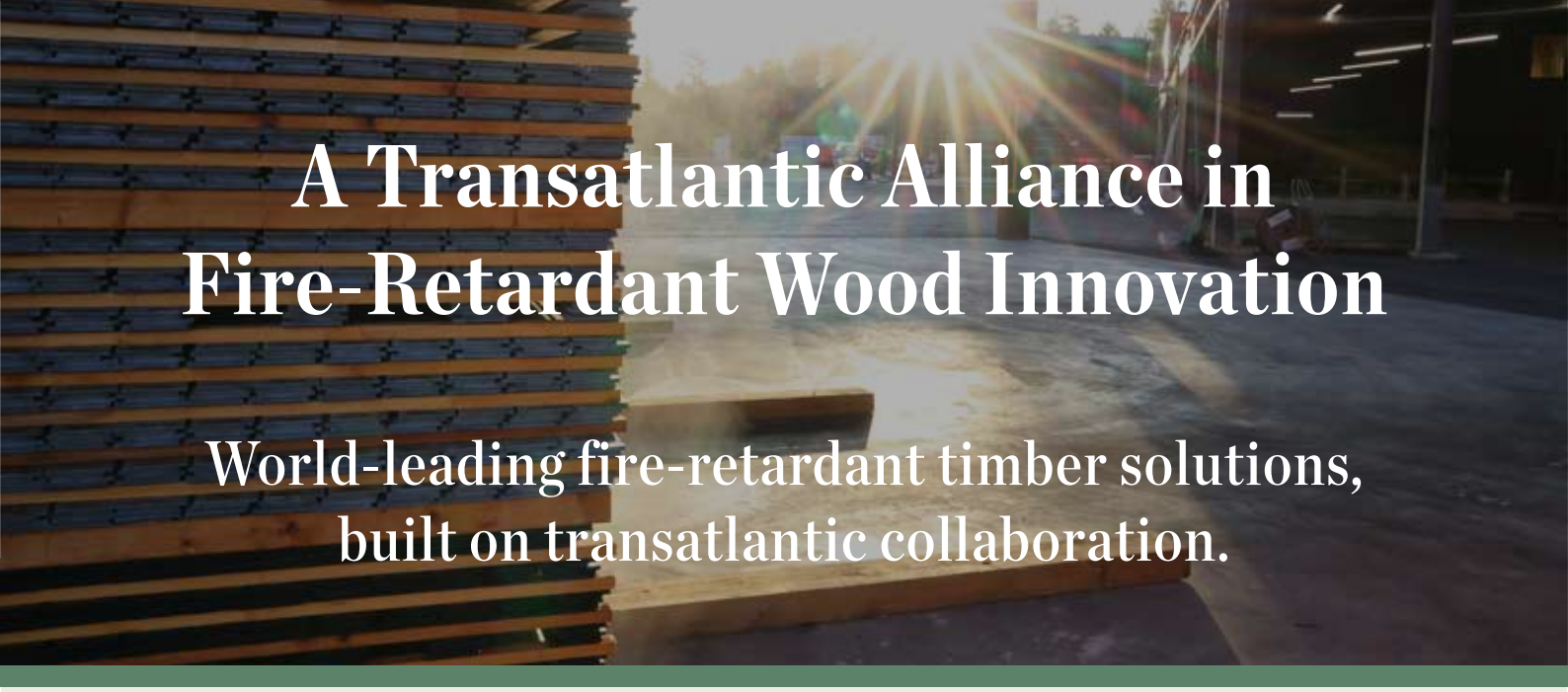
More Than a Product – A Fully Certified Solution
From certified documentation to project-specific support – we deliver more than treated timber. We deliver trust.

Fire Safety for a Sustainable Future
Woodsafe enables code-compliant, durable timber construction that supports climate goals, circularity, and design freedom. Our production is responsible, our performance is proven, and our vision is long-term.

"In partnership with Hoover, Woodsafe is shaping the future of fire-retardant timber – grounded in compliance, driven by science, and refined through Nordic precision."

Thomas Bengtsson
CEO and Founder,
Woodsafe Group

WOODSAFE®



A Transatlantic Alliance in Fire-Retardant Wood Innovation

World-leading fire-retardant timber solutions, built on transatlantic collaboration.

Hoover Treated Wood Products – An American Legacy in Code and Safety
Since 1955, Hoover Treated Wood Products has set the benchmark for fire-retardant treated wood (FRTW) in the United States — shaping national standards and defining performance expectations for nearly seven decades. With certifications from ICC, UL, NFPA, and the U.S. Department of Defense (MIL-L-19140E), Hoover's solutions are trusted in applications ranging from high-rise construction and public infrastructure to naval and military installations.

Hoover's reputation is built on:

- Unmatched code expertise —active leadership in the development of U.S. building and fire safety codes
- One of the industry's most certified FRTW portfolios — spanning structural, architectural, and mission-critical uses.
- Proven durability — validated under the most demanding U.S. and international test regimes.

Woodsafe Timber Protection – Nordic Precision, European Reach
Woodsafe Timber Protection AB is Europe's leading specialist in fire-retardant timber, combining certified quality, precision manufacturing, and environmental responsibility. As Hoover's exclusive European partner, Woodsafe produces timber treated with Hoover's proprietary Exterior FireX™ formulation — branded as WFX™ in Europe — to meet both U.S. and EU building code requirements.

Today, Hoover's technology extends beyond North America through this strategic partnership — creating a transatlantic safety alliance where compliance, durability, and performance are assured on both continents

More Than Licensing –
A Transatlantic Safety Alliance
This is not merely a licensing arrangement — it is an ongoing, in-depth collaboration between two global leaders in fire-retardant wood innovation.

Together, Hoover and Woodsafe offer:

- 70+ years of combined innovation..
- Dual certification – EU + U.S. + Military.
- Full traceability from timber to finished product.

Key Factors:

- Market access without double testing.
- Reduced approval risk.
- Proven long-term durability.

WOODSAFE®

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Who We Are – A Transatlantic Alliance

We unite Hoover's U.S. code-driven expertise with Woodsafe's Nordic manufacturing precision to deliver certified fire protection for public buildings, high-rises, schools, hospitals, and landmark façades. Fire safety is not a coating, a marketing claim, or an afterthought – it is engineered into every stage, from clean-energy production to independently verified performance.

Key strengths: trusted by specifiers, backed by decades of compliance, and recognised for proven sustainability credentials.

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Proven to Perform.

Woodsafe WFX™ isn't just fire-rated – it's tested, certified, and engineered for the real world

From Euroclass and SP Fire 105 to EN 16755 EXT and ASTM D2898, every performance claim is backed by independent data. This section details how WFX™ stands up to fire, weather, time, and scrutiny – and why certified durability is essential for façades, soffits, balconies, and other exposed applications.

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Certified for Market. Proven for Code.

CE marking under CPR 305/2011 opens the door to the EU market — but in high-risk applications like timber façades, real safety requires more. National type approval and international code compliance are often critical to ensuring long-term, system-level performance. This section explains why Euroclass alone is not enough — and how Woodsafe meets EU, U.S., and even military-grade standards through independently certified performance.

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Tested for Standards. Trusted in Reality.

Fire safety must be proven — not presumed. This section outlines the full range of test methods that validate Woodsafe WFX™: from SP Fire 105 (facade systems), EN 16755 (durability), and EN 13823 (Euroclass) to ASTM D2898 (weathering), ASTM E84 / UL 723 (surface burning), and MIL-L-19140E (U.S. military specification). Together, these standards ensure that every claim is backed by real-world performance — not just lab results.

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Woodsafe Timber Protection

Setting the Standard for Fire-Retardant Wood Across Europe

Woodsafe – Fire Protection Built for the Future
For over 30 years, Woodsafe has bridged the gap between the timber industry and the built environment – combining the beauty of natural wood with the fire safety demands of modern architecture. With proven expertise in precision, innovation, and compliance, we are the trusted partner for forward-thinking projects across Europe.

Expertise Beyond Certification
Woodsafe delivers more than fire-rated materials. We support every stage of your project – from technical documentation and regulatory compliance to close collaboration with architects and fire consultants. Every solution is tailored to meet both code requirements and design intent.

Built on Sustainability
Sustainability drives every decision we make. Our fire-protected timber enables greener, safer cities – supporting circular construction and architectural freedom without compromising safety. Through ongoing R&D, independent certification, and responsible manufacturing, we are shaping a future where timber and fire resilience go hand in hand.

Certified performance, rigorous quality control, and a long-term vision have made Woodsafe the benchmark for fire-retardant wood in Europe – and beyond.

Responsible Manufacturing – Powered by Clean Energy
Sustainability is not an add-on – it is built into our production:

- Fully electrified operations with upgraded motors, lighting, and a 100% electric forklift fleet.
- Wheel loaders powered by renewable HVO fuel, reducing fossil fuel dependence.
- Thermal energy from biofuels, supporting circular heat flows.
- On-site solar power covering over 80% of electricity needs, with the remainder from certified renewables (hydro, solar, wind).

Woodsafe is certified under ISO 14001:2015 and ISO 45001:2020, holds an EcoVadis Gold rating for corporate responsibility, and operates in facilities built to the WELL Gold Building Standard – reflecting our commitment to people, planet, and performance.

Western Red Cedar shingles and Yellow Cedar
(SP Fire 105 + EN 16755 EXT)

Thermally Modified Pine (Euroclass B + EN 16755 EXT)

Western Red Cedar cladding
(SP Fire 105 + EN 16755 EXT)

Western Red Cedar shingle, surface-tinted
(SP Fire 105 + EN 16755 EXT)

Thermowood Pine
(SP Fire 105 + EN 16755 EXT)

Spruce cladding
(Euroclass B + EN 16755 EXT)

Fire Safety Without Shortcuts

Woodsafe Research & Development

Where Science and Innovation Advance Timber Safety

Let's Talk
Call Us Today
+46 (0) 10 206 72 30

WRD® WOODSAFE® Research & Development

At Woodsafe, we believe that progress in timber construction must go hand in hand with uncompromising fire safety. This conviction is the foundation of Woodsafe Research & Development (WRD) — our dedicated center for innovation, testing, and advancement in fire-retardant wood technologies.

