

Title: Technical Submittal cover page – Viewpoint

SUBMITTAL REQUEST			
A formal Submittal will be issued to the relevant Client / Design Team members via Viewpoint. This section is to describe the submittal type, specific details of the individual items technical properties, outlining available colours, dimensions, manufacturer and supplier etc. If applicable, CE Certs and DoP's will form part of the submittal, as will other relevant technical documentation, photographs and whether a sample is available to view on site.			
1. General Details:			
Project Name:	CWL01	Contract No:	
Submittal Type:	☐ Technical (TS) ☒ Sample (SS) ☐ Shop Drawing (DS) ☐ Material (MS) ☐ Other:		
Package:	Glulam façade – Admin block	Discipline:	Subcontractor
Submittal No.:	CWL01-BTL-SS-01-0	Revision:	00
The numbering convention for submittals should be as per the project naming convention on Viewpoint. if unspecified, please adopt the following: "Org-SubType-Design Discipline-Ref. No."			
Submittal Title:	Sample of British Larch GL20h		
Prepared By Org:	Buckland Timber	Prepared By Name:	Keith O Ceallaigh
Issued To Org:	John Paul Construction	Required By Date:	3 rd March 2025

2. Submittal Details:	
Product / Material Description:	British Larch glulam - GL20h
Product Ref.:	240530m
Product Supplier:	Buckland Timber
Applicable Product Standard(s):	BS EN 14080
Is the Product/Material as specified? Where No, please indicate the basis for equivalence of the alternate solution proposed. Clarify this with reference to a particular paragraph, sentence, and page within the specification.	Yes / No
CE Marking provided? Where No or N/A, Please provide justification.	Yes / No / N/A UKCA (BS equivalent)
Declaration of Performance provided? Where No or N/A, Please provide justification.	Yes / No / N/A
Current EU-27 Notified Body Cert provided? Where No or N/A, Please provide justification.	Yes / No / N/A UKCA Assessment body

Product Datasheet provided:	Yes / No / N/A
Test Data or other certs provided:	Yes / No / N/A
Additional Information:	

SUBMITTAL REVIEW		
This section is capturing the review comments and approval status from the relevant Client / Design Team members authorised to approve submittals of this type and discipline.		
3. Submittal Status and Comments:		
☒ Status A – Accepted / Approved ☐ Status B – Approved with Comments ☐ Status C – Rejected A submittal is to achieve either Status A or B before procurement or off-site fabrication can commence.		
Status B & C Comments:	STATUS: A – No Further Comment Status 'A' is offered on the basis that the GC has reviewed this submittal to ensure all previous AE comments have been accommodated and that this submittal is considered by the GC to be fully compliant with the Employer's requirements & associated specification. The status of this technical submittal does not relieve the contractor from fulfilling his duties detailed within the contract documents. PINNACLE CONSULTING ENGINEERS	
Response By Org:	PINNACLE	Response By Name: Benson Fung
Please respond to this submittal via Viewpoint. If you have any queries please contact the Project Manager / Quality Lead at the following; name1@johnpaul.ie or name2@johnpaul.ie		

Project: CWL01

Document No. CWL01-BTL-SS-01-0

Architectural specification: CWL01-A-SP-01-0

Part 2 – Products

C. EWS-701 External Brise Soleil – 1. C. Supporting structure

Drawing ref:

Architectural; CWL01-A-H-03-A to CWL01-A-K-06-A

Reference; STB-101, STB-121

Engineers; CWL01-S-C-16-A to CWL01-S-J-06-A

Reference; TC01,TB01,TB02, TB03 (engineer)

Location: Admin facade

Material description: British Larch glulam - GL20h

Finish: SiooX - 3 coat system

Date issued: 25/02/25

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1) UKCA certification:



Approved Body No. 1224

Certificate of Constancy of Performance**1224-CPR-0422**

In compliance with Construction Products Regulation 2011 (retained EU law EUR 2011/305) as amended by the Construction Products (Amendment etc.) (EU Exit) Regulations 2019 and the Construction Products (Amendment etc.) (EU Exit) Regulations 2020, this certificate applies to the Construction Product

Glue Laminated Timber

Intended for use in load bearing structures. Product characteristics as follows:

Strength Class(es)	GL20, GL24
Species/Strength Class	GL20 – UK Larch (<i>Larix kaempferi</i> and <i>L. Leptolepis</i>) GL20 – Douglas Fir GL24 – spruce (<i>picea albies</i>), NNE European, European Redwood (<i>Pinus sylvestris</i>) and Siberian Larch (<i>Larix sibirica</i>)
Adhesive Type	Kauramin 683+Hardener 688 Type 1 (service class 1,2,3)
Formaldehyde Class	E1
Reaction to Fire Class	d-S2. D0
Durability Class	4 (EN350-2)

Placed on the Market under the Name of

Buckland Timber Ltd
Marsh End, Lords Meadow Industrial Estate
Crediton, Devon
EX17 1DN

and produced in the manufacturing plant

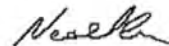
Buckland Timber Ltd, Marsh End, Lords Meadow Industrial Estate, Crediton, Devon, EX17 1DN

This certificate attests that all provisions concerning the Assessment and Verification of Constancy of Performance described in Annex ZA of the standard(s)

EN 14080: 2013

Under System 1 for the performance set out in this certificate are applied and that the Factory Production Control conducted by the manufacturer is assessed to ensure the constancy of performance of the construction product.

This certificate was first issued on 16/01/2022 and will remain valid as long as neither the designated standard, the Construction Product, the AVCP methods nor the manufacturing conditions in the plant are modified significantly, or unless suspended or withdrawn by the Approved Product Certification Body.

Date of Initial Certification: **26/01/2022**Date of Last Issue: **10/06/2024**Date of Expiry: **25/01/2028**

Neal Holden (General Manager)
For and on behalf of Element

2) Declaration of performance:



Buckland Timber
Glulam Manufacturers

Marsh End, Lords Meadow Industrial Estate
Creddon, Devon, EX17 1DN
T +44(0)1363 801 363
info@bucklandtimber.co.uk
www.bucklandtimber.co.uk

Declaration of performance

NO.02

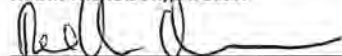
1. **Unique identification code of the product type:**
Glulam in accordance with BS EN 14080:2013
2. **Unique identification code of the product according to article 11(4) of EU regulation No. 305/2011:**
The unique job reference number is applied to each product and or each delivery note
3. **The intended use of the construction product in accordance with the applicable harmonized technical specification:**
Buildings and Bridges
4. **Name, registered trade name of registered trade mark as well as contact address of the manufacturer pursuant to article 11 (5) of EU regulation 305/2011:**
*Buckland Timber Ltd.
Marsh End,
Lords Meadow Industrial Estate
Creddon
EX17 1DN*
5. **Where applicable, name and contact address of authorised representative whose mandate covers the tasks specified in article 12(2):**
No Representative
6. **System or systems of assessment and verification of constancy of performance of the construction as set out in Annex V**
System 1
7. **In the case of the declaration of performance concerning a construction product covered by a harmonised standard:**
The notified body BM Trada -1224, has performed initial type testing, initial assessment of the factory production control and continuous surveillance of the factory production control under system 1 and issued Certificate 1224 - CPR – 0422
8. **In case of the declaration of performance concerning a construction product for which a European technical assessment has been issued.**
Not Relevant
9. **Declared performance**

Essential Characteristics	Performance	Harmonised technical specification
Elastic Module	<i>GL20h & GL24h in accordance with 14080:2013</i> <i>Assignment of the timber to the strength classes can be obtained from production data sheets.</i> <i>The respective product dimensions can be found in the accompanying documentation</i>	<i>EN 14080:2013</i>
Bending strength		
Compression Strength		
Tensile Strength		
Shear Strength		
Bonding Strength	<i>Glue type 1 in acc. With EN 301 & 302</i>	
Fire Resistance	<i>D-s2, d0 in accordance with EN 1408:2013 table 11</i>	
Release of hazardous substances	<i>Formaldehyde emission class E 1 in accordance with EN 14080:2013 Appendix A</i>	

10. **The performance of the product identified in points 1 and 2 is in conformity with the declared performance in point 9:**
This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 4.

Signed for and on behalf of the manufacturer by:

Robin Nicholson, Director



(Signature)

Date:

06/06/2024

3) Check of governing body:

25/02/2025, 11:27

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CAB profile

Warringtonfire Testing and Certification Limited, trading as BM TRADA

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[Details](#)

[Legislative areas](#)

[Product schedules](#)

[History](#)

CAB details

CAB name Warringtonfire Testing and Certification Limited, trading as BM TRADA

Body number 1224

Previous Body number(s)

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Registered test location United Kingdom

Body type Approved body
Technical assessment body
NI Notified body

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4) Product Specification Sioo X:

Document number: UK1

Version 3

Date: 20/04/2018

SiOO:X Wood Protection Product Specification

SiOO:X Wood Protection is a water-based wood impregnation system which uses proven silicate technology and natural materials to give wood long life surface protection. It is completely safe, inert and environmentally friendly.

