Technical Data Sheet

Full product data for Grain & Fire Timber charred larch cladding, produced by controlled molecular pyrolysis at our Yorkshire yard. This charred timber cladding specification covers dimensions, char depth, service life, fixings, and maintenance requirements.

Reference: G&FT 3001:A **Issued:** November 2026

Current version: grainandfiretimber.co.uk/charred-timber-cladding-specification/

This is a product data page rather than an installation guide. For clause-by-clause specification wording, see our NBS specification for charred timber cladding, which covers battens, membranes, ventilation and detailing.

Material Overview

Our cladding undergoes controlled molecular pyrolysis. This high-temperature process vaporises volatile organic compounds and wood sugars, namely cellulose and hemicellulose, which starves wood-decaying fungi of the nutrients they need. Consequently, the resulting carbon layer acts as an inert, sacrificial UV shield that does not degrade under solar exposure.

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Charred Timber Cladding Specification: Physical and Mechanical Properties

Base material	Home-grown or European larch as standard, with sourcing details on request. Accoya and Douglas Fir are also available, with other species subject to suitability and availability. The figures on this sheet are for larch unless stated. Larch durability is Class 3 (moderately durable) to BS EN 350 prior to treatment, and Douglas Fir is Class 3 to 4 (moderately to poorly durable), from our supplier's data.
Standard dimensions	Typical boards 21mm x 145mm. Custom dimensions available on request.
Standard profiles	Shiplap, tongue and groove, and board-on-board.
Standard lengths	Larch and Douglas Fir in 600mm increments, from 1200mm to 4800mm.
Density	Larch approximately 590 kg/m^3 at 12-18% moisture content. Douglas Fir approximately 540 kg/m^3 at 12% moisture content, from our supplier's data. For wind load and dead load calculations.
Delivered moisture content	Equilibrium moisture content of 16-18%, calibrated for exterior application.
Dimensional stability	Exceptional. Heat treatment lowers equilibrium moisture content and closes cell cavities, reducing swelling and shrinking.
Sealer and treatment	UV performance is achieved by the charring itself. Applying a natural oil such as linseed further enhances performance and service life.

Char Depth and Service Life by Finish

Char depth is specified by finish rather than quoted as a single figure, because depth directly determines expected service life.

Finish	Char depth	Expected service life*
Dusk (light brushed char)	1mm	20 to 30+ years
Brandy and coloured finishes	1-2mm	20 to 30+ years
Raven (standard char)	2-3mm	40 to 60+ years
Tudor (heavy crocodile char)	3-5mm	60 to 80+ years

*Subject to appropriate detailing to BS 8417 and correct maintenance. Deeper char is generally required for high-wear locations such as coastal sites. The + depends on a good maintenance regime. Dusk is recommended for internal use or light external applications, with a maintenance treatment every 3 years.

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Fixings and Maintenance

Fixings. Austenitic stainless steel only, using annular ring shank nails or screws. Grade A2 is suitable inland. Grade A4, which is 316 grade, is required for harsh environments such as coastal locations. Galvanised fixings are strictly prohibited, since they react with timber tannins and carbon.

Maintenance. A maintenance treatment (a natural curing oil on our current finishes) at 3 to 10 year intervals depending on the finish selected, and as little as every 2 years on very exposed sites, such as south-facing on the coast. This chemically bonds loose carbon particles and prevents mechanical erosion. Lighter and brushed finishes need attention more frequently than heavy crocodile char, with Dusk treated every 3 years.

Cavity and clearance. A continuous minimum 25mm ventilated cavity must be maintained behind the cladding. Minimum 200mm clearance is required between the bottom edge of the boards and finished ground level.

Fire Performance

We are working with a number of key players to enable production in a Euroclass recognised format, and will update specifiers through to full certification. Until then we will not publish a classification we do not hold.