WRD is more than a laboratory. It is **the only privately owned research facility of its kind in Northern Europe**, purpose-built to meet the growing demand for advanced testing, certification, and product development in fire protection. By combining world-class equipment with decades of specialist expertise, WRD enables us to explore new frontiers and deliver solutions that are not only technically robust but also future-ready.

A State-of-the-Art Facility

Our facility houses cutting-edge instrumentation and full-scale testing environments designed to replicate the toughest conditions timber will face in real life — from fire exposure and weathering to long-term mechanical performance. This allows Woodsafe not only to meet international standards but to exceed them, setting new benchmarks for safety and durability in timber construction.

Driven by Science, Guided by Standards

Every innovation at WRD is grounded in scientific rigor and verified through third-party validation. We collaborate closely with notified bodies and industry experts to ensure that our developments align with evolving building codes and sustainability goals. In doing so, Woodsafe reinforces its role as a trusted partner for architects, engineers, and developers seeking proven fire protection.

Beyond Compliance

At WRD, we challenge assumptions, refine methods, and pioneer new solutions that allow timber to be used safely in applications once considered impossible. Whether it is high-rise façades, complex infrastructure, or demanding public buildings, Woodsafe Research & Development provides the knowledge, testing, and innovation to make it possible.

With WRD, Woodsafe reaffirms its commitment to **responsible innovation, verified performance, and lasting trust** — elevating fire-retardant timber to new heights in both safety and design.

Pilot Treatment Plant

From Concept to Certified Solution

Woodsafe Pilot Plant – Key Features

- Stainless steel construction for durability and reliability
- Process control for up to four different solutions
- WRD 2.0 multi-control system with advanced computer interface
- Unique stepless programming for maximum flexibility
- Fully computer-controlled process ensuring consistency and accuracy
- Integrated load cells, pressure sensors, flow meters, and density measurement for complete process monitoring
- Extreme precision through real-time data collection and adaptive control

- **Advanced computer-controlled drying kiln** with programmable cycles up to 300 °C.
- **Small-scale** computer-controlled humidity control kilns for precision testing.
- **Large-scale** computer-controlled humidity control kiln for full-scale applications.
- **Linked** to in-house quality control (WQS 2.0)

- **Climate chamber** operating from –10 °C to +120 °C with up to 98% relative humidity and fully programmable cycles.
- **Linked** to EN 16755 hygroscopic properties.

- **Room for acclimatization** system with stepless control of temperature, humidity, and airflow.
- **Linked** to EN 13501-1 / EN 13823 among others.
- **Linked** to EN 16755

From Testing to Innovation

Advancing Fire Protection in Timber

EN13823 (SBI): Full-scale test rig with calibrated burners, specimen holder, and exhaust system, all configured per EN 13823.

- Regular calibration ensuring accuracy and reliability – Continuous verification of heat flux, gas flows, and measurement instruments.
- Precise gas flow and control systems – Propane burners with controlled gas supply to deliver reproducible fire exposure.
- Standardized testing procedures for consistent performance evaluation – Measurement of heat release, smoke production, flame spread, and falling debris under harmonized conditions.

ISO 5660-1: Cone Calorimeter – Material Testing for Development. Our cone calorimeter is configured 100% in accordance with the ISO 5660-1 standard, ensuring reliable and reproducible results throughout the entire setup. The equipment is used for advanced material testing and development, measuring key fire performance parameters such as:

- Time to ignition (TTI)
- Heat release rate (HRR)
- total heat release (THR)
- Mass loss rate (MLR)
- Smoke production rate (SPR)
- Total smoke production (TSP)
- And other critical fire behavior indicators

EN 16755 – Durability of Reaction to Fire Performance (Method B).
We offer full-scale EN 16755 Method B testing — including climate chamber exposure with UV, moisture, and temperature cycles over 6 weeks. Fire performance is verified before and after weathering, ensuring retained Euroclass classification (e.g. B-s1,d0), as required for exterior applications (EXT)

EN 927-6 – Artificial Weathering
- Accelerated aging of wood coatings under UV and moisture

EN 927-3 – Natural Weathering
- Exposure of coated wood to natural outdoor climate.

EN 13823 (WRD)

ISO 5660-1 (WRD)

EN 16755 (WRD)

EN 927-3 or EN 927-6

Fire Safety, Engineered for Timber Architecture

"FRTW = Fire-Retardant Treated Wood, treated through pressure impregnation, not coatings."

As timber takes a stronger role in sustainable architecture, the demand for reliable, code-compliant fire protection has never been greater. Fire-Retardant Treated Wood (FRTW) answers this demand with built-in, long-term fire resistance — preserving the natural beauty of wood while ensuring structural safety.

Timber Is Rising. But Fire Safety Must Keep Pace.
As timber becomes a cornerstone of sustainable architecture, the demand for fire protection that is both reliable and code-compliant has never been greater.

Fire-Retardant Treated Wood (FRTW) meets this need by delivering built-in, long-term resistance that preserves the natural beauty of wood while ensuring the structural safety of the building.

Fire Safety That Works From Within

Surface coatings can fade, crack, and require ongoing maintenance. WFX™ is different — its advanced polymer-based fire retardant penetrates deep into the wood's cellular structure, forming a permanent barrier that remains effective for decades without coatings.

The result: **permanent performance** — tested, independently verified, and ready for both interior and exterior applications.

Advantages

- Passive, permanent protection — no coatings, no maintenance, no reapplication.
- Maintains both fire performance and visual appeal over time.
- Proven in demanding real-world conditions.

Engineered from the Inside Out – The WFX™ Process

Each batch of WFX™-treated timber begins with controlled kiln drying to optimise moisture content. The wood is then pressure-impregnated with WFX™ – a polymer-based fire-retardant formulation that bonds at a cellular level.

After treatment, a second kiln cycle restores dimensional stability, resulting in a clean, dry, construction-ready product.

The Result

A CE-compliant timber solution with:

- Natural, uncoated appearance
- Built-in, permanent fire protection
- Structural integrity fully preserved
- Weather resistance – proven for exposed outdoor use

All achieved without the need for paints, sealants, or ongoing maintenance.

Woodsafe WFX™ FRTW
Product & Ordering Information

Ordering & Availability
Woodsafe WFX™ is manufactured to order in collaboration with licensed partners. Each delivery is fully traceable, certified, and tailored to project-specific exterior fire performance requirements.

Common profiles — such as nailing battens and framing members — are stocked for immediate delivery across Europe.

For bespoke specifications, contact our technical sales team at support@woodsafe.com or call +46 (0)10 206 72 30.

Visual Face Selection — For Exposed Applications
All WFX™ products are kiln-dried after treatment, a process that may leave drying stick marks on one or both faces. On request, material can be supplied with stick marks on only one face — recommended for visible applications such as façade cladding. Please specify the preferred visible side when ordering.

Storage Guidelines
- Store dry and covered
- Elevate ≥200 mm above ground
- Ensure ventilation
- Avoid direct sun exposure

Color Options & Visual Appearance
Woodsafe WFX™ can be surface-tinted in both standardized and custom tones through approved partners. Untinted options are available for projects requiring a natural wood finish.

Color Longevity
All surface-applied tints are subject to natural fading from UV and weather. Without maintenance, the wood will weather to a silver-grey tone. Color tinting is for visual effect only and does not replace certified fire labels or markings.

Available Species & Structural Grades
Woodsafe offers WFX™ in a broad selection of commercially and architecturally relevant timber species, including:

- Western Red Cedar (solid and shingles)
- Yellow Thuja (solid and shingles)
- Spruce, Pine, Core-Pine
- Larch, Oak, Chestnut, Aspen
- Redwood
- Thermowood Spruce, Pine, Ash, Ayous, Frake
- Douglas Fir, Southern Yellow Pine
- Accoya®, NobelWood®
- Thermowood Radiata Pine
- **and many more upon request**

Architectural Color Options

Verified and Visual

Design Freedom, Certified Safety
Woodsafe WFX™ can be surface-tinted in both standardized and fully customized tones — developed and applied through approved partners. Whether your design calls for a bold architectural statement or a subtle natural finish, we offer flexible color solutions for cladding panels, shingles, and wood-based sheet materials.

Designed in Collaboration
Working with architects, designers, and project partners, we bring façades to life — in color. Tint options range from muted naturals to vivid accents, with our partner network ensuring controlled, consistent results tailored to each project's aesthetic.

