CI/SfB | | (27.9) | Km1 | (M2) |
February 2009 (replaces November 2008 issue)

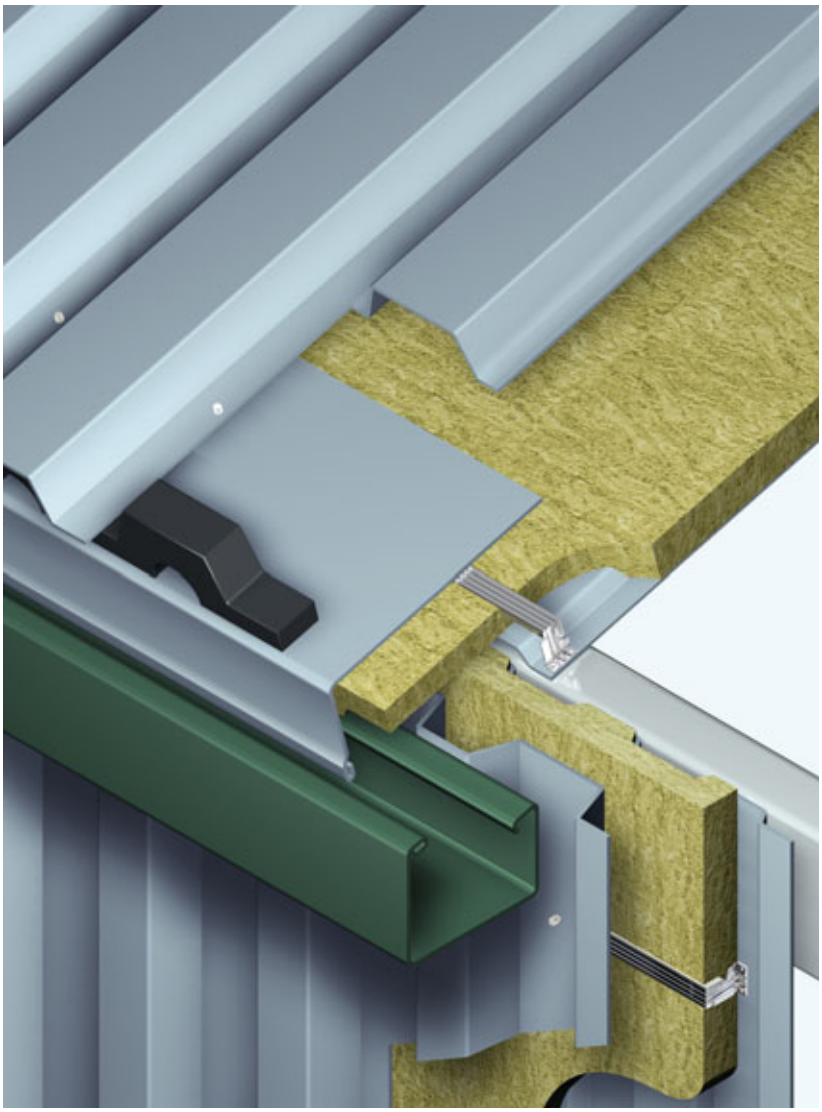
Application type	Fire, thermal, acoustic
Construction type	Industrial frame

ROCKWOOL

Cladding Roll

High performance external wall and roof insulation for industrial framed buildings

Rockwool Cladding Roll has been specially developed for use in lightweight cladding applications to satisfy the thermal, fire and acoustic requirements of roofs and walls. These products are manufactured in a variety of thicknesses to suit the needs of virtually any applications to framed buildings of a commercial or industrial nature. The product has been successfully tested in an insulated firewall in accordance with BS 476: Part 22, 1987.



Cladding Roll installed in profiled metal cladding with bracket and rail spacer system

Advantages

- Fire classification A1
- Water repellent
- Excellent thermal insulation
- Chemically inert
- Excellent acoustic insulation

Certificate No FM 02262

0086-CPD-461281

The following NBS Plus clauses include Cladding Roll: h31: 254, h31: 271

Description, performance and properties

Cladding Roll U/F (unfaced)

The product is a lightweight thermal insulation material in the form of a flexible mat, supplied in compression wrapped rolls. Its physical characteristics make it equally suitable for use as an economic solution to both roof and wall applications in industrial cladding systems.

Cladding Roll aluminium faced

A lightweight, flexible mat with a bright reinforced aluminium foil facing on 1 side, supplied compression wrapped in roll form. The product has a very high tensile strength and is therefore particularly suitable for vertical applications in industrial cladding systems.

The aluminium faced Cladding Roll should be installed with the foil facing towards the inner liner.

Standards and approvals

Rockwool Cladding Roll complies with BS EN 13162: 2001. Factory made mineral wool (MW) products specification.

Fire classification
Rockwool Cladding Roll (unfaced and aluminium faced) achieves a reaction to fire classification of A1 as defined in BS EN 13501-1.

