



FirePro® BeamClad®

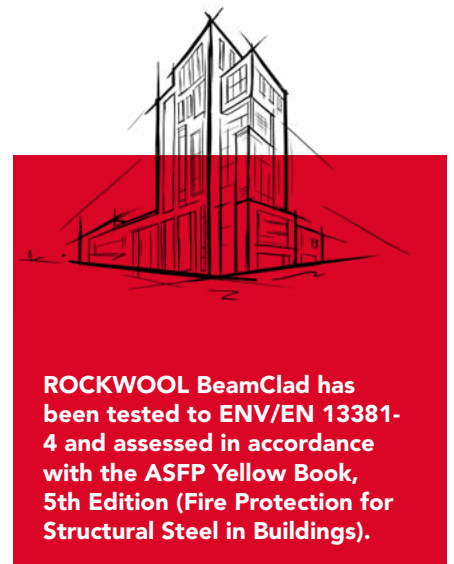
Boxed-in fire protection for structural steel

ROCKWOOL BeamClad is a non-combustible stone wool insulation slab, designed and tested to provide up to 4 hours' protection* to structural steel.

Slabs are sized 2000x1200mm and are available with an optional tissue or aluminium foil facing.

- Up to 4 hours' fire resistance*
- Dry-fix or adhered installation
- Moisture repellent
- No maintenance

**Subject to the application*



FirePro BeamClad



APPLICATIONS

BeamClad has been designed and tested to provide fire protection to steel I- and H-sections for a period of up to 4 hours.*

BeamClad has also been tested to provide fire protection to timber floor systems and concrete soffits. For more information please contact the ROCKWOOL Technical Fire Team.

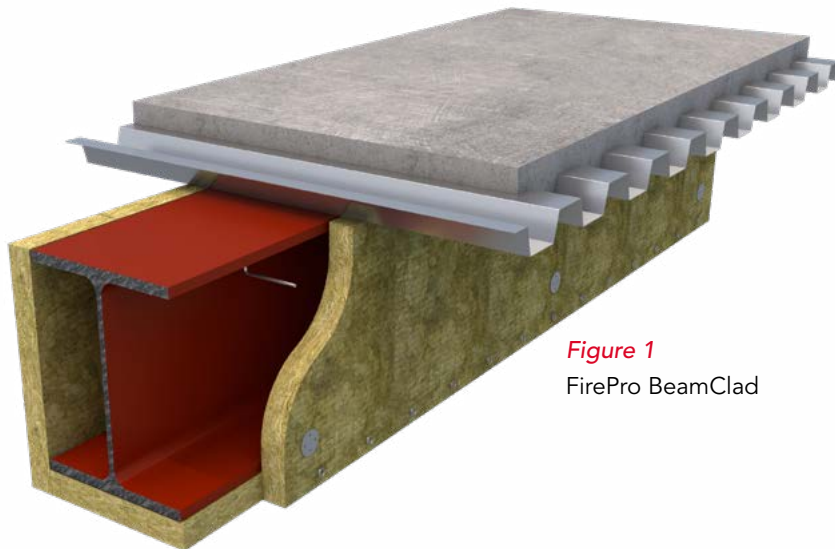


Figure 1
FirePro BeamClad

**Subject to the application*

For further information on fire rated timber floor applications please contact ROCKWOOL Technical Support.

For more information visit rockwool.com/uk

Pencoed, Bridgend CF35 6NY
Tel: (+44) 1656 862 621 • technical.solutions@rockwool.com

FirePro BeamClad

PERFORMANCE

Fire performance

BeamClad provides up to 4 hours' fire resistance* to structural steelwork, assessed at critical temperatures between 350°C and 800°C, including the default temperatures of 550°C (columns) and 620°C (beams).

Table 1 Fire performance of BeamClad

System	Fire resistance (mins)					
	30	60	90	120	180	240
Glued noggins, glued application, glued board joints	✓	✓	✓	✓	✓	✓
Welded pins, glued board joints	✓	✓	✓	✓	✓	✓
Welded pin, dry board joints	✓	✓	✓	✓	✓	

STANDARDS AND APPROVALS

Certificate

ROCKWOOL BeamClad has been assessed to ENV 13381-4:2002 & EN 13881-4:2013 for the fire protection of loadbearing steelwork for up to 4 hours protection.

This product has been authorised for use in LUL surface and sub-surface premises when installed in accordance with this datasheet - please refer to the LUL Approved Product Register website www.LU-apr.co.uk for specific details.