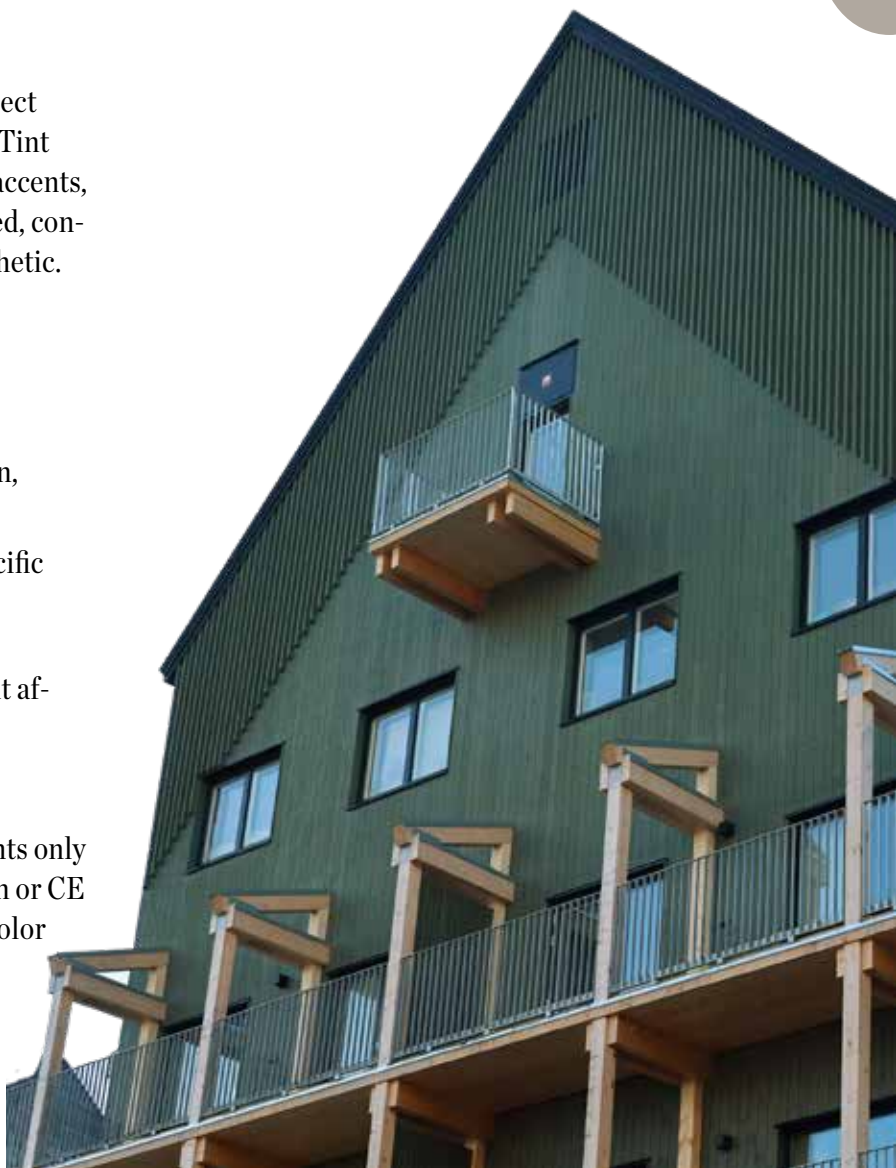
Natural or Tinted — Your Choice
Products are available:

- Untinted, for a natural wood look
- Pre-tinted in standard tones (e.g. brown, black, red, grey)
- Fully customized to match project-specific color palettes

All tinting is applied post-treatment, without affecting WFX™'s verified fire performance.

Color Longevity & Maintenance
Surface-applied tints are visual enhancements only and do not replace certified fire classification or CE marking. While designed for durability, all color treatments will naturally fade over time due to UV, rain, and environmental exposure.

Without maintenance, the wood will develop a silver-grey patina — a look often preferred in long-term architecture. To maintain the original color tone, periodic maintenance or reapplication may be required, with frequency depending on climate, exposure, and visual expectations.



From Lab to Life – Proven in Complete Facade Systems

Great Architecture Deserves More Than Good Looks
In multi-storey timber façades, beauty alone is not enough. Fire safety must perform in the real world – not just in the lab. Woodsafe WFX™ delivers certified, durable protection, tested as a complete system, not just as a material sample.

Not All Fire-Retardant Cladding Is Equal
While timber facades are increasingly specified for their aesthetics, sustainability, and climate-positive profile, visual appeal must be matched by verified, long-term fire safety. Many solutions pass in the lab but fail under real-world conditions. WFX™ is different.

That's where many solutions fall short. Woodsafe WFX™ does not.

Certified System – Not Just a Treatment
Developed through a transatlantic partnership between Hoover Treated Wood Inc. and Woodsafe Timber Protection AB, WFX™ is a fully certified, purpose-built solution for exterior timber cladding. It goes beyond basic treatment – delivering a tested, documented, and code-compliant system that meets the most demanding building regulations.

Extensive Test Scope – Real-World Assurance
WFX™ is validated in full-scale SP Fire 105 facade tests, assessing the performance of cladding, insulation, cavities, substrates, and fixings together under realistic fire conditions.

Key benefits:

- Works with both natural and surface-treated timber cladding
- Removes uncertainty by proving system-level compliance
- Eliminates risk inherent in solutions based solely on material-level classification

Range for Compliant SP Fire 105 Facades

The following facade systems are certified to SP Fire 105 with Woodsafe WFX™

Each approval applies only when installed as part of the certified partner's complete, tested configuration. For full technical specifications and installation requirements, consult the official system code issued by Woodsafe or an authorised partner.

SYSTEM CODE	WOOD CLADDING	THICK-NESS	V/H	AIR-GAP	INSULATION	SUBSTRAT (EURO-CLASS)	NOTES
WS-01	Thermally modified Pine	21mm	V	Yes	NPD	A1/A2-s1,d0	
WS-02	Western Red Cedar	17,5mm	V	Yes	NPD	A1/A2-s1,d0	
WS-03	Western Red Cedar shingle	3-10mm	N/A	Yes	NPD	Spruce or Plywood of Spruce - Euroclass C	
WS-04	Accoya		H	Yes			
P1-01	Thermally modified Spruce	19mm	V	Yes	FF-Pir 150 ALK, Mineralwool	D-s2,d2	With or without stain
P1-02	CLT of Spruce	21mm	N/A	Yes	Koolterm K15C, Mineralwool	D-s2,d2	With or without stain
P2-1.1 / 1.2	Thermally modified Pine	≥21mm	V/H	25-51	Kooltherm K15C, K12	A1/A2-s1,d0	
P2-2.1 / 2.2	Thermally modified Pine	≥21mm	V/H	25-45	Isover PLUS+	D-s2,d2	With or without stain
P2-3.1 / 3.2	Thermally modified Pine	≥21mm	V/H	25-64	Paroc Tento ZERO, Paroc Cortex, Paroc Cortex One	D-s2,d2	With or without stain
P2-4.1 / 4.2	Thermally modified Pine	≥21mm	V/H	25-62	Recticel Power-wall	D-s2,d2	With or without stain
P2-5.1 / 5.2	Thermally modified Pine	≥21mm	V/H	22-45	NPD	D-s2,d2	With or without stain
P2-6.1	Thermally modified Pine	≥21mm	V/H	25-62	NPD	D-s2,d2	With or without stain
P2-7.1	Western Red Cedar	≥17,5mm	V/H	25-62	NPD	A1/A2-s1,d0	NPD
P2-8.1	WRC Shingles	3-10mm	N/A	25-34	ISOVER insu-lation board, Mineralwool, Kingspan 15C	D-s2,d2	With or without stain
P2-8.2	WRC Shingles	3-10mm	N/A	25-34	NPD	D-s2,d2	With or without stain
P2-8.3	Cypress, Yellow Cedar	3-10mm	N/A	25-34	NPD	A1/A2-s1,d0	With or without stain

Proven Durability — Certified Not to Leach

Real Protection Lasts —
Even When the Weather Doesn't
Exterior timber cladding should not lose its fire safety with the seasons. That's why WFX™ is certified to **EN 16755 EXT** — Europe's benchmark for long-term durability of fire-retardant performance in outdoor environments. This certification confirms that WFX™ retains its fire classification over time — even without surface coatings — under real-world conditions involving rain, humidity, and UV exposure.

Let Timber Lead —
Without Compromising Safety
With WFX™, architectural freedom and fire safety go hand in hand. Our certified façade systems open new possibilities for creative, sustainable design — giving architects, developers, and builders the confidence to work with timber at scale.
From sharp-lined modern façades to warm, natural finishes, WFX™ enables your vision while meeting the strictest fire regulations for multi-storey buildings. Whether you prefer a refined, treated surface or the raw beauty of natural wood, durability is proven through system-level SP Fire 105 testing.

Certified Cladding Options (SP Fire 105)

- Thermowood Pine
- Thermally Modified Spruce
- Thermally Modified Pine
- Accoya®
- Western Red Cedar
- Western Red Cedar Shingles
- Cross-Laminated Spruce (CLT)
- Spruce
- Yellow Cypress

All listed species have been tested and certified in full facade configurations, ensuring performance is verified not only in the lab (SBI) but also under real-world conditions (SP Fire 105).

In Short
Woodsafe delivers more than a product — we deliver fully tested façade systems, certified for use, built for performance, and ready for the real world. Classified under EN 16755 EXT — no surface coating required to retain fire rating.

Built to Last — Trusted to Protect

Why Durability Matters in Exterior Applications
In facades, soffits, and balconies, long-term fire performance is not optional — it's critical. A product may meet fire classification standards initially, but if performance degrades over time, it cannot be trusted in real-world conditions. Exposure to moisture, UV radiation, and temperature fluctuations can severely compromise unproven fire treatments.

To ensure lasting safety, fire-retardant protection must either:

- Be shielded by a durable surface coating, or
- Be intrinsically durable — permanently bonded within the wood, without relying on surface protection.

Without verified durability, fire performance will degrade — putting lives, property, and compliance at risk.

Tested and Certified for Exterior Durability
Woodsafe WFX™ (also marketed as Exterior Fire-X™ by Hoover) is engineered for exterior use and certified for long-term fire protection under the toughest conditions. Durability is validated through advanced accelerated weathering protocols simulating years of real-world exposure — ensuring performance remains stable over time.