The product is manufactured by Sioo Wood Protection AB, Gothenburg, Sweden.

SiOO:X uses a patented (WO 2007/11156) two component system consisting of the SiOO:X Wood Protector and SiOO:X Surface Protector. The two components are designed to be used together in exterior environments and interact synergistically to create a unique system to protect wood surfaces.

The effect is due to the properties of mineral silicates. In essence the method imitates how nature itself protects wood by petrification or creation of fossils. The SiOO:X system only contains natural mineral and plant-derived ingredients which are biocide and emission free.

Technical Specification

1. SiOO:X Wood Protector

The first stage of the treatment uses a mineral silicate solution that is able to penetrate many wood species very efficiently.

The SiOO:X Wood Protector contains potassium silicate and natural extracts of wood and plants. The pH value is approximately 11. Due to the alkalinity of the mineral silicate solution, SiOO:X Wood Protector penetrates most wood species very effectively. As a result of this, SiOO:X penetrates the microstructure of the wood fibres. It does it so well that SiOO:X can be used

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on practically all types of wood. It is highly effective with ThemoWood. As with all treatments, the depth of penetration depends upon the permeability of the wood species. The level of water uptake of timber species is defined in terms of Treatability Classes as stated in BS EN 350-2. In most species sapwood is more permeable than heartwood. When brushing or spraying the wood protector onto planed timber it is often advantageous to sand the wood surface to remove the 'machining glaze'.

Over time, the mineral silicate cures by reacting with atmospheric carbon dioxide to precipitate an insoluble silicate network that is deposited inside the wood. When the crystals are deposited inside the wood cell wall this can improve the dimensional stability of the wood, as well as reducing the susceptibility of the wood to decay organisms. Where the crystals are deposited in the wood pores, this reduces the transport of liquid water into the wood. The deposited silicate crystals also harden and cement the wood surface, which discourages attack by wood-degrading insects. However, water vapour is still able to enter and leave the wood, so that it is 'breathable'. The silica layer also reflects heat. When the wood is first coated with SiOO:X it turns a yellowish-brown colour, but as the surface modification system cures the wood develops a silvery-grey patina.

The effectiveness of SiOO:X against decay micro-organisms is proved by recent 'pure-culture' tests according to the EN 113 protocol conducted by SP of Sweden, where it was found to meet the durability requirements for Use Classes 1, 2, 3.1 and 3.2 (EN 335-1).

2. SiOO:X Surface Protector

After the first stage of treatment with the Wood Protector, SiOO:X Surface Protector (a silane based emulsion) is applied. This cures by cross linking to form a flexible silica network and provides a water-resistant barrier preventing leaching of the mineral silicate before it has fully cured.

The formula is designed to combine SiOO:X Wood Protector and SiOO:X Surface Protector, but SiOO:X Surface Protector can also be used separately on mineral surfaces and wood.

The two products complement each other and interact. In doing so, major synergistic effects are created. SiOO:X Wood Protector opens up the wood for the Surface Protector to penetrate more effectively. SiOO:X Surface Protector in turn fixes the wood protection in the wood chemically as well as physically. Thus it has a double function as an extra fixing agent and a water repellent. SiOO:X Surface Protector is also open for diffusion of water vapour but creates an optimal environment for the two products in co-operation to effectively protect the wood. The silicon-oxygen bond that is formed during curing is completely stable to UV light, meaning that the SiOO:X Wood Protection system is chemically and physically inert.

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Preparation for Treatment

For new timber, the best penetration of the treatment is achieved on a sawn surface. At the very least the surface should be sanded with no finer paper than 60 grit.

If necessary, for existing structures:

Clean the surface from oil, colour, dirt and grease.

1. Soak the surface with a cleaning agent. Allow a few minutes for it to penetrate the surface.
2. Clean with a rotating brush or a high pressure cleaner or a thick and soft brush.
3. If necessary use a sanding machine to clean the surface. This can also help with penetration of the formulation.