PRODUCT INFORMATION

Property	Description
Length	2000mm
Width	1200mm
Thickness	25 – 100mm*
Density	180kg/m ³ (≤30mm), 167kg/m ³ (>30mm)
Fire resistance	Up to 4 hours**

* Single board thickness; see pricelist for current availability.

** Subject to the application

FirePro BeamClad

INSTALLATION

BeamClad provides boxed-in protection to steel sections via a dry-fixed or glued installation.

Option 1: Dry fix

The boards are secured to the beam using 2.7mm-diameter stud-welded pins fitted with 28mm-diameter spring washers. The pins are supplied in various lengths to suit the board thickness.

In the case of beams, the pins are welded to the steel section along the flange tips and in two rows along the face of the bottom flange, nominally 50mm in from each edge. All pins are located at maximum 320mm centres.

The boards are pushed over the pins and secured in position using the washers, so that the boards covering the flange are fitted between those covering the web.

Transverse joints in the boards fixed to the webs are offset with respect to those fixed to the flange by a minimum of 100mm.

The fixing system for columns is the same, except where the web width is less than 120mm and the protection thickness 30mm or greater, in which case only a single row of pins is used down the centre of the web.



Figure 2

Stud welded pin dry joint board system
(Up to 3 hours fire protection)



Figure 3

Two-sided protection with stud welded pins
(Up to 3 hours fire protection)

FirePro BeamClad

Option 2: Glued noggings

The boards are secured to the beam via noggings adhered with ROCKWOOL FirePro Glue. The noggings are cut on-site from Beamclad and inserted into the web.

Before applying the protection, as a minimum the steel is cleaned in the areas where the noggings are to be installed. The noggings are glued between the flanges using ROCKWOOL FirePro Glue at nominal 1000mm centres. The boards across the web are glued to the noggings using the same adhesive, ensuring any transverse board joints are coincident with the noggings. All longitudinal and transverse board-to-board joints are also coated with adhesive.

Round-head nails, with a length at least twice the thickness of the board being installed, are fixed through the side boards into the noggings (minimum two fixings) and into the board across the flanges (at nominal 400mm centres).

As an alternative, pigtail screws can be used provided that they are the same length and fitted at the same locations.

The nails may also be substituted by 2.7mm-diameter stud-welded pins fitted with 28mm-diameter spring washers. The pins are supplied in various lengths, the length being used dependent on board thickness. In the case of beams, the pins are welded to the steel section along the flange tips and in two rows along the face of the bottom flange, nominally 50mm in from each edge; all pins are located at maximum 320mm centres. The boards are pushed over the pins and secured in position using the washers so that the boards covering the flange are fitted between those covering the web. Transverse joints in the boards fixed to the webs and offset with respect to those fixed to the flange by a minimum of 100mm.

The fixing system for columns is the same, except where the web width is less than 120mm and the protection thickness 30mm or greater, in which case only a single row of pins is used down the centre of the web. Where the pins are used, the boards across the web should still be nailed to the noggings as described above.



Figure 4

Glue-fixed noggings and board-to-board glued joints
(Up to 4 hours fire protection)

FirePro BeamClad

FirePro Glue – Coverage rates for glued joint systems

FirePro Glue is an inorganic product with a pH of 11. FirePro Glue is supplied pre-mixed in 17kg tubs. A variety of joint types can be used (see previous page).

Coverage rate will depend on the linear length of the joints, width of joint (board thickness) and joint depth. Assuming total, effective usage of the glue on site, the following table provides an approximate weight (kg) of glue per linear metre of joint, based on a glue depth of 1mm.

ROCKWOOL BeamClad thickness (mm)	Square butt joint
25	0.09
30	0.11
35	0.13
40	0.15
50	0.19
60	0.22

Important:

Care should be taken when using FirePro Glue with foil faced BeamClad as the alkalinity of the glue is very high and can react with the foil. Avoid any contact between the glue and the foil layer, if contact occurs remove the glue immediately with a damp cloth.

In practice, a degree of wastage would be expected and as such, it would be prudent to make an allowance for this when placing an order. As a very approximate guide, the coverage rate of a 17kg tub of FirePro Glue would be 35m² of applied board.

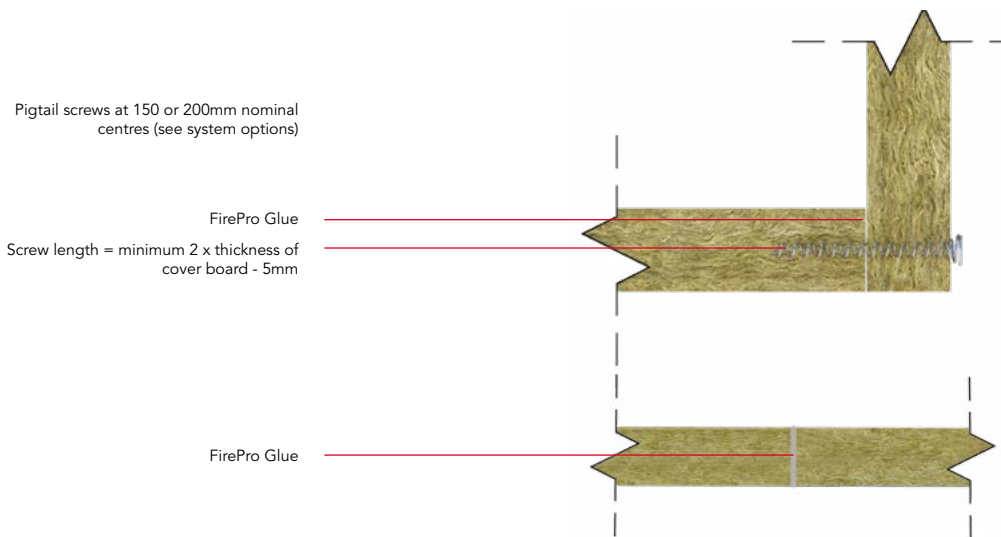


Figure 5

Cellular beams

Where a limiting temperature of 450°C has been provided or one associated with a particular design of cellular beam provided by a qualified structural engineer in accordance with the principles of section 4 of the ASFP Yellow Book, *Fire protection for structural steel in buildings*, 5th Edition, the section factor for that beam shall be determined as the highest value derived from the following:

- The section factor of the "I" section above the opening.
- The section factor of the "I" section below the opening.
- The section factor derived from $1400/t_w$ where t_w is the thickness of the web in mm.

In all cases, the thickness of protection obtained based on the section factor and temperature as derived above shall be increased by 20%. The applied thickness shall not exceed the maximum assessed for the product for beam protection.

FirePro BeamClad

Installation options – cellular beams

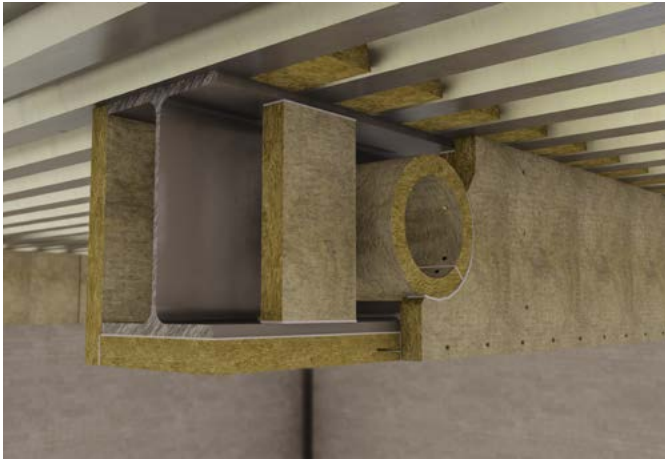


Figure 6
Beam with circular holes
(boxed protection - glued and pinned joints)



Figure 7
Beam with square or rectangular holes
(boxed protection - glued and pinned joints)



Figure 8
Beam with circular holes
(boxed protection - dry joints)



Figure 9
Beam with square or rectangular holes
(boxed protection - dry joints)

FirePro BeamClad ancillaries

- Pigtail screws are available from ROCKWOOL stockists.
- Welded pins and sprung steel non-return washers are available from external suppliers.
- DuctRock® is available for the fire protection of steel ductwork.

FirePro BeamClad

SPECIFICATION CLAUSES

(To be read in conjunction with System Options on previous pages)

1. The structural steel is to be fire protected using ROCKWOOL BeamClads system, with a.....f facing, to provide.....h fire resistance.
2. The main fixing system will be one of:
 - ROCKWOOL BeamClad noggin system and glued joints fixed at 1000mm centres.
 - ROCKWOOL BeamClad stud welded pin system fixed at max. 320mm centres to top flange, and to bottom flange.
3. Board-to-board joints can be dry fixed or glued and nailed/pigtail screwed in accordance with the data sheet.
 - ^s insert system type
 - ^f insert facing option
 - ^h insert period of fire resistance