Independently Verified. Officially Classified:

- EN 16755 Method A + ISO 5660-1
- EN 16755 Method B + EN 13823 (SBI)
- ASTM D2898 Method A

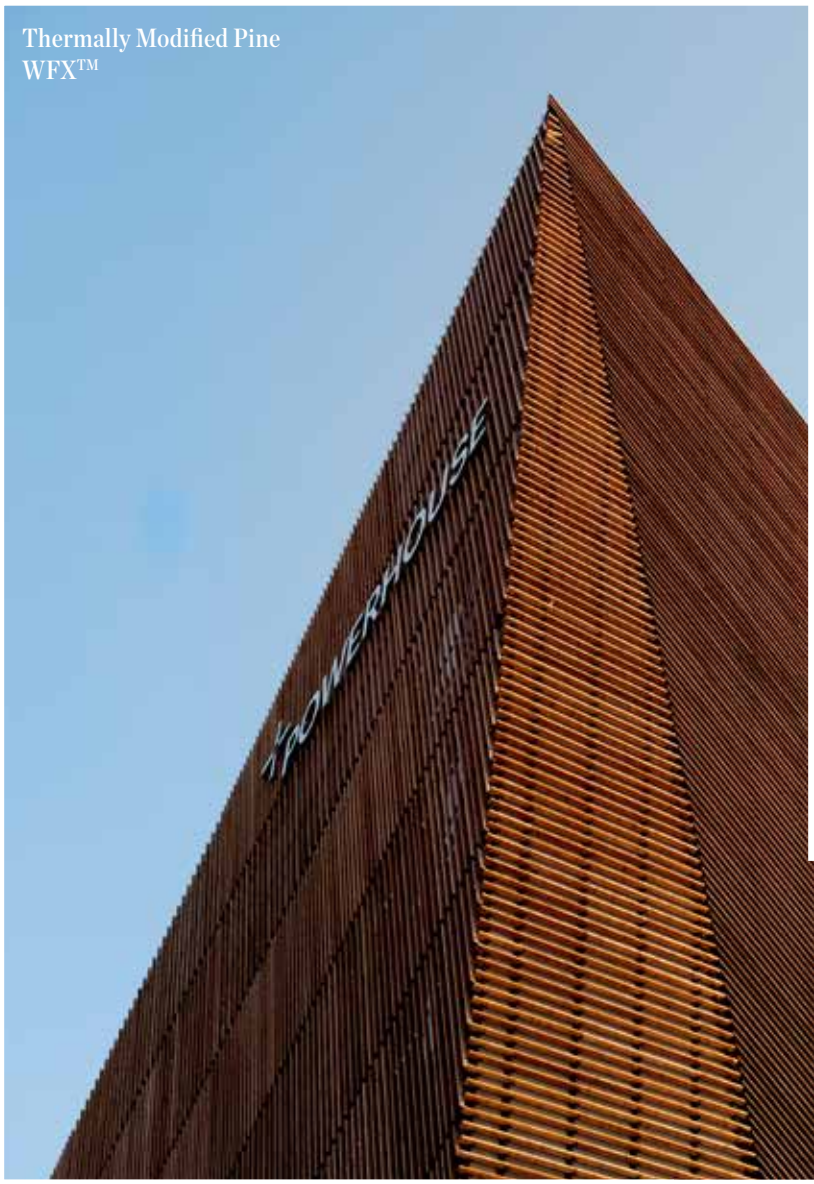
Certified Across Multiple Wood Species
Exterior FireX™ / Woodsafe WFX™ is tested and classified for:

- Southern Yellow Pine
- Douglas Fir
- Western Red Cedar
- Redwood
- Southern Yellow Pine Plywood
- Douglas Fir Plywood

For EN 16755 — Woodsafe WFX™ is classified for all wood species.

The treatment penetrates deeply into the wood's cellular structure and chemically bonds within it, ensuring both durable fire performance and preservation of the wood's natural appearance.

Long-Term Protection Without Compromise
From facades and soffits to structural elements, Woodsafe WFX™ delivers certified, code-compliant fire safety — without sacrificing the beauty, integrity, or versatility of natural timber.

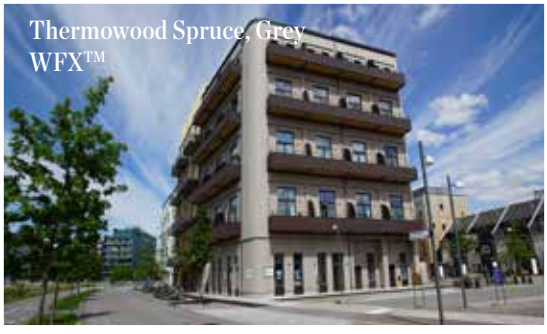

Thermally Modified Pine
WFX™
POWERHOUSE


Thermowood Pine, Black
WFX™


Thermowood Pine
WFX™


Thermowood Pine
WFX™


Western Red Cedar Shingle, Black
WFX™


Thermowood Spruce, Grey
WFX™

SUPPORT
+46
10 206 72 30

Compliance Without Guesswork — Ensuring SP Fire 105 Success

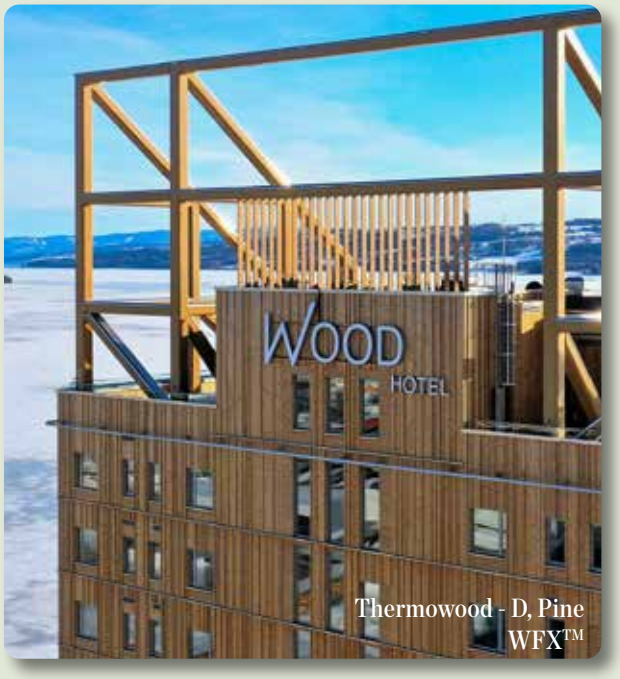
At Woodsafe,
Compliance Is Built In from Day One
We deliver more than fire-rated timber. Our team supports every stage of your project — from design and documentation to certified test reports, installation manuals, and permitting assistance. Our goal is to make fire safety seamless, predictable, and fully verifiable.

International Relevance — Recognised Beyond Borders
Developed in Sweden, SP Fire 105 has become a benchmark far beyond its origin. Known for its realistic, system-level fire testing, it is now referenced in the UK, Norway, Germany, Canada, and other markets for evaluating cladding systems in:

- Multi-storey timber buildings
- Public facilities such as schools, hospitals, and sports halls
- Urban developments in dense city environments
- Wildland–Urban Interface (WUI) zones

WFX™ is engineered for these exact challenges — supported by CE marking, national type approval, and certified long-term durability. It enables innovative timber architecture while meeting the world's most demanding fire safety standards.

The Safe Choice — Certified for Real Conditions
In a market full of unverified claims, Woodsafe WFX™ stands out. Every system is tested, certified, and proven for consistent performance — not just in the lab, but for the lifetime of the building.



Thermowood - D, Pine
WFX™

Let's Talk
Call Us Today
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Euroclass — A Vital Benchmark, But Not the Whole Story

Euroclass defines reaction-to-fire performance across the EU, providing a harmonised classification system for designers, regulators, and manufacturers. While mandatory, it is not always sufficient — especially for high-risk applications such as exterior façades, evacuation routes, or buildings with exposed timber elements.

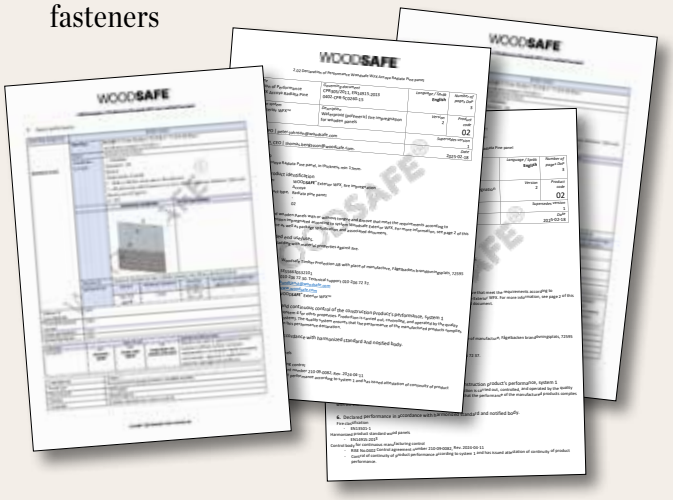
More Than Compliance — Confidence by Design
At Woodsafe, we go beyond Euroclass requirements. With decades of specialised experience and an extensive portfolio of certified timber products, we deliver solutions that exceed the basics and address real-world fire safety challenges.

Certified Solid Wood Panels Options (SBI)
Woodsafe WFX™ is tested and approved across a broad range of timber species, including:

- Thermowood Pine, Spruce, Ash
- Thermally Modified Pine, Spruce
- Thermally Modified Radiata Pine
- Thermally Modified Ayous
- Thermally Modified Frake
- Thermally Modified Ash Spruce
- Accoya®
- Nobelwood®
- Western Red Cedar
- Western Red Cedar Shingles
- CLT panels (Spruce)
- Yellow Cypress
- Oak, Chestnut and more

Real-World Applications — Tested as Complete Systems
WFX™ is not just a treatment — it's a system-tested solution verified in configurations that reflect actual building practice:

- Horizontal or vertical cladding
- Open or closed joints
- Cavity design and air gaps
- Multiple substrates and insulation types
- Various fixing methods and mechanical fasteners



Performance That Endures
WFX™ delivers uniform fire protection on all six sides, ensuring:

- Enhanced impact resistance
- Consistent visual appearance over time
- Potential for reuse — supporting circular construction goals

CE Marking Enables Market Access – Type Approval Secures National Compliance

While Euroclass (EN 13501-1) classifies material behaviour in the lab, it does not assess system-level fire performance or long-term durability in outdoor exposure.
That's why, for critical applications, Woodsafe goes further – with third-party testing and certification to:

- SP Fire 105 – for facade system performance
- EN 16755 EXT – weather-resistant durability of fire-retardant treatment

At Woodsafe, Euroclass is not the finish line – it's the starting point.

From that foundation, we deliver lasting fire protection tailored to modern timber architecture and evolving safety demands.

Certified Products – Backed by Expert Support
We provide more than CE-marked fire-retardant wood. Our role is to ensure that your fire safety ambitions become built reality – through clarity, documentation, and expert guidance.

All Woodsafe products are certified in accordance with EN 13501-1 and CPR 305/2011, ensuring performance that is not only declared but independently verified.