Requirements for external cladding are set out in Approved Document B, so confirm the requirement with your building control officer early. For the current position on a particular project, please contact us directly on 01422 762100.

Compliance and Standards

Performance claims align with UK industry guidance including TRADA recommendations and academic investigation. Our charred timber cladding specification references the following standards.

- **BS EN 350** - natural durability classification of the base timber
- **BS 8605** - external timber cladding, covering moisture management at junctions
- **BS 8417** - preservation of wood, for detailing and service life expectations
- **Approved Document C** - moisture management, ventilated cavities and ground clearance

For the material science behind the durability figures, see how long charred timber lasts. Sustainability evidence is set out on our BREEAM credits page. Independent guidance on timber cladding is available from TRADA.

This is a product data page. It does not provide guidance on how the product is processed after leaving our factory. As a natural material, timber is subject to variation in structure and dimensions. While every effort is made to ensure uniformity, no guarantees are offered beyond those implied by the appropriate BS EN and industry standards.

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Key facts at a glance

Company: Grain & Fire Timber Ltd, Yorkshire, UK

Base material: Home-grown or European larch, durability Class 3 to BS EN 350. Accoya and Douglas Fir (durability Class 3 to 4) also available

Typical board size: 21mm x 145mm, custom dimensions on request

Standard lengths: 1200mm to 4800mm in 600mm increments (larch and Douglas Fir)

Profiles: Shiplap, tongue and groove, board-on-board

Density: Approx. 590 kg/m^3 for larch (12-18% moisture content), 540 kg/m^3 for Douglas Fir (12%)

Delivered moisture content: 16-18% EMC

Char depth: 1-5mm depending on finish (Dusk 1mm, Raven 2-3mm, Tudor 3-5mm)

Service life: 20 to 30+ years (Dusk, Brandy and coloured finishes), 40 to 60+ years (Raven), 60 to 80+ years (Tudor), subject to maintenance

Fixings: A2 stainless steel inland, A4 (316 grade) for harsh environments such as coastal sites

Maintenance: Natural curing oil at 3 to 10 year intervals depending on finish

Fire performance: We are working with a number of key players to enable production in a Euroclass recognised format, and will update specifiers through to full certification. Until then we will not publish a classification we do not hold.

Lead time: Subject to profile and quantity. Contact us for current availability.

Phone: 01422 762100

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Common questions, answered plainly

What is the standard board size for charred timber cladding?

Grain & Fire Timber supplies typical boards at 21mm x 145mm in shiplap, tongue and groove, and board-on-board profiles. Custom dimensions are available on request. Delivered moisture content is 16-18% equilibrium moisture content, calibrated for exterior application.

What char depth does Grain & Fire Timber supply?

Char depth ranges from 1mm to 5mm depending on the finish selected. Dusk is charred to 1mm, Brandy and coloured finishes to 1-2mm, the Raven standard char to 2-3mm, and the Tudor heavy crocodile char to 3-5mm. Deeper char is generally required for high-wear locations such as coastal sites.

What fixings should be used for charred timber cladding?

Austenitic stainless steel only. Grade A2 is suitable inland and Grade A4, which is 316 grade, is required for harsh environments such as coastal locations. Galvanised fixings are strictly prohibited because they react with timber tannins and carbon.

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How often does charred timber cladding need maintenance?

Grain & Fire Timber recommends a maintenance treatment (a natural curing oil on our current finishes) at 3 to 10 year intervals depending on the finish selected, and as little as every 2 years on very exposed sites, such as south-facing on the coast. Lighter and brushed finishes require attention more frequently than the heavier crocodile char, with Dusk treated every 3 years. The treatment bonds loose carbon particles and prevents mechanical erosion.

What fire rating does Grain & Fire Timber charred cladding hold?

We are working with a number of key players to enable production in a Euroclass recognised format, and will update specifiers through to full certification. Until then we will not publish a classification we do not hold. Call 01422 762100 for the current position on a specific project.

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