SiOO:X Wood Protector is alkaline. Protect glass, aluminium etc, by masking. Should it be necessary, wipe off spillage with a wet rag. Use eye protection and gloves. If the solution solidifies it is difficult to remove. On glass it can be scraped away by carefully using a razor-like blade.

Climate Conditions for Treatment

The treatment is to be applied under cover or in the open in dry conditions to avoid rain during treatment.

The treatment is not to be carried out at temperatures below 5 degrees centigrade or externally in direct sunlight on very hot sunny days. If treating by hand outside in the UK the best times to treat are between April and October.

Application of the Treatment

Factory treatment

Factory treatment is **always to be preferred** as better quality control is achieved. Sioo has approved treatment companies, see www.sioox.org.uk, who are experienced in applying SiOO:X and with initial preparation. As the treatment is applied under cover in controlled conditions the process can proceed at any time.

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Step 1 – SiOO:X Wood Protector

When the wood is dry, apply SiOO:X Wood Protector twice with an interval of at least 2 hours. Put it on evenly and abundantly with a soft brush, roller, sprayer, or vacuum coater. The surface of the timber should be fully saturated (including the end grain). Brush it out till all liquid on the surface is gone. Stir it during treatment. After at least 4 hours the Surface Protection treatment should be applied. On standard surfaces 1 litre is sufficient to cover 6-8 sq. metres with the first coat and 10-12 sq. m with the second coat. On new sawn surfaces the amount required may increase by up to 30%.

SiOO:X Wood Protector withstands some light showers of rain, but not prolonged or heavy downpours. If heavy rainfall occurs it is essential to repeat the treatment.

Step 2 – SiOO:X Surface Protector

When the SiOO:X Wood Protector has dried for at least 4 hours, and before it rains, the coating of SiOO:X Surface Protector should be applied. Put it on evenly and abundantly with a soft brush, roller or a sprayer. Permit the fluid to be absorbed for a few minutes. Then continue until the wood is saturated. One litre will cover 8-12 sq. metres.

The surface is ready to use after about an hour. After 10–14 months the components have fully hardened.

N.B. Consumption of the treatment fluid varies depending on the type of wood, surface structure, moisture content and age.

Safety Considerations

SiOO:X Wood Protection contains no ingredients that mean it has hazardous properties and that necessitate an obligation to label. Accordingly, there are no hazardous substances as set out in the directive 67/548/EEC or 1999/45/EEC, or persistent, bio-accumulative toxic substances according to annex XIII or substances on the Candidate list. In addition, there are no harmful substances or parts of the product that are designated as irritating.

Both components are non-toxic and emission free.

Safety Data Sheets are available for both components and should be taken as integral to this specification.



Exposure Limitations/Personal Protection

Exposure limit values

Does not contain substances and such concentrations that restrictions are necessary

Exposure limitations at the workplace

1. Respiratory protective equipment

When spraying in an enclosed area or if ventilation is inadequate use suitable face protection.

2. Protective gloves

Wear protective gloves when handling

3. Eye protection

Wear close fitting goggles or a face visor if there is a risk of splashing

4. Protective clothing

Wear protective clothing as needed

Wash with soap and water after handling

Maintenance

Should the treated surface be damaged in assembly and construction apply more SiOO:X Surface Protector to the damaged area. If major damage occurs first apply the SiOO:X Wood Protector.

With correct application SiOO:X will give a life of up to 15 years. Sioo Impregnation hardly requires any maintenance. If possible keep the surface clean. Dirt should be removed. Should a part of the bright treated surface be scraped off, just apply more SiOO:X Surface Protector. The bright surface will return within a few months. If major damage is done also SIOO:X Wood Protector should be applied.

SiOO:X is completely free of biocides. In some circumstances and especially in warm and prolonged humid conditions there may be cases of grey staining developing under the protection system. Where this occurs, it is restricted to the sapwood. This is a natural part of the weathering process and as the SiOO:X system cures this will become less noticeable. This does not indicate that wood decay is taking place. Black spot may sometimes occur on the surface and this can be removed by washing with a neutral cleaner or SiOO:X Maintenance Wash. In susceptible areas recurrence of black spot can be reduced by re-applying the Surface protector, or in more severe cases re-applying the Wood Protector followed by the Surface Protector.

On decking surfaces it is recommended that a second coat of the Surface Protector is applied after a year. At this stage clean the surface with an alkaline cleaner and a soft brush and then make a second application.



5) Sample photos:



