

**NORclad**<sup>®</sup>  
TOTAL CLADDING SOLUTIONS

Timber Cladding Guide  
V2.0 2016



21 C&D Somerset Square  
Nailsea  
Bristol  
BS48 1RQ

Email: [sales@norclad.co.uk](mailto:sales@norclad.co.uk)  
Tel: (01275) 794735

**[www.norclad.co.uk](http://www.norclad.co.uk)**

# Contents

- 1 Introduction
- 2 NORclad® Face Fixed Profiles
- 3 NORclad® Secret Fix Profiles and Trim
- 4 Timber Species Options
- 6 Ten Benefits of Wood
- 7 Pressure Treated Timber Cladding
- 9 How do we Pressure Treat Timber?
- 10 GREENGUARD Certification
- 12 Chain of Custody
- 13 Fire Retardant
- 15 UK Painted
- 16 Swiss Painted
- 17 Warranty Statement
- 18 Contact



With over 35 years of experience in developing, manufacturing, marketing and the distribution of a range of sustainable timber product solutions, NORclad® with its experienced team are proud to continue to develop our business with our valued clients, suppliers, and our own people.

The foundation of our culture is partnership. A clear open, honest and trusting relationship with all our valued clients and suppliers, leads to greater mutual success.

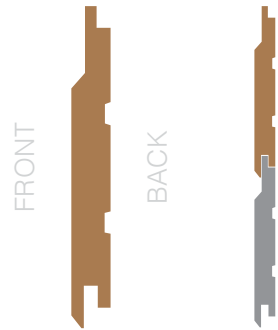
In today's modern and fast changing world, the difficult economic times we all face, constant pressures and demands on all of our precious time, NORclad® have developed a range of innovative and sustainable timber products which offer significant benefits, and at the same time are very cost effective.

A handwritten signature in black ink, appearing to read 'Alistair Brown', with a large, sweeping underline.

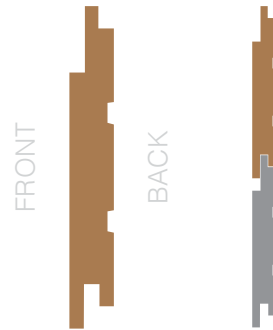
**Alistair Brown**  
Managing Director

# NORclad® Face Fixed Profiles

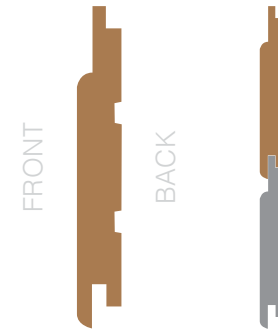
These profile drawings are a representation of the most popular within the NORclad® range.  
A service offering bespoke non-standard profiles is available on request.