Field of Application – Applied with Precision
A Euroclass rating alone does not guarantee safe use in all scenarios. Fire performance can be affected by:

- Cladding orientation and installation method
- Air gap size and cavity design
- Substrate and insulation type
- Coatings or surface treatments
- Mechanical fixings and connections

What We Deliver
To ensure correct application and verified performance, Woodsafe offers:

- Comprehensive technical documentation
- Project-specific guidance for architects and specifiers
- Third-party test reports and Field of Application assessments
- Installation manuals and permitting support

We work closely with all stakeholders – from designers and engineers to inspectors and contractors – to ensure fire safety is built, verified, and made to last.

WFX™ Certified – CPR 305/2011 | EN 14915 | AVCP System 1

CPR 305/2011 | EN 14915 | Third-Party Verified
The following wood species are officially classified under EN 13501-1 and fully covered by the Construction Products Regulation (CPR 305/2011), in accordance with EN 14915 for solid wood panels and cladding. All products are assessed under AVCP System 1, meaning they are independently verified by a Notified Body throughout production and certification.

This includes:

- Products certified by Woodsafe Timber Protection AB (Notified Body No. 0402 – Certificate: 0402-CPR-SC0260-15)
- Products treated by authorised Woodsafe partners using the WFX™ fire-retardant system under controlled and approved conditions

Important – Performance Validity
Fire classification under EN 13501-1 is based on specific tested configurations. Final performance depends on installation parameters, including:

- Joint type and connection details
- Presence and size of air cavities or ventilation gaps
- Cladding orientation (horizontal, vertical)
- Substrate and backing material
- Coatings or surface treatments

For full compliance and safety assurance, always consult the relevant classification reports and confirm that the intended construction matches the tested configuration.the intended construction setup matches the tested configuration.

Certified Product Range

	WOOD SPECIES / EUROCLASS	
08	Thermally modified pine (≥21mm)	B-s2,d0 (s3)
29	Thermally modified pine (≥19,5mm)	B-s1,d0 (s2)
30	Thermally modified pine (≥19,5mm)	B-s2,d0 (s3)
05	Thermally modified spruce (≥18(9) mm)	B-s1,d0 (s2)
04.1	Thermally modified spruce (≥18(9) mm)	B-s2,d0 (s3)
04.2	Thermally modified spruce (≥18mm)	B-s1,d0 (s2)
24	Thermally modified Frake (≥18mm)	B-s1,d0 (s2)
05	Thermally modified Frake (≥18mm)	B-s1,d0 (s2)
13	Thermally modified Frake (≥18(9) mm, paint)	B-s1,d0 (s2)
11	Thermally modified Poplar ((≥18(9)mm, paint)	B-s1,d0 (s2)
12	Thermally modified Ayous (≥18mm)	B-s2,d0 (s3)
27	Spruce panel (≥18(9)mm)	B-s1,d0 (s2)
16, S	Spruce panel (≥18(9)mm)	B-s2,d0 (s3)
16, P	Pine panel (≥18(9)mm)	B-s2,d0 (s3)
01	Western Red Cedar panel (≥17,5(10)	B-s1,d0 (s2)
21	Western Red Cedar panel (≥18mm)	B-s2,d0 (s3)
16, W	Western Red Cedar panel (≥18mm)	B-s2,d0 (s3)
25	Siberian Larch (≥18mm)	B-s2,d0 (s3)
16, L	Siberian Larch (≥18(9) mm)	B-s2,d0 (s3)
23	Douglass fir, Oregon pine (≥18(9) mm)	B-s2,d0 (s3)
26	Oak (≥19mm)	B-s1,d0 (s2)
22	Chestnut (≥22mm)	B-s1,d0 (s2)
02	Accoya (≥17mm)	B-s1,d0 (s2)
17	Accoya (≥22mm)	B-s1,d0 (s2)
09	Superwood spruce (≥21(9) mm)	B-s2,d0 (s3)
10	Superwood spruce (≥45mm)	B-s2,d0 (s3)
0.0.1.1	Nobelwood (≥18mm)	B-s2,d0 (s3)
0.0.1.2	Nobelwood (≥18mm)	B-s2,d0 (s3)
0.02	Ash - thermally modified (≥19,5mm)	B-s1,d0 (s2)
0.03	Ash - thermally modified (≥19,5mm)	B-s1,d0 (s2)
0.04	Radiata pine - thermally modified (≥21mm)	B-s2,d0 (s3)

CODE	SERVICE TREATMENT FOR PARTNERS –EUROCLASS	
BLW-001	Thermally modified pine 19mm (≥19mm)	B-s1,d0 (s2)
BLW-003	Thermally modified Spruce 19mm (≥19mm)	B-s1,d0 (s2)
BL-TP	Thermally modified pine 18-43mm	B-s2,d0
BL-TS	Thermally modified Spruce 18-43mm	B-s2,d0
BL-TF	Thermally modified Frake 18-43mm	B-s1,d0
BL-TA	Thermally modified Ayous 18-43mm	B-s1,d0
BL-TA-ASH	Thermally modified Ash 18-43mm	B-s1,d0
Authorized Partners – Woodsafe WFX™ Service Treatment and Color Tinting		
1127	Western Red Cedar shingle 3-10mm	C-s2,d0
1110	Thermally modified pine ≥21mm	C-s1,d0
P1-03	Thermally modified Spruce 19mm	B-s1,d0
P1-04	CLT Spruce 22mm	B-s1,d0

CE Opens the Door — But National Approval Secures the Project

CE Marking vs. Type Approval — Meeting Both Market and National Requirements
While **CE marking** serves as a legal entry ticket to the EU market, it does not guarantee acceptance for national use — particularly in regulated or high-risk environments.

Type Approval provides:

- Verified compliance with national fire safety and performance criteria
- Stronger regulatory approval, risk assessment, and inspection processes
- Higher assurance through traceable third-party certification

In Summary:

- CE marking = Declaration of conformity under EU law
- Type Approval = National proof of compliance, aligned with building code enforcement

Woodsafe's Dual Certification Approach
Woodsafe secures both market access and national compliance through:

- CE marking under CPR 305/2011, assessed by RISE (Notified Body 0402) in accordance with AVCP System 1
- National type approval for façade use, including compliance with SP Fire 105, EN 16755 (Method B), and Swedish BBR/PBL requirements

This approach ensures free EU market access **and** full alignment with local building codes — meeting the expectations of architects, contractors, and regulatory authorities across Sweden and Europe.

Construction Products Regulation (CPR 305/2011)
All construction products placed on the EU market for permanent use must comply with CPR 305/2011, which requires:

- CE marking
- A verified Declaration of Performance (DoP)
- Assessment under the appropriate AVCP level — typically System 1 for fire-rated products

EN 14915 — Harmonised Standard for Solid Wood Products
EN 14915 defines requirements for solid wood panels and cladding, including optional declarations for durability and reaction to fire.

Woodsafe WFX™:

- CE-marked under CPR 305/2011, using EN 14915 as the harmonised technical specification
- Carries a third-party verified DoP, issued by Notified Body 0402
- Certified under AVCP System 1 since 2015 — the highest assessment level, involving independent fire testing, factory production control, and continuous third-party surveillance

From Test Bench to Building Code – Proven Compliance You Can Trust

Reaction to Fire Testing – EN 13823 (SBI)
Woodsafe WFX™ is tested for reaction to fire using harmonised European methods:

- EN 13823 – Single Burning Item (SBI)
- EN ISO 11925-2 – Ignitability

The results are combined and classified under **EN 13501-1**, the European fire classification system.

Certified by Notified Body – CE Marked Under CPR 305/2011
The final Euroclass rating (e.g., B-s1,d0) is issued by an independent Notified Body, such as RISE (0402), in accordance with:

- **AVCP System 1** – the strictest conformity assessment for fire-rated products
- Product specifications defined in the harmonised standard **EN 14915**, under the Construction Products Regulation **(CPR 305/2011)**

Regulatory Compliance for Br1 Buildings (Sweden)
In Sweden, fire safety for external wall systems in Br1-class buildings – such as multi-storey residential, commercial, or public-use structures – is regulated by:

- The Planning and Building Act (PBL 2010:900)
- The Swedish Building Regulations (BBR), issued by Boverket

Best Practice:
The most robust way to demonstrate compliance with BBR and PBL for façade cladding in Br1 buildings is through a valid Type Approval Certificate – confirming that the entire system meets national fire safety requirements, including full-scale testing (SP Fire 105), reaction-to-fire classification (EN 13501-1), and durability (EN 16755).

While Euroclass B-s1,d0 is the baseline requirement for combustible façades, it is not sufficient on its own. SP Fire 105 full-scale testing is required to verify complete facade system behaviour under realistic fire conditions – as expected in Swedish regulations.

Pioneering CE Compliance
Woodsafe was the first company in Europe to obtain CE marking for fire-retardant wood products under the former Construction Products Directive (CPD 89/106) – four years before the current CPR 305/2011 came into force.

A Unified Framework for Construction Products in the EU

UNDERSTANDING CPR 305/2011 AND CE MARKING

The Construction Products Regulation (EU) No. 305/2011 (CPR) sets the legal framework for placing construction products on the European market. Its purpose is to harmonise technical specifications across the EU and ensure transparent, comparable Declarations of Performance (DoP).

Any product intended for permanent use in buildings or civil engineering works must comply with CPR requirements if a harmonised European standard (hEN) exists for that product.

CE Marking – Mandatory, But Not a Quality Label

For products covered by a harmonised standard (e.g., **EN 14915** for wood cladding), CE marking is a legal requirement. It confirms that the product:

- Has been assessed under the applicable AVCP system (typically System 1 for fire-rated products)
- Meets technical requirements such as EN 13501-1 for fire classification
- Is accompanied by a valid Declaration of Performance (DoP)

CE marking enables free circulation within the EU, but it only confirms conformity with harmonised standards – not compliance with national building codes or verification of long-term durability.

CE Marking – Required, But Not Sufficient

CE marking is a legal requirement for products covered by a harmonised European standard. It confirms conformity with EU technical specifications, but it does not prove compliance with national building codes or guarantee long-term durability.