FirePro BeamClad is associated with the following NBS specification clauses

K11 Rigid sheet flooring/sheathing/decking/sarking/linings/casings

885 Fire protection board

890 Board

FirePro BeamClad

BUILDING SAFETY AND PRODUCT USE

LEGAL NOTICES

General safety requirements – Building Safety Act 2022

ROCKWOOL Limited is committed to supporting specifiers, resellers and users of ROCKWOOL products for the full life cycle of the product to comply with the obligations and responsibilities set out in the Building Safety Act 2022. With regard to the general safety requirements of the Act, ROCKWOOL Limited cannot control or foresee every situation where its products might be used. We therefore strongly advise that specifiers, resellers and users contact us where use of ROCKWOOL products is contemplated in applications different from those explicitly described in the latest, relevant ROCKWOOL product datasheets; especially in applications that can be reasonably foreseen as critical to safety.

ROCKWOOL Limited reserves the right to amend the specification of its products without notice. Changes to the ROCKWOOL manufacturing process, or to pertinent regulations, may be reflected in changes to tested and certified product performance. Whilst ROCKWOOL Limited endeavours to keep its publications up to date, readers will appreciate that between publications there may be pertinent changes in the law or other developments affecting the accuracy of the information contained in our publications.

ROCKWOOL Limited does not accept responsibility for the consequences of using (including testing or certifying) its products in applications different from those explicitly described in the relevant ROCKWOOL product datasheets. Expert advice should be sought, and ROCKWOOL Limited should be contacted, where such different use is contemplated, or where the extent of any use described by ROCKWOOL Limited is in doubt.

The ROCKWOOL Trademark

ROCKWOOL® - our trademark

The ROCKWOOL trademark was initially registered in Denmark as a logo mark back in 1936. In 1937, it was accompanied with a word mark registration; a registration which is now extended to more than 60 countries around the world.

The ROCKWOOL trademark is one of the most important assets of the ROCKWOOL Group, and is therefore well-protected and defended by ROCKWOOL throughout the world.

If you require permission to use the ROCKWOOL logo for your business, advertising or promotion, you must apply for a Trade Mark Usage Agreement.

To apply, write to:
marketcom@rockwool.com

Trademarks

Registered trademarks of the ROCKWOOL Group include but are not limited to:

ROCKWOOL®, RockClose®, RainScreen Duo Slab®, HardRock®, RockFloor®, Flexi®, RockFall®, FirePro®, DuctRock®, BeamClad®, NyRock®

© ROCKWOOL 2023.
All rights reserved.

Photography and illustrations

The product illustrations are the property of ROCKWOOL Limited and have been created for indicative purposes only.

Unless indicated below, the photography and illustrations used in this guide are the property of ROCKWOOL Limited. We reserve all rights to the usage of these images.

If you require permission to use ROCKWOOL images, you must apply for a Usage Agreement.

To apply, write to:
marketcom@rockwool.com

HEALTH & SAFETY

A Material Safety Data Sheet is available and can be downloaded from www.rockwool.com/uk to assist in the preparation of risk assessments, as required by the Control of Substances Hazardous to Health Regulations (COSHH)

FirePro BeamClad

ROCKWOOL stone wool - safe to install and live alongside

There are no hazardous classifications associated with stone wool insulation manufactured by ROCKWOOL-UK according to EU REACH and UK REACH regulations on health and the environment.

ROCKWOOL safe use instruction sheets and material safety data sheets (where applicable) can be downloaded [here](#).



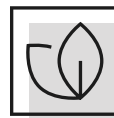
Sustainability

ROCKWOOL products are used to enrich modern living, creating safer, healthier and more climate-resilient communities.

We transform abundant, natural volcanic rock into stone wool insulation products that are used to reduce energy demand, lower fuel bills and help address society's climate change challenges.

ROCKWOOL stone wool insulation is recyclable and can be transformed into new ROCKWOOL products. Please contact us for details of how we can work together to recycle waste ROCKWOOL stone wool material that may be generated during on-site installation.

Our annual sustainability reports, which set out progress against our sustainability goals, and further details of the positive impacts of using our products can be found on our website.



Environment

ROCKWOOL takes a fact-based, auditable approach to documenting our progress in maximising our products' positive impact and minimising the effect our operations have on the environment, backed by third-party references and methodologies. Further details can be found online in our annual sustainability report.

Our high-tech production process uses filters, pre-heaters, after-burners and other cleaning and collection systems that help to reduce the effects of our manufacturing operations on the environment.

ROCKWOOL stone wool insulation does not contain (and has never contained) gases that have ozone depletion potential (ODP) or global warming potential (GWP).