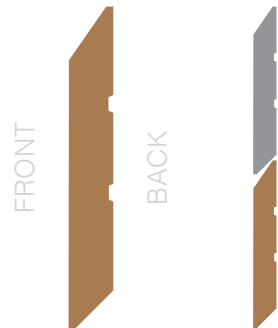
**Ex 25mm x 150mm:**  
NWC1 FACE FIX



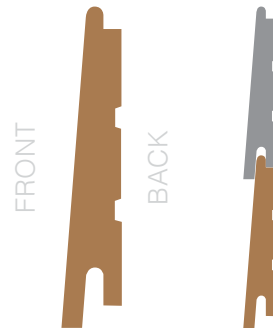
**Ex 25mm x 150mm:**  
NWC2 FACE FIX



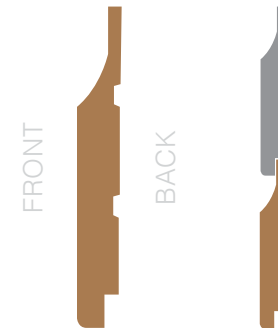
**Ex 25mm x 150mm:**  
NWC3 FACE FIX



**Ex 25mm x 150mm:**  
NWCC1 FACE FIX



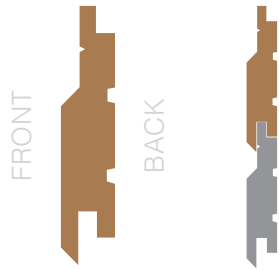
**Ex 32mm x 150mm:**  
NWFE2 FACE FIX



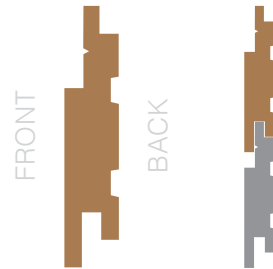
**Ex 25mm x 150mm:**  
NWS1 FACE FIX

# NORclad® Secret Fix Profiles & Trims

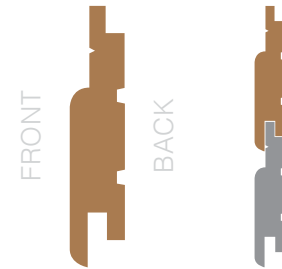
These profile drawings are a representation of the most popular within the NORclad® range.  
A service offering bespoke non-standard profiles and trims is available on request.



**Ex 25mm x 100mm:**  
NWSN1 SECRET FIX



**Ex 25mm x 100mm:**  
NWSN2 SECRET FIX



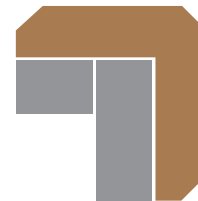
**Ex 25mm x 100mm:**  
NWSN3 SECRET FIX



**Ex 75mm x 75mm:**  
NWA1 TRIM



**Ex 50mm x 50mm:**  
NWA2 TRIM



**Ex 63mm x 63mm:**  
NWA3 TRIM



**Ex 50mm x 50mm:**  
NWA4 TRIM

# Timber Species Options

We have developed a portfolio of species to select from depending on various factors under consideration when ordering/specifying cladding.

The varied range of species offered by NORclad® will stimulate customers requiring cladding to make the right choice to satisfy their requirements. All the timber species offered come from renewable sources and offer a low carbon footprint when compared with other construction materials.

By speaking to NORclad® and clearly specifying what you want from your cladding, selecting one of the species with if necessary one of the additional treatment services offered by NORclad® will give you the cladding solution you require.

## Kiln Dried Scots Pine-European Redwood (*Pinus Sylvestris*)

Commercially known as European Redwood and comes from mainly privately owned and some state owned forests in Sweden. Known for its good quality slow grown redwood, the forests in Sweden are managed in accordance with PEFC or FSC forestry certification and Swedish Forestry Laws ensuring all timber comes from sustainable sources. The timber produced typically works and machines well and is naturally resinous. Its low moisture content (usually between 12 - 14%) and open cell structure making it an easy species to treat to achieve protection against insect attack and fungal decay for a minimum of 30 years when used in an external, above ground application. Customers interested in this timber species should now consider the various pressure treatment services offered by NORclad® to complete the job.

## Imported Western Red Cedar (*Thuja Plicata*)

Commercially grown in Canada and the Coastal Pacific north west of the USA. It is very slowly grown with a close fine straight grain and is predominantly a red/brown colour. It is an extremely stable timber and generally defect free with very few knots. If an almost knotless finish is required care should be taken at point of order to ensure the correct grade of Western Red Cedar is specified. When exposed to rain and sunlight Western Red Cedar will go a silver grey colour in quite a short timescale. Rated as durable, the heart wood will give a service life in excess of 60 years out of ground contact.

## Kiln Dried Siberian Larch (*Larix Sibirica*)

Regarded as the only true Siberian Larch so it is important to specify this particular Larch species which comes from the Lake Baykal region of Siberia. It has a consistent creamy yellow brown colour and is slow grown with a tight straight grain. Siberian Larch has live inter-grown knots similar to those in Swedish European Redwood and it contains a natural fungicide called arabinoglactan giving it a service life in excess of 50 years out of ground contact. It is a strong durable and hardwearing timber and when exposed rain and sunlight will go a silver grey colour.

## UK Grown Western Red Cedar (*Thuja Plicata*)

Commercially introduced into the U.K. in the 1950's. Freshly machined it is a pale reddish brown colour weathering to a silver grey when exposed to rain and sunlight. It typically has a straight close grain and is exceptionally stable in use. U.K. grown Western Red Cedar contains aromatic oils giving it natural resistance of up to 50 years from insect and fungal attack as long as the timber is in a position to dry out when it has become wet. U.K. grown Western Red Cedar falls slightly short of the imported variety as it is rated as only moderately durable.