Legal Access vs. Real Acceptance – What Sets Type Approval Apart

CE Marking vs. Type Approval — What's the Difference and Why It Matters

CE Marking — A Legal Requirement, Not a Seal of Quality
Under the **Construction Products Regulation (CPR)**, CE marking is mandatory for products covered by a harmonised standard. It confirms that the product:

- Has been assessed under the designated **AVCP system** (e.g., System 1 for fire performance)
- Meets the technical criteria of standards such as **EN 13501-1**
- Includes a valid **Declaration of Performance** specifying declared characteristics

However, CE marking does **not** confirm compliance with national building codes (e.g., Sweden's **BBR** or **PBL**) and does not validate real-world durability or system-level performance.

Type Approval:
National Validation for Critical Applications
Type Approval (also called national technical approval or certification scheme) is voluntary, but often essential for high-risk applications such as façades in **Br1-class** buildings.

It provides:

- Independent verification of compliance with national regulations (e.g., BBR and PBL in Sweden)
- Extended testing beyond harmonised standards — such as SP Fire 105 and EN 16755 durability
- Recognition by insurers, authorities, and municipalities for use in safety-critical structures

Example: SP Fire 105 full-scale façade testing, required in Sweden for Br1 buildings, is not covered by CE marking alone.

CE Marking vs. Type Approval – A Comparative View		
Aspect	CE Marking (CPR 305/2011)	Type Approval (e.g. RISE)
Legal status	Mandatory (if hEN exists)	Voluntary (unless mandated by national regulation)
Scope	Limited to harmonised characteristics	Often includes system-level or climate durability
Recognition	EU-wide	National or regional
Testing	Based on harmonised standards only	May include additional or large-scale testing
Control	Notified Bodies (e.g. RISE)	Accredited certification bodies
Use Case	Enables EU market access	Supports national code compliance & insurance

Exterior FireX™ – Code Compliance and Technical Approvals Across U.S. and International Standards

Globally Certified – From ICC to EN 16755 EXT
Exterior FireX™ — marketed in Europe as Woodsafe WFX™ — is the result of a long-standing transatlantic partnership between **Woodsafe Timber Protection AB** and Hoover **Treated Wood Products Inc**., the leading U.S. manufacturer of fire-retardant treated wood.
With over 70 years of Hoover expertise in shaping U.S. fire-retardant technology, and Woodsafe's European processing precision and regulatory knowledge, this collaboration delivers a solution that meets the most demanding fire safety standards — on both sides of the Atlantic.

Exterior FireX™ (WFX™) — Certified for the Toughest Conditions
Exterior FireX™ — marketed in Europe as Woodsafe WFX™ — is one of the few fire-retardant systems in the world approved for exterior use **without** the need for surface coatings.

Its advanced, non-hygroscopic polymer technology ensures long-term performance even under extreme conditions such as rain, humidity, UV exposure, and freeze–thaw cycles.

Tested and Certified to Leading Standards

- U.S.: ICC, IBC, IRC, AWPA standards
- Europe: EN 13501-1, EN 16755 EXT, SP Fire 105
- Specialised: Military and Wildland–Urban Interface (WUI) standards in North America

Whether for projects in North America, Europe, or other climate-exposed regions with elevated fire risk, WFX™ delivers proven compliance, certified durability, and long-term fire safety assurance.

For international inquiries, certifications, or technical support, contact our team at support@woodsafe.com or call +46 (0)10 206 72 30.

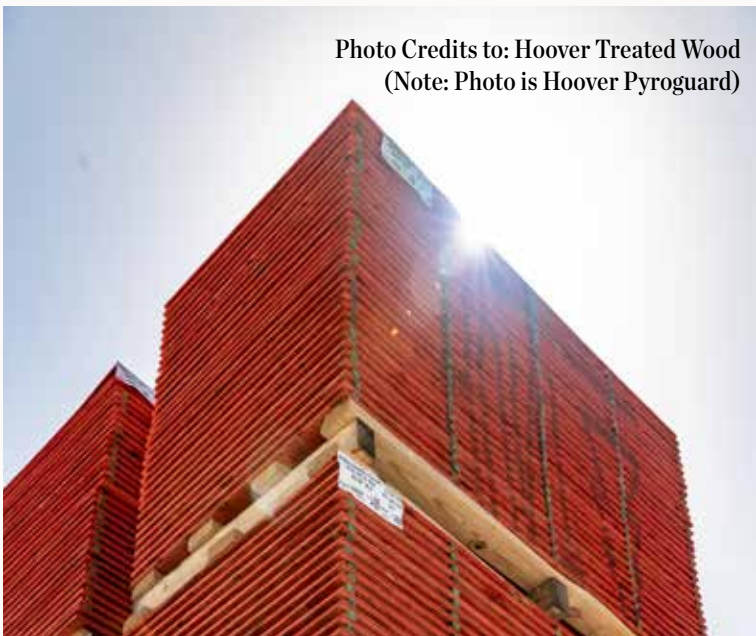


Photo Credits to: Hoover Treated Wood
(Note: Photo is Hoover Pyroguard)

International Code Overview

Photo Credits to: Hoover Treated Wood
(Note: Photo is Hoover Pyroguard)

OVERVIEW	
TEST METHOD	GENERAL INFORMATION
ASTM E84 / UL 723	Wood and plywood designated Exterior FireX™ has a flame spread index of 25 or less (Class A) when tested in accordance with ASTM E-84, "Standard Test Method for Surface Burning Characteristics of Building Materials.
ASTM D2898	Exterior FireX™ shows no increase in the listed classification when evaluated for flame spread after testing in accordance with ASTM D2898 "Standard Test Methods for Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing.
ASTM E84 Extended	Exterior FireX™ lumber and plywood is manufactured under the independent third-party in spection of Underwriters Laboratories (UL) Follow-Up Service and each piece shall bear the UL classified mark indicating the extended 30 minute ASTM E-84 test and no increase in classification after ASTM D2898.
AWPA U1 - Exterior Type	Exterior FireX™ meets the performance requirements of AWPA U1, Specification H for Use Category UCFB (fire protection, exterior, above ground) and AWPA Exterior Type
Department of Defense	Exterior FireX™ is available with a blue colorant or branding as required for identification by the nuclear power industry and Department of Defense (DOD) Mil Spec requirements, Type II (Exterior Type).
MiL-L 19140E	Exterior FireX™ is listed on the Qualified Products List (QPL) for MIL-L-19140E

MIL-L-1940E – U.S. Military Standard for Fire-Retardant Treated Wood

Military-Grade Fire Protection — **Hoover Treated Wood Products** offers fire-retardant wood solutions engineered to meet the demanding requirements of MIL-L-19140E, the U.S. military specification for treated lumber and plywood used in high-risk environments such as naval vessels, coastal infrastructure, and defense facilities.

Exterior FireX™ is designed for long-term fire protection in both interior assemblies and weather-exposed applications. It meets stringent standards for flame spread, smoke development, and durability, even under high humidity and marine conditions — all verified through independent testing and certified third-party inspection.

Recognized as one of the most rigorous fire safety benchmarks globally, MIL-L-19140E ensures that treated wood retains its fire-retardant properties over time — making it a trusted choice for mission-critical construction.

"Exterior FireX™ is the same formulation marketed in Europe as Woodsafe WFX™. Through its transatlantic partnership with Hoover, Woodsafe is able to offer products certified to MIL-L-19140E — delivering U.S. military-grade fire protection to the European market"

Durability Standards for Fire-Retardant Treated Wood – Comparative Overview					
Standard	**Origin & Scope**	**Main Focus**	**Weathering Requirement**	**Fire Testing After Weathering**	**Application Context**
MIL-L-1940E	U.S. Military Standard (Navy) – Fire-retardant lumber and plywood	Long-term fire performance in harsh environments	**Yes** – Accelerated weathering (e.g., ASTM D2898)	**Yes** – ASTM E84 or equivalent required after conditioning	Military buildings, naval bases, exterior critical infrastructure
ASTM D2898	U.S. Standard Practice – Accelerated weathering of fire-retardant wood	Simulated weathering for durability testing	**Yes** – Wetting/drying cycles (Methods A–D)	**Not standalone** – Combined with other fire test methods (e.g., E84)	Used as preconditioning before ASTM E84, E108, E1354, etc.
*EN 16755 (EXT)	European Standard – Durability of fire performance of treated wood	Durability of fire classification over time	Yes – Lab-based leaching & weather simulation	Yes – EN 13823 or ISO 5660-1* after ageing	Exterior timber facades, cladding systems

Note: EN 16755 is not part of MIL-L-1940E

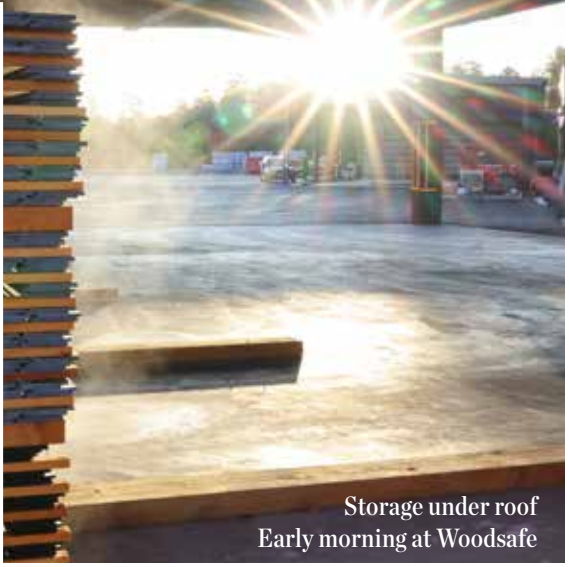
WOODSAFE Facilities

WOODSAFE Stainless Kiln (1 of 7)

Gluelam
WFX™

Logs
WFX™

World Expo Dubai 2020, Logs – PRO™ (in addition to WFX™)



Storage under roof
Early morning at Woodsafe

Verified by Europe's Leading Bodies

Independent Certification Partners – Verifying Compliance Across Europe

Independent Oversight You Can Trust

- **RISE** – Research Institutes of Sweden (NB 0402). Designated Notified Body under CPR 305/2011, responsible for CE certification, factory audits, and continuous surveillance under AVCP System 1.
- **NTI** – Norwegian Institute of Wood Technology. Independent evaluator and third-party verifier for performance and quality documentation in the Nordic region.
- **WPA** – Wood Protection Association (U.K) Member of third-party quality schemes and technical validation frameworks for fire-retardant treated wood in the UK.