Trade associations
Associate Members MCRMA.

Tel 0151 652 3846

Description

*Standard dimensions**

Thickness (mm)	Width (mm)	Roll length (m)	M²/pack	Pieces/ pack
+60	1200	3.20	7.68	2
+80	1200	5.00	6.00	1
100	1200	4.80	5.76	1
120	1200	4.00	4.80	1
150	1200	3.20	3.84	1
160	1200	3.00	3.60	1
180	1200	2.70	3.24	1

* All aluminium faced Cladding Roll thicknesses will be 1000mm wide

+ Not available with aluminium faced

Performance and properties

Fire performance
Insulated Fire Wall incorporating Rockwool Cladding Roll has been fire tested and shown to comply with BS 476: Part 22 as a fire rated wall one metre or more from a relevant boundary.

The over sheeting rail system achieved 4 hours integrity, 4 hours stability and 17 minutes insulation (Warres No. 42624 + WF153726).

Alternative Fire Wall designs have been tested by cladding systems manufacturers using different sheeting, fixing and spacer systems. These manufacturers should be contacted for full specification and design.

Contact MCRMA for manufacturer's details:
www.mcrma.co.uk

Composite panels
Rockwool also supply structural panel products to composite panel manufacturers who have developed a wide range of fire safe composite panels for use both internally and externally.

The external panel systems include wall constructions which will achieve up to four hours stability and one hour integrity and insulation. These systems are suitable for use less than one metre from the relevant boundary.

Acoustic performance
Tests have shown that with suitably designed constructions excellent sound reduction can be achieved.

A 0.4mm thick lining sheet and 0.55mm outer sheet filled with 80mm Cladding Roll achieved an average Rw 37dB. This can be increased to an average Rw 38dB by including an air space between the insulation and the outer sheets.

NB Rw will alter with the profile and construction.

Thermal performance and U-values

Design details

Building Regulations Approved Document L2, 2006 edition requires that the U-values of sheeted metal walls must be less than or equal to:

Part L U-value requirements for External Walls:
Extensions: 0.30W/m²K
Renovation & Repair work: 0.35W/m²K

New build requirement could range between 0.28 and 0.25W/m²K to achieve a 20 – 28% improvement in energy performance standards.

Part L U-value requirements for Roofs:
Extensions, Renovation & Repair work: 0.20W/m²K
New build requirement could range between 0.16 and 0.14W/m²K to achieve a 20 – 28% improvement in energy performance standards.

For cladding systems not detailed in our U-value tables and for systems incorporating a structural liner tray, a more complex calculation method must be used which requires a three dimensional computer model programme.
The U-values and insulation thicknesses shown may vary depending on the cladding system and confirmation of U-values must be obtained directly from the individual cladding manufacturer.

Thermal bridging and air leakage

Building Regulations Approved Document L 2006 edition, also requires that the building fabric should be constructed so that there are no significant thermal bridges or gaps in the insulation layer within the various elements of the buildings fabric, particularly at joints between elements and at the edges of elements, such as those around window and door openings. Specific details are given in the MCRMA Technical Note 14, 'Guidance for the design of metal cladding and roofing to comply with Approved Document L of construction' and BRE 'Limiting thermal bridging and air leakage (also new accredited details publication)'.

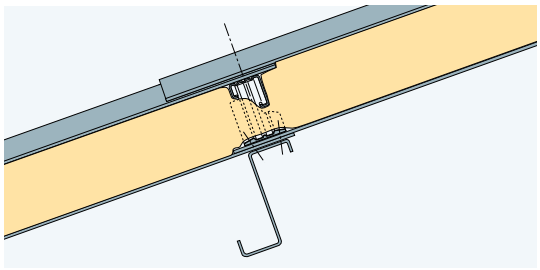
If the detail is not included in these Guides, a calculation of the effect of both condensation and heat loss through the thermal bridge, and overall heat loss from the building must be used. These values will vary with each detail and confirmation of heat loss and risk of condensation must be obtained directly for the individual cladding manufacturer.

Buildings will also need to be reasonably airtight. There are requirements in Approved Document L 2006 for detailing to reduce Air Leakage and testing to show compliance. Special care should be taken at junctions between elements and information is given in the MCRMA Technical Note 14 and 'new accredited details' publication.

Rockwool Cladding Roll has a thermal conductivity (K value) of 0.040 W/mK.

Roof construction

Metal clad double skin system – bracket and rail spacers

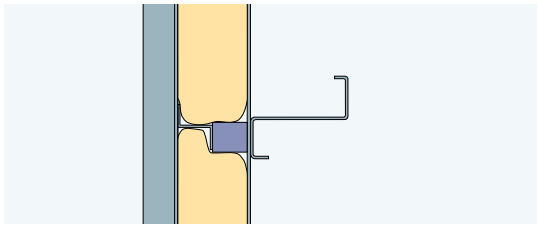


Construction: Steel sheet roof cladding on bracket and rail spacers, Cladding Roll, steel inner lining.