## UK British Grown Larch (*Larix Deciduas*)

British larch which is a very strong and durable timber. It is a very light brown colour and has frequent dark knots. This makes it usually unsuitable for machining profiles and the knots tend to loosen and fall out when drying or machining. Its best used with a sawn finish. It typically has a good straight grain but can be prone to splitting and has a high resin content which in certain conditions can ooze out. Over time when exposed to rain and sunlight British Larch will turn a silver/grey colour.





**NORclad**<sup>®</sup>  
TOTAL CLADDING SOLUTIONS

## Case Study

**Hanham Hall, Bristol**

MicroShades 'Brunnea' treated European Redwood.

# Ten Benefits of Wood

- 1 Wood is carbon neutral because trees absorb Co2 as they grow. In-fact, because of the Carbon Sink effect of forests, wood from sustainably managed forests can actually be better than carbon neutral.
- 2 Wood has the lowest embodied energy of any mainstream building material. Compared to sawn softwood the amount of energy required to produce other materials are as follows. A ton of bricks requires four times, concrete five times, steel six times and aluminium 126 times.
- 3 Europe's forests are growing by over 1,500,000 acres every year the equivalent of three football pitches every hour.
- 4 Timber certification now allows consumers to select timber from these sustainably managed forests and follow its path along the supply chain
- 5 Over 97% of the softwood used in the UK comes from European forests.
- 6 Trees absorb one tonne of Co2 and produce three quarters of a tonne of oxygen for every cubic meter grown.
- 7 Using Softwood Timber Cladding on a typical three bedroom house can reduce the Co2 footprint of the house by 2.4 tonnes.
- 8 Wood is waste efficient. Virtually all parts of a tree can be utilised. Even waste products are converted into particleboard and chipboard. Wood is recyclable, it can be disposed of safely and it is biodegradable
- 9 Wood is available in a wide variety of densities, colours, strengths and sizes. The technical performance of timber is covered by many British Standards and readily available technical data.
- 10 The cellular structure of wood provides good thermal insulation. The equivalent thickness of wood is 15 times better as an insulator than concrete, 400 times better than steel and 1770 times better than aluminium. For example a 2.5cm board has a better resistance to the loss of heat than 11.4cm brick wall.

# Pressure Treated Timber Cladding

## Why Do We Pressure Treat Timber?

Protection against attack by wood boring beetles or termites and fungal decay. The benchmark figure for this is where the moisture content of timber is greater than 20% and remains that way. Under these conditions timber will decay naturally.

## Should Timber Be Pressure Treated?

When deciding if timber should be treated for a particular end use we must carefully consider what conditions the piece of timber will be subject to during its life.

### What Timber Can Be Pressure Treated

Different species of timber are classified in terms of their natural durability and permeability to preservative treatment. Timber species rated with a high level of natural durability may not require timber treatment however if any sapwood is present or the species does not have a high natural durability rating then preservative treatment is recommended. When selecting timber for treatment these factors along with the end use of the timber, or Use Class determine how much preservative is required to provide long term protection against insect attack and fungal decay.

To achieve effective and long term preservative treatment four key factors must be followed:

- Appropriate selection and preparation of wood.
- Use of an effective wood preservative.
- Selection of appropriate treatment process for desired end use.
- Correct installation of the final treated product.

### Cladding Timber Selection

All the species in the NORclad range that require treatment are machined from high quality material with a low moisture content. This enables the timber to be treated to meet the requirements of BS 8417 Preservation of wood – Code of Practice.

### 30 Year Warranty

By selecting the correct species for the desired Use Class and then pressure treating these species to Use Class 3, 30 year specification all pressure treated cladding in the NORclad range can be offered with a 30 year warranty against insect attack and fungal decay. *Please see the Warranty Statement.*

### Micronized (Brunnea) System of Pressure Treating Timber

The Norclad range is pressure treated using MicroPro, a revolutionary new preservative system from Koppers Performance Chemicals. Micronized pressure treated wood offers enhanced technical performance and distinctive environmental and aesthetic product features when compared to other current copper based systems. It also has GREENGUARD GOLD Certification showing it has undergone rigorous testing and has met stringent standards for low volatile compound (VOC) emissions.

The Micronized/Brunnea process offers the same long term protection against insect attack and fungal decay but also contains a brown pigment, (Brunnea). This system provides a significantly improved colour life in treated wood products, compared to traditional dye based systems.