Verified Safety. Certified Confidence.
With a solid foundation of CE certification, national Type Approval, and independent third-party oversight, Woodsafe WFX™ delivers durable, code-compliant fire protection — trusted throughout Sweden, the Nordics, and Europe, wherever fire safety is non-negotiable.

Benchmark APPROVED TREATER WPA Certificate no: FR-201901

EN 13823
– Before aging reaction
– After Aging, -Test repeated after artificial weathering.
- Same classification achieven even after aging.

SP Fire 105
– Full-scale façade system fire test.
Read more on page 37.

EN 16755 EXT
– SBI test before
– EN 16755, Method B
– SBI test after
Read more on page 39.

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Typeapproval Certificate
– Sampling
– Testing
– Reporting
– Classification
– Third-Party review
– Control agreement
– Typeapproval Certificate

SP Fire 105 – Full-Scale Facade Fire Testing & Compliance

SP Fire 105 – Full-Scale Testing for Real Facade Safety

Fires don't follow lab rules – neither should fire testing.
That's why Sweden developed **SP Fire 105:** a full-scale method that evaluates how complete facade assemblies behave when exposed to flames, simulating fire spread from a window in a multi-storey building. Unlike small-scale material tests, it measures the interaction of cladding, insulation, cavities, fixings, and substructure under realistic fire conditions.

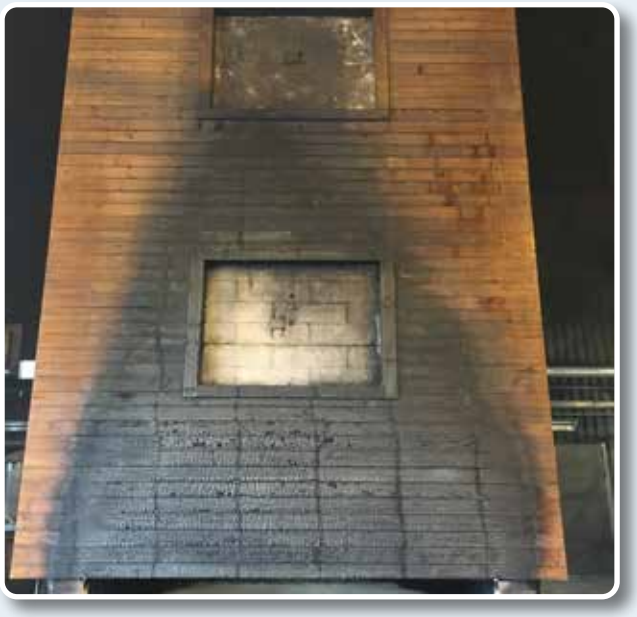
Why It Matters
SP Fire 105 goes far beyond simple material classification. It proves how every component of a façade system works together in a real fire – making it one of the most demanding and trusted test methods for building envelope fire safety.

To pass SP Fire 105 (BFS 2011:16), a façade system must meet all of these criteria:

- No fire spread above the lower edge of the second window above the fire chamber.
- No large falling parts during the test.
- No fire spread to the eaves – or exceeding these maximum temperatures at the eaves:
  - ≤ 500 °C for more than 2 minutes
  - ≤ 450 °C for more than 10 minutes

- Heat flux to the window directly above must not exceed 80 kW/m²

Recognised and Required
In Sweden, SP Fire 105 is mandatory for Br1 buildings. It is also recognised across the Nordics and internationally – in the UK, Norway, Germany, and Canada – as a benchmark for system-level facade fire safety, trusted by regulators, fire engineers, and insurers alike.



EN 16755 European Accelerated Weathering Test

(Method B + SBI)

EN 16755 – Weathering Test for Durable Fire Safety

Fire safety must last — even outdoors.
EN 16755 EXT is Europe's benchmark for proving that fire-retardant treated wood retains its performance in exposed environments. It confirms that fire classification remains unchanged after simulated years of UV, moisture, and weather.

The Test – Method B

- Duration: 6 weeks (42 days) in a climate-controlled chamber.
- Cycle: Alternating UV, water spray, temperatureshifts, and ventilation to simulate extreme outdoor stress.
- Scale: ~242,000 liters of water per chamber over the test period.

This is harsher than most real-world climates, replicating heavy rain, intense sun, and repeated wet/dry cycles.

Fire Testing After Weathering
Once aged, specimens are tested to EN 13823 (SBI). To pass, results must match the original classification — for WFX™, that's B-s1,d0.

What It Proves
Woodsafe WFX™ is certified to EN 16755 EXT, Method B, showing:

- No chemical leaching or loss of performance.
- No coatings required to maintain fire class.
- Verified by independent labs such as RISE.
- Full compliance for façades, soffits, and balconies.

WFX™ is one of the few solutions certified for exterior use without surface protection — performance proven not just at installation, but for the lifetime of the building.

Each 24-hour cycle consists of the following sequence (EN 16755 Method B)

Phase	Duration	Purpose
Water spray	4 hours	Simulates rainfall/wetting
UV exposure	4 hours	Simulates solar radiation
Water spray	4 hours	Additional moisture stress
UV exposure	4 hours	Continued sun exposure
Drying (ventilated rest phase)	8 hours	Simulates daily drying
Repeated daily	6weeks	

U.S. Standards – Proven Durability

ASTM D2898 is a standardized practice used to simulate long-term outdoor weathering of fire-retardant-treated wood products. The method involves exposing the wood to repeated cycles of wetting, drying, and ultraviolet (UV) radiation to mimic environmental conditions before conducting fire performance tests. The objective is to assess whether the fire-retardant treatment remains effective over time when subjected to real-world weather exposure.

Key Aspects of ASTM D2898: To evaluate the durability of fire-retardant treatments by subjecting treated wood to accelerated weathering cycles, replicating the effects of prolonged outdoor exposure.

Methods: ASTM D2898 includes four conditioning procedures (Methods A, B, C, and D), each involving different sequences of water spray and UV exposure to simulate various climatic conditions.

Applications: Primarily used for fire-retardant-treated wood products intended for exterior applications, such as cladding, decking, or structural components exposed to the elements.

Relation to Fire Testing: After weathering, the treated specimens are tested for fire performance using methods such as ASTM E84 (surface burning characteristics), ASTM E108 (roofing systems), or ASTM E1354 (cone calorimeter). This determines whether the treatment maintains its fire-retardant properties after environmental exposure.

Significance: ASTM D2898 provides critical data on the long-term reliability of fire-retardant treatments, helping to ensure product safety and regulatory compliance in exterior use cases.

Scale: The standard allows testing of both large and small specimens, with specific considerations for how specimen size may influence chemical leaching and treatment performance.

Global Relevance: ASTM D2898 is recognized internationally and is incorporated into fire testing protocols across North America, Europe, and Australia, often as a prerequisite for certification of fire-retardant-treated wood in exterior environments.

Built for U.S. Standards – Proven Durability Backed by ASTM and ICC

ASTM D2898 – Accelerated Weathering
Evaluates how fire-retardant treatments withstand prolonged moisture exposure, simulating years of outdoor weathering.

Hoover Exterior FireX™ (marketed as WFX™) passes Method A, confirming:

- Leach resistance
- Suitability for uncoated exterior use

UL classification must include the statement:

"No increase in classification when subjected to the Standard Rain Test (ASTM D2898)"

ASTM E84 – Surface Burning Characteristics
Steiner Tunnel Test measures flame spread and smoke development.

Exterior FireX™ (WFX™) achieves:

- Class A rating (Flame Spread Index ≤ 25)
- No progressive combustion, even after 30-minute exposure
- Flame front remains ≤ 10 $^{1}/_{2}$ feet from the burner centerline

Why Both Tests Matter

- ASTM E84 verifies initial fire safety
- ASTM D2898 proves durability in outdoor exposure

Together, they confirm that WFX™ provides certified, long-term fire protection — not just on day one, but throughout the product's service life.

