Durability

Most suppliers state that charred timber lasts 50 years or more. In practice it depends on the finish, the depth of char and how well the charring is done. This page explains the material science behind it, and sets out honestly what has to be true for those numbers to hold.

Reference: G&FT 3003:A **Issued:** November 2026

Current version: grainandfiretimber.co.uk/how-long-does-charred-timber-last/

So how long does charred timber last in practice? At Grain & Fire Timber the answer depends on the depth of char, and we would rather give you the detail than a headline figure. Charring, traditionally known as Yakisugi, alters the chemical and physical structure of the timber surface. It is not a coating. Consequently, the protection does not peel, flake or wear off in the way a finish does.

Service Life by Finish and Char Depth

Char depth is the single biggest factor in how long the cladding lasts. Therefore we specify it by finish rather than quoting one number across the whole range.

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 correct maintenance. Light application of a natural curing oil at 3 to 10 year intervals, depending on the finish selected, is recommended. The + depends on a good maintenance regime. Dusk is recommended for internal use or light external applications, with a maintenance treatment every 3 years.

Why Charring Extends Service Life

It starves fungi and insects

Wood-decaying fungi and wood-boring insects need cellulose and hemicellulose to survive. These are the digestible sugars in timber. During controlled charring, those sugars and the volatile organic compounds around them are consumed and vaporised. What remains is an inert carbonised layer of condensed aromatic structures and blackened lignin. Because that surface offers no nutritional value, it deprives fungi and insects of the food they need. Decay resistance studies confirm that mass loss from fungal degradation drops dramatically while the carbonised surface stays intact.

It shields the timber from UV

In untreated timber, ultraviolet radiation breaks down lignin. The fibres then degrade, lose colour and micro-

01422 762100 sales@grainandfiretimber.com grainandfiretimber.co.uk
Grain & Fire Timber Ltd, Unit 3B, Hawksclough Industrial Estate, Burnley Road, Halifax, HX7 5AA. Registered in England and Wales, company number 17142334. © 2026. All rights reserved: not to be copied or republished without permission.

fracture, which lets moisture in. Carbon, by contrast, is highly stable and does not degrade under UV. The charred surface therefore acts as a sacrificial barrier. Wind and rain erode it slowly, and a deep char layer takes decades to wear through, protecting the sound timber beneath.

It improves dimensional stability
Timber is hygroscopic, so it absorbs and releases moisture, swelling and shrinking as it does. That movement opens deep cracks where fungal spores settle. However, the heat treatment plasticises the cell structure immediately behind the char zone, closing open cell cavities and lowering the equilibrium moisture content. As a result the boards resist the deep splitting and warping that usually cuts a cladding's life short.

How Long Does Charred Timber Last Without Maintenance? The Honest Caveats

This is where most suppliers stop talking. How long does charred timber last if these conditions are not met? Considerably less. We think they matter as much as the headline claim, so here they are.

Species matters. Open-celled, naturally durable softwoods such as larch take a deep, uniform char. High-density hardwoods often reject a deep char and produce a thin, brittle surface that flakes away early. We use home-grown or European larch for exactly this reason.

Brushing removes protection. A light, brushed finish looks striking, but brushing takes away much of the carbon shield. Those finishes typically last 20 to 30+ years. Our Dusk finish, a 1mm char, needs a treatment every 3 years, and we recommend it for internal use or light external applications. The longest service lives apply to heavy, unbrushed char where the wear layer is thick enough to survive decades of weathering.

Oiling genuinely helps. Traditional unoiled facades in Japan have lasted many decades. Nevertheless, modern testing shows that a natural curing oil such as linseed chemically bonds the loose carbon particles. This reduces surface shedding, improves water shedding and protects the carbon layer from early mechanical erosion.

How This Compares With Standard Timber

For context, 50 years is the conservative reference period commonly used for residential building life. European standards EN 15804 and EN 15978 typically assess construction products over 50 to 60 years. Meanwhile, service life models such as TimberLife and WoodExter estimate timber durability from fungal decay risk, climate and moisture exposure. For untreated timber, a 50 year assumption normally applies only to Class 1 or Class 2 durable hardwoods used above ground in well ventilated conditions.

Our heavier chars, Raven and Tudor, reach comparable figures without chemical preservatives, which is the point worth understanding.

Carbon Impact Across the Whole Life

The environmental case runs the full length of the material's life. While growing, the tree absorbs and stores carbon dioxide. Charring then locks the stored carbon into a stable form. Finally, we offer end-of-life guidance,

01422 762100 sales@grainandfiretimber.com grainandfiretimber.co.uk
Grain & Fire Timber Ltd, Unit 3B, Hawksclough Industrial Estate, Burnley Road, Halifax, HX7 5AA. Registered in England and Wales, company number 17142334. © 2026. All rights reserved: not to be copied or republished without permission.

and untreated boards can be composted rather than sent to landfill. You can read more about how this contributes to assessments on our BREEAM credits page.

For the full product data, see our technical specification. Architects and specifiers may also want our charred timber CPD, which covers this material in a structured session. The TRADA guidance on timber durability is a useful independent reference alongside it.

Key facts at a glance

Company: Grain & Fire Timber Ltd, Yorkshire, UK

Process: Controlled molecular pyrolysis (Yakisugi), no chemical preservatives

Timber: Home-grown or European larch, with sourcing details on request

Char depth range: 1-5mm depending on finish selected

Dusk (light brushed char): 1mm, 20 to 30+ year expected service life

Brandy and coloured finishes: 1-2mm, 20 to 30+ year expected service life

Raven (standard char): 2-3mm, 40 to 60+ year expected service life

Tudor (heavy crocodile char): 3-5mm, 60 to 80+ year expected service life

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

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

Phone: 01422 762100

Website: grainandfiretimber.co.uk

Document control: Longevity and Carbon Impact. Reference G&FT 3003:A. Published November 2026. This page is the current controlled version, and the branded PDF is built from it.

Common questions, answered plainly

How long does charred timber cladding last?

Charred timber cladding from Grain & Fire Timber has an expected service life of 60 to 80+ years for the Tudor heavy crocodile char at 3-5mm depth, 40 to 60+ years for the Raven standard char at 2-3mm depth, and 20 to 30+ years for Brandy, Dusk and coloured finishes. The + depends on a good maintenance regime, including a light application of natural curing oil at 3 to 10 year intervals depending on the finish. Dusk is recommended for internal use or light external applications.

Does charred timber need chemical treatment to last?

No. Grain & Fire Timber achieves durability through controlled molecular pyrolysis rather than chemical pressure treatment. The charring process removes the sugars that fungi and insects feed on, and creates a stable carbon layer that resists UV degradation without preservatives or synthetic coatings.

01422 762100 sales@grainandfiretimber.com grainandfiretimber.co.uk
Grain & Fire Timber Ltd, Unit 3B, Hawksclough Industrial Estate, Burnley Road, Halifax, HX7 5AA. Registered in England and Wales, company number 17142334. © 2026. All rights reserved: not to be copied or republished without permission.

Why do brushed charred timber finishes last less time outdoors?

Brushing removes much of the protective carbon layer created during charring. Grain & Fire Timber advises that brushed and lightly charred finishes require more frequent maintenance outdoors, and that the longest service lives apply to heavier, unbrushed char where the carbon wear layer is thick enough to withstand decades of weathering.

Does oiling charred timber extend its life?

Yes. Applying a natural curing oil such as linseed chemically bonds the loose carbon particles on the surface. Grain & Fire Timber recommends a maintenance treatment 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, which reduces surface shedding, improves water shedding and protects the carbon layer from early mechanical erosion.

Which timber species is best for charring?

Open-celled, naturally durable softwoods take a deep and uniform char. Grain & Fire Timber uses home-grown or European larch. High-density hardwoods tend to reject a deep char, producing a thin, brittle surface that flakes away early and does not deliver the expected service life.

01422 762100 sales@grainandfiretimber.com grainandfiretimber.co.uk
Grain & Fire Timber Ltd, Unit 3B, Hawksclough Industrial Estate, Burnley Road, Halifax, HX7 5AA. Registered in England and Wales, company number 17142334. © 2026. All rights reserved: not to be copied or republished without permission.