Other species in the NORclad® range can also be treated. Please contact us for more information.



**NORclad**<sup>®</sup>  
TOTAL CLADDING SOLUTIONS

## Case Study

**Oatley Park, Bristol**

MicroShades 'Brunnea' treated European Redwood  
and Southern Yellow Pine.

# How do we Pressure Treat Timber?

The pressure treatment process begins with untreated wood products being transferred into a treatment cylinder. Once the wood is inside the cylinder, the door closed and sealed, and a computerised process control system starts the pressure treatment process.

The first step in the treatment process begins when a vacuum pump removes the air from the treating cylinder. This opens the cells in the timber by taking air out of them.

When the vacuum step is complete, the next part of the process is transferring the treatment solution from the storage tank into the cylinder. Once the cylinder is full with treatment solution, the next step is to pressurise the cylinder using a pressure pump. The increased pressure in the cylinder forces the treatment solution into the wood through the open cells.

When the pressure cycle is complete, the next step is to transfer the remaining treatment solution back into the storage tank.

The final step in the pressure treatment cycle is to initiate a final vacuum.

Once the final vacuum step is complete, the cylinder door is opened and the pressure treated wood is removed from the treatment cylinder and the process is completed.

The treated wood is then stored in a drip area to dry.

## Koppers Micronized Timber

MicroPro technology is a revolutionary new wood preserving process system. The Koppers MicroPro wood preservative system is based on micronized copper and quaternary compounds. Wood pressure treated with MicroPro technology offers many benefits.

MicroPro is a revolutionary preservative system incorporating copper and co-biocides to create a new generation of wood preservatives. Wood treated with MicroPro technology offers many benefits.

## Modern Fresh Appearance

Micronized timber is lighter in colour compared to current copper based treated products. The unique appearance helps to differentiate the product in the market place allowing DIY enthusiasts and contractors to build projects that appear lighter and more natural in appearance.



## Koppers Microshades (Brunnea)

MicroPro pressure treated wood products are also available in an attractive brown (Brunnea) colour by adding a pigment to the MicroPro treatment solution. This is the first micronized pigmented wood colourant system that can be used 'in solution' as part of the wood impregnation process.

## The MicroPro Process

Unlike current preservative formulations the MicroPro technology allows the sub-micron particles of copper to penetrate the wood in solid form.



## Reduced Environmental Impact

Wood products treated with the MicroPro process result in the release of less copper into aquatic and terrestrial environments compared to standard treated wood products. The MicroPro treated wood process is certified under Scientific Certification Systems Environmentally Preferable Product program based on life-cycle assessment.

# GREENGUARD Environmental Institute



UL Environment's Greenguard Certification program helps manufacturers create and buyers identify and trust interior products and materials that have low chemical emissions, improving the quality of the air in which the products are used. All certified products must meet stringent emissions standards based on established exposure criteria. Greenguard Certification is broadly recognized and accepted by sustainable building programs and building codes around the world.

**Koppers MicroPro: Greenguard Gold Certified.**  
**Koppers MicroPro Technology has achieved UL Greenguard Gold Certification.**

MicroPro UL GREENGUARD GOLD Certification indicates a product that has undergone rigorous testing and met stringent standards for low volatile compounds (VOC) emissions. Products certified to this criteria are suitable for use in schools, offices and other sensitive environments. Products bearing the UL GREENGUARD GOLD Certification mark meet strict testing criteria for VOC's, helping to reduce indoor pollution, minimize chemical exposure and create healthier indoor environments.

## Koppers MicroPro: GREENGUARD Certified!

Koppers MicroPro technology has been awarded the GREENGUARD Children & Schools Certification.

GREENGUARD Children & Schools Certification indicates that a product has undergone rigorous testing and has met stringent standards for low volatile organic compound (VOC) emissions. Products certified to this criteria are suitable for use in schools, offices and other sensitive environments.

The Certification Programme is among the most stringent chemical emissions standards in the world requiring products to be tested annually and monitored quarterly for more than 10,000 different chemicals.

“By achieving GREENGUARD Certification for their MicroPro technology, Koppers has demonstrated to buyers, retailers, and consumers their commitment to environmental excellence, healthy lifestyles, and sustainable living”

Henning Bloech, Executive Director of GEI.