Cladding Roll Thicknes (mm)	U-values (W/m²K)
180	0.25
200 (100 + 100)	0.22
220 (120 + 100)	0.20
250 (150 + 100)	0.18
280 (180 + 100)	0.16

Sidewall cladding

Bracket and rail spacers



Construction: Profiled steel sidewall cladding, Rockwool Cladding Roll plain faced or Cladding Roll Alu-faced, steel sheet liner panels, sheeting rails.

Thickness (mm)	U-values (W/m²K)
120	0.35
150	0.28
160	0.27
180	0.25

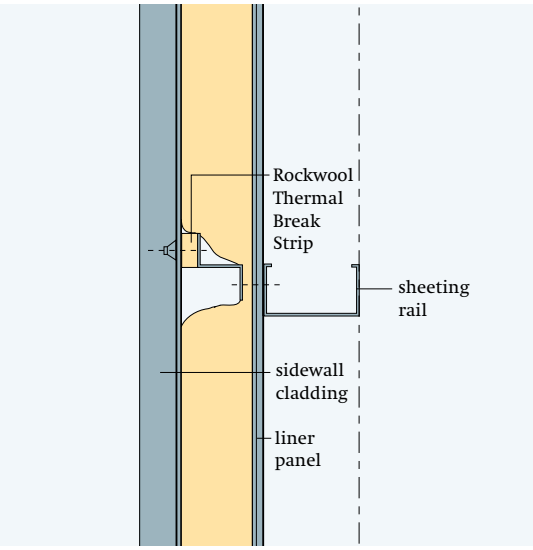
This wall cladding system has either bracket and rail spacers or plastic ferrule spacers of sufficient thickness to maintain the thickness of the insulation. In vertical applications, the product should be clamped across the full width. The free vertical drop should not exceed 2 metres.

Note: U-value tables

The U-values and thicknesses shown in the diagrams above are based on SCI P312 using rail and bracket spacer systems. Sheeting rails spaced at 1,800mm centres.

For other cladding systems, a more complex calculation method must be adopted using a 3 dimensional computer model program. Confirmation for such U-values and insulation thickness should therefore be obtained from the specific cladding manufacturer.

Metal liner should be sealed in order to provide an air tight construction.



Construction
Sidewall cladding with 80mm rockwool Cladding Roll and Rockwool Thermal Break strips.

Noise reduction = 37dB

Perforated liner trays
Cladding Roll can also be used in conjunction with Rockwool Acoustic Infill pieces fitted within the trapezoidal sections of a perforated liner tray to provide both sound absorption and reduction. Rockwool Acoustic Infil trapizoidal pieces are tissue faced.

Work on site

Handling and storage
Rockwool Cladding Rolls are very light and easy to handle. They are supplied palletised, protected by a waterproof cover covering which allows the product to be stored outside.

Specification clause

Roof/Wall insulation
The insulation to the roof/sidewall cladding[1] is to be Rockwool Cladding Roll Alu-faced/Cladding Roll Plain faced[2]..... mm[3] thick, as manufactured by Rockwool Limited, Pencoed, Bridgend, CF35 6NY and installed in accordance with the manufacturer's recommendations.

1, 2 delete as necessary
3 insert required thickness

Construction notes
Great care is required in the design and installation to ensure that lining systems are sealed and are airtight or that a vapour control is fitted. Air leakage will degrade thermal performance and may introduce condensation problems.

Health and safety

Current HSE 'CHIP' Regulations and EU directive 97/69/EC confirm the safety of Rockwool mineral wool; Rockwool fibres are not classified as a possible human carcinogen.

The maximum exposure limit for mineral wool is 5mg/m^3, 8 hour time-weighted average.

A Material Safety Data Sheet is available from Rockwool Customer Support (0871 222 1780) to assist in the preparation of risk assessments, as required by the Control of Substances Hazardous to Health Regulations (COSHH).

Environment

Relying on entrapped air for its thermal properties, Rockwool insulation does not contain (and has never contained) gases that have Ozone Depleting Potential (ODP) or Global Warming Potential (GWP). Rockwool therefore complies with the relatively modest threshold of GWP<5 included in documents such as the Code for Sustainable Homes.

Rockwool Ltd is increasingly involved in recycling waste Rockwool material that may be generated during installation or at end of life disposal. We are happy to discuss the individual requirements of contractors and users considering returning Rockwool materials to our factory for recycling.

ZERO GWP GLOBAL WARMING POTENTIAL
ZERO ODP OZONE DEPLETING POTENTIAL

Technical Information

For further details visit our website at **www.rockwool.co.uk** or phone customer support on 0871 222 1780

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