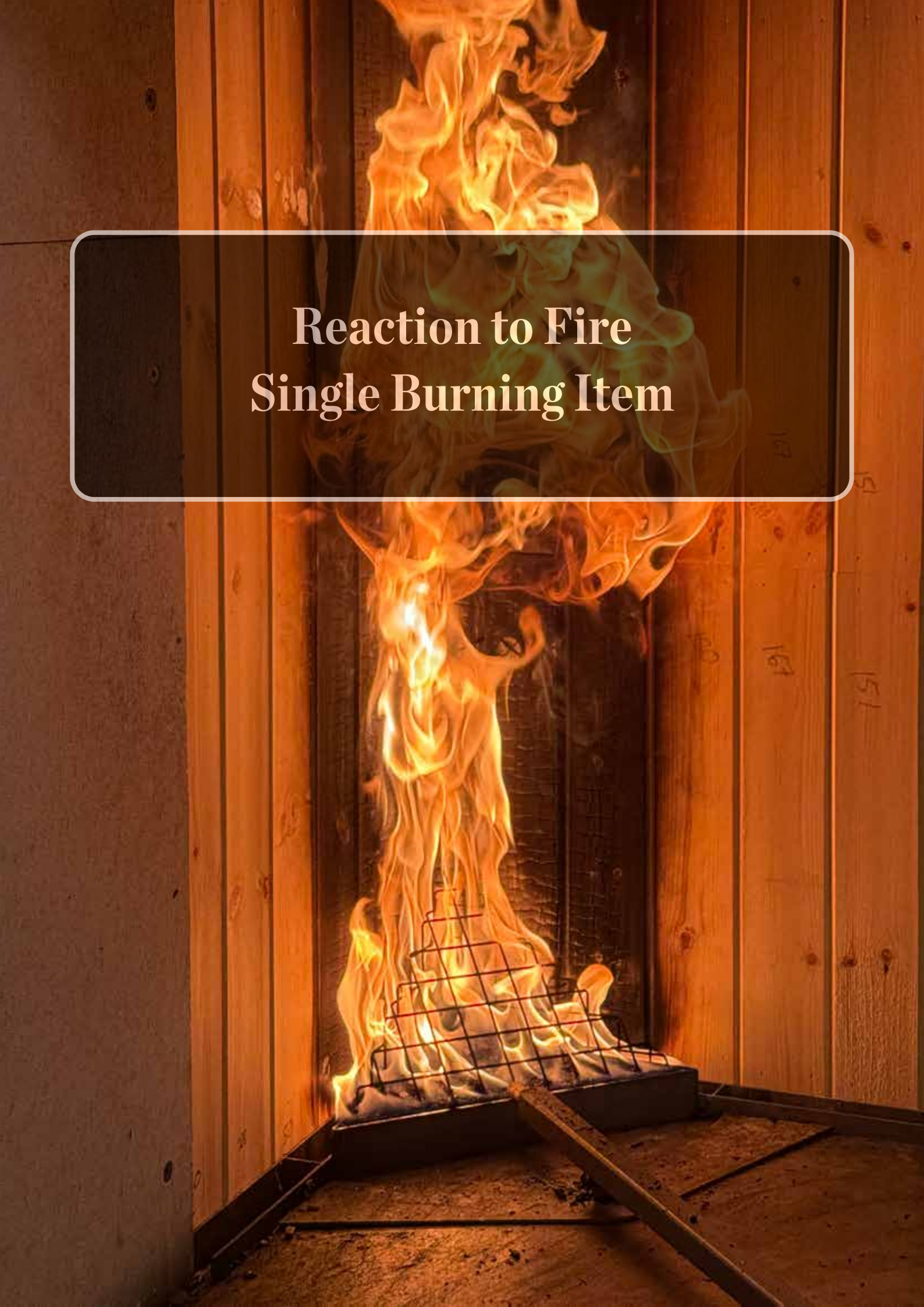
Certified Across Multiple Wood Species
Exterior FireX™ (Woodsafe WFX™) is tested and classified for a broad range of timber types, including:

- Southern Yellow Pine, Douglas Fir
- Western Red Cedar, Redwood
- Southern Yellow Pine Plywood
- Douglas Fir Plywood

The treatment penetrates deep into the wood and chemically bonds within the cell structure, delivering consistent fire performance and preserving natural aesthetics.

Long-Term Protection Without Compromise
From façades and soffits to structural components, Exterior FireX™ (Woodsafe WFX™) offers certified fire safety in exterior applications — without compromising the look, durability, or versatility of real wood.

ASTM INTERNATIONAL



Reaction to Fire
Single Burning Item

Mandatory Fire Classification Under EU Law

The Euroclass system was introduced to unify fire classification for construction products across the European Union. Prior to its adoption, each member state applied its own national fire tests and classification systems — creating barriers to trade, specification, and safe material use across borders.

To resolve this fragmentation, EN 13501-1 was adopted under the Construction Products Regulation (CPR 305/2011) as the harmonised system for classifying the reaction to fire of construction products.

When a harmonised European product standard (hEN) exists — such as EN 14915 for solid wood cladding — manufacturers placing such products on the EU market are legally required to:

- Test their products according to EN 13501-1, based on the relevant fire test methods
- Declare the fire classification in a Declaration of Performance (DoP)
- Apply CE marking as evidence of conformity under the CPR

This makes the Euroclass system mandatory for all construction products covered by a harmonised standard. National regulations across EU member states must accept Euroclass classifications in place of former national classification schemes for these product categories.

How the Euroclass System Works

EN 13501-1 provides a structured framework to assess reaction to fire — i.e. how a product contributes to the early development of a fire, including:

- Flame spread
- Smoke production
- Flaming droplets

It does not assess structural resistance, system-level fire integrity, or toxicity.

Main classes:

- A1 / A2 – Non-combustible or limited combustibility
- B – Very limited contribution to fire
- C / D / E / F – Increasing combustibility

Subclasses:

- s1 to s3 – Smoke production
- d0 to d2 – Flaming droplets

Example:

- Euroclass B-s1,d0 = very limited flame spread, low smoke, and no flaming droplets — the best possible rating for combustible wood products.

Euroclass – Mandatory, But Not the Full Picture

CE Marking and AVCP System 1
Once a product is tested and classified according to **EN 13501-1**, and if it falls under a harmonised standard such as EN 14915, the manufacturer must:

- Compile a **Declaration of Performance (DoP)** stating the declared Euroclass
- Affix the CE mark, referencing **CPR 305/2011**
- Undergo ongoing third-party surveillance if assessed under **AVCP System 1** – required for fire-rated products

AVCP System 1 includes:

- Initial type testing (e.g., EN 13823 + EN ISO 11925-2)
- Factory Production Control (FPC)
- Continuous surveillance by a Notified Body (e.g., RISE, NB 0402)

Legal Status and Limitations
Euroclass classification is mandatory for CE-marked products covered by a harmonised standard, and Member States must accept Euroclass results in place of national fire classifications for these products.

However:

- EN 13501-1 only assesses reaction to fire – not durability, system-level behaviour, or structural safety
- National requirements (e.g., façades in Br1-class buildings in Sweden) may require additional testing, such as **SP Fire 105** or **EN 16755** durability assessment

Conclusion
EN 13823 and **EN 13501-1** form the backbone of the Euroclass system, enabling transparent and comparable fire classification across the EU. When combined with CE marking under **CPR 305/2011** and the appropriate **AVCP system**, fire performance is:

- Declared in a legally binding way
- Verified through harmonised testing
- Accepted across all EU member states – provided the product is used within its declared field of application

EN 13501-1 REACTION-TO-FIRE CLASSIFICATION & EN 13823 SBI TEST

EN 13823 – The Single Burning Item (SBI) Test
EN 13823 is the intermediate-scale fire test that simulates a fire scenario in a small room corner with a 30 kW propane burner, designed to assess how a wall/ceiling product reacts under thermal attack. It measures critical parameters such as:

- Flame spread (lateral flame spread across sample)
- Heat release rate (THR and FIGRA)
- Smoke production (TSP and SMOGRA)
- Burning droplets or particles

These measurements serve as foundational data for Euroclass classification under EN 13501-1. EN 13823 is recognised across Europe as the principal test method for façade and panel materials (excluding flooring)

EN 13501-1 – Euroclass Reaction-to-Fire Classification
EN 13501-1 defines a harmonised system for classifying building materials based on fire performance results from methods including EN 13823, EN ISO 11925-2, EN ISO 1182, EN ISO 1716, and EN ISO 9239-1 (for flooring)

Materials are assigned an overall Euroclass (A1 to F), followed by optional additional ratings for smoke production (s1 – s3) and flaming droplets/particles (d0 – d2), reported in the format: e.g. B-s1,d0

Key Classification Criteria

- EN 13823 SBI provides raw performance data (e.g., FIGRA, THR600s, SMOGRA, TSP600s, LFS, flaming droplets)
- EN ISO 11925-2 tests ignitability
- EN ISO 1182 / ISO 1716 evaluate non-combustibility and gross heat of combustion (used for A1/A2 classes)

Overview - EN13501-1				
Euroclass	**WFX performance**	**Combustibility level**	**Smoke**	**Droplets**
A1	N/A	Non-combustible	-	-
A2	N/A	Very limitid contribution	s1-s3	d0-d2
B	YES	Increasing combustible behaviour	s1-s3	d0-d2
C	YES	Increasing combustible behaviour	s1-s3	d0-d2
D	N/A	Normal untreated wood	s1-s3	d0-d2
E/F	N/A	High susceptibility	-	-

U.S. Defense Standard – MIL-L-1940E

MIL-L-1940E (also written MIL-L-1940E (SH)) is a U.S. Navy specification defining stringent requirements for fire-retardant treated lumber and plywood used in defense-related construction—particularly in humid, coastal, or otherwise demanding environments.

Scope and Purpose
The standard ensures treated wood can:

- Resist combustion and limit flame spread
- Maintain fire performance after exposure to moisture and weather
- Pass fire tests following accelerated weathering (e.g. ASTM D2898)

Key Requirements
1. Fire Performance

- Products must meet strict limits for flame spread and smoke development, typically verified through ASTM E84.

2. Weathering Durability

- Fire protection must remain intact after simulated outdoor exposure, verified by ASTM D2898.

3. Third-Party Certification

- Ongoing quality control is required, monitored by agencies such as UL, QAI, or ITS.

4. Intended Use
Applies to high-risk applications such as:

- Military housing and naval structures
- Ammunition storage
- Coastal or tropical deployments

Why It Matters
MIL-L-1940E is among the most rigorous global standards, combining fire safety with long-term durability. It is widely referenced beyond military use, especially in U.S. public and infrastructure projects where verified, lasting protection is critical.

Technical Notes

- MIL-L-1940E requires post-weathering fire testing — durability alone is not enough.
- ASTM D2898 is a weathering method, not a classification — it must be paired with a fire test.

Credit to "Link": USS Gerald R. Ford

Notes

We're always here to support you. Reach out today and let's ensure fire safety together: +**46 (0)10 206 72 30**

Woodsafe – Built for Safety. Proven to Last

Woodsafe Timber Protection is Europe's leading authority in fire-retardant wood. With cutting-edge treatment technologies – including our proprietary polymer-based systems – we deliver durable, long-term fire protection for both interior and exterior applications. Every solution is backed by third-party certification, national approvals, and decades of proven performance in demanding climates.

That's why architects, engineers, and developers across Europe choose Woodsafe – when safety, compliance, and performance are non-negotiable.

Woodsafe Timber Protection AB
Hubbo Jädra 7, SE 72595 Västerås
Sweden

Phone: +46 (0) 10 206 72 30
E-mail: helpdesk@woodsafe.com
Website: www.woodsafe.com

Woodsafe Research & Development
Website: wrd.woodsafe.com