**NORclad**<sup>®</sup>  
TOTAL CLADDING SOLUTIONS

## Case Study

**Risbygate, Suffolk**

MicroShades 'Brunnea' treated European Redwood.

# Chain of Custody

The choice of materials by buyers in every market sector is now influenced by environmental concerns and to compete effectively, wood products must show their environmental credentials.

In the timber trade, there is an increasing demand for FSC® and PEFC™ certified wood. Major companies and government bodies increasingly favour suppliers which offer chain of custody certification.

Companies which have already obtained certification have been successful in increasing their customer base.

## What is FSC and PEFC?

FSC stands for Forest Stewardship Council®

PEFC stands for Programme for the Endorsement of Forest Certification™

Both of the above organisations are global bodies that are involved in guaranteeing that timber comes from a responsible source.

## What is Chain of Custody?

Chain of Custody certification, is an assessment from an independent, qualified expert who verifies in writing that the wood flow system applied by a business traces the flow of wood from certified forests through the business and meets the exacting requirements of the certification scheme.

In short Chain of Custody certification monitors the amount of timber a company buys from responsible and well managed sources. It traces and records the movement of all timber through the business and when the timber package is then sold to customers, it confirms all procedures have been followed by stating an FSC or PEFC claim on sales documents.



# Fire Retardent

The NORclad® range of cladding is available with fire protection to the following British and European standards:

## **Euroclass B-s1-d0 (s1 Smoke Production - d0 Flaming Droplets). BS EN 13823 & BS EN 11925-2 Single Burning Item**

Equivalent to UK "Class O" BS 476: Part 6 & BS 476: Part 7

**Factory applied and suitable for internal and external use the product has the following benefits:**

- It is without colour or odour
- It will remain effective for the lifetime of the cladding
- It is safe for humans and animals
- It is non toxic and non allergic
- It is not broken down by water or humidity
- It does not leach
- Available on short lead times

The fire retardant penetrates the structure of the timber and does not require an additional protective finishing coat.

It has non flammable properties which become part of the substrate, restricting ignition and the spread of flame, and it is not converted into smoke when exposed to high temperatures with carbon char being restricted to the immediate area. Treated material, when exposed to temperatures of up to 1700 degree C, are subject to charcoal forming, severely restricting the spread of flame.

Certificates of compliance for each job relevant British and/or European Standards are available upon request and delivery to site of each consignment of cladding treated with fire retardant.





**NORclad**<sup>®</sup>  
TOTAL CLADDING SOLUTIONS

## Case Study

**Blackrock Quarry, Bristol**

MicroShades 'Brunnea' treated European Redwood.

# Painted / Coated Cladding

Factory Applied finishes from here in the UK or Switzerland

## UK Painted

UK Painted Timber is produced from European Redwood, typically 3/4 Sides Clear grade with a minimal knot content (The "A" face can have up to 4 number 5 pence piece size knots over a 4.2 metre length and the "B" face could also be like the "A" face but have more knots). Low pressure treatment applied before coating offers a 15 year warranty against Rot & Fungal Decay.

A full spectrum of colours is available through the RAL colour system, varying sheen and number of coats allows the final appearance of your coating to vary, from a translucent coating allowing the natural grain of the timber to be visible, through to an opaque finish.

**Specially designed T&G profiles allow for the cladding boards to be secret fixed.**

- European Redwood from Scandinavia which is PEFC and/ or FSC certified
- A significant saving in time, labour, and money
- Full RAL colour chart to select from on a 1, 2, or 3 coat system
- Warranties of 10-15 years depending on paint and colour

### Standard Profiles



**Size:** Ex 25mm x 150mm  
**Code:** NWPC1  
**Desc:** T&G



**Size:** Ex 25mm x 150mm  
**Code:** NWPC2  
**Desc:** T&G



**Size:** Ex 32mm x 150mm  
**Code:** NWPC3  
**Desc:** F/Edge

### Standard Trims

**Size:** Ex 50mm x 50mm  
**Desc:** Angle  
**Code:** NWPA1



**Size:** Ex 50mm x 50mm  
**Desc:** Angle  
**Code:** NWPA2



**Size:** Ex 50mm x 50mm  
**Desc:** Angle  
**Code:** NWPA3



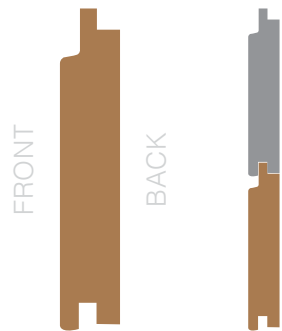
# Swiss Painted

Specially selected Swiss White Fir logs are used, with full FSC certification to ensure total sustainability of forests through selective felling. The timber is sawn to offer a 'vertical grain', slowly kiln dried to offer a consistent product, before hand-selecting the boards prior to machining to customers' profile.

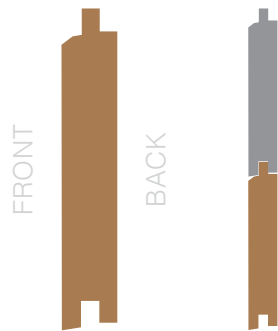


Long lengths heavy 5.0m are common, with finger jointed lengths available if required.

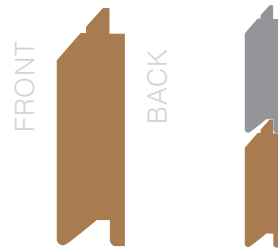
- Profiles carefully selected for the UK market
- Sawn or Planed face on profiles
- A quality controlled environment, quick and efficient as you would expect from Switzerland
- A range of Bespoke Paint colours available 'off the shelf'
- 15 years warranty available depending on paint, colour and installation



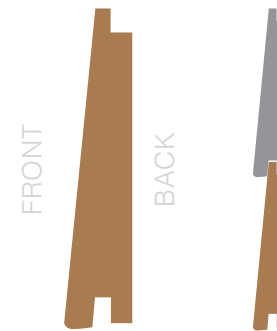
Ex 25mm x 150mm:  
PROFILE 56



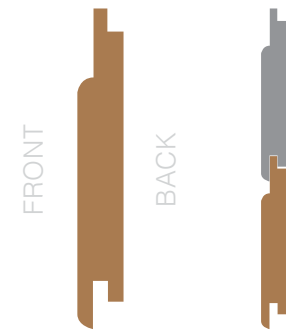
Ex 25mm x 150mm:  
PROFILE 52



Ex 25mm x 100mm:  
PROFILE 5945



Ex 32mm x 150mm:  
PROFILE 43



Ex 25mm x 150mm:  
PROFILE 59

# Warranty Statement for Micronized NORclad® Range of Products

Working in co-operation with Koppers, the pressure treatment processing plant used to treat the NORclad® range of claddings has implemented quality procedures enabling it to produce micronized timber products that carry a 30 year service life warranty for treated timber used in an out of ground contact situation.

MicroPro/MicroShades (Brunnea) Timber is treated in accordance with quality procedures which have been set out by Koppers Timber Technologies. These procedures are regularly audited by Koppers to ensure the standards are maintained.

All timber for the warranty scheme is selected to ensure greater treatment penetration and long term protection for out of ground contact material.

When ordering treated products it is important to specify the Use Class required and for out of ground contact material this is Use Class 3 where a 30 year warranty is required.

Our timber with a 30 year warranty is sold as a new product range NORclad® micronized timber. By ordering these products you can have confidence that it has been treated to be fit for purpose and will have a 30 year service life against rot and fungal decay.

## Hazard Class 3

External Joinery, Fence Rails, Decking, Featheredge, Barge and Fascia Boards, External Cladding, External Joinery

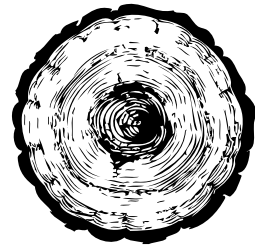
## Hazard Class 4

External Joinery, Fence Rails, Decking, Featheredge, Barge and Fascia Boards, External Cladding, External Joinery

## Importance of Correct Specification

At NORclad Ltd great emphasis is put on establishing every customers intended end use of timber products at initial point of contact. This facilitates correct species selection and pressure treatment cycle to ensure the timber supplied is fit for purpose.





**NORclad<sup>®</sup>**  
TOTAL CLADDING SOLUTIONS

Latest case studies and photos  
are available on our website:

**[www.norclad.co.uk](http://www.norclad.co.uk) | [sales@norclad.co.uk](mailto:sales@norclad.co.uk) | +44 (0) 1275 549476**

**Find our products on  
RIBA nbsPlus and RIBA Product Selector**

