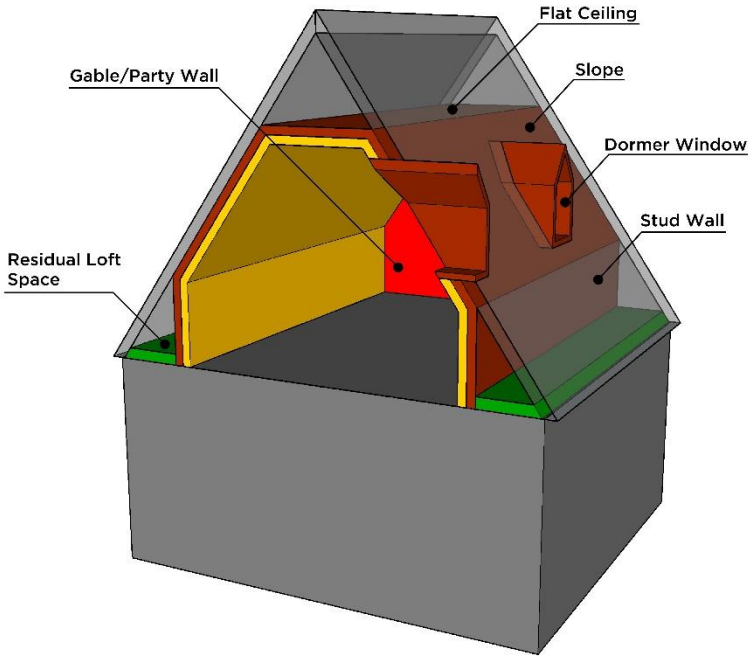
MI RIRI System



System Installation Manual

BDA Agrément
BAR-19-116-S-A-UK

Ezy-Fit Installer Guide
LS24 9JF
www.ezy-fit.co.uk

V2 July 2023, Commer House, Tadcaster,

Introduction

The MI RIRI System has been specifically designed to provide an integrated retrofit solution to the vast majority of room in roof configurations. The system is BDA certified under the KIWA certification Number BAR-19-116-S-A-UK and as such its installation is subject to strict surveillance. While it seeks to cover the most common room in roof elements, please contact the team at Ezy-Fit if elements of your proposed design are not covered under this Guide.

The System complies with the 2010 Building regulations (approved documents) and is summarised by element and insulant type below.

The well-being of the occupants both present and future, is a specific design consideration, particularly with regard to the provision of adequate ventilation and condensation control. Installation of this system should therefore comply with all elements of PAS 2030:2019, PAS 2035:2019 and BEIS Best practice Guidance for Room in Roof insulation systems.

This installation guidance has been designed for Installers that have undergone system training by the certification holders.

For training please contact: sales@ezy-fit.co.uk

System Overview

The table below demonstrates the insulants likely performance given their application to the various elements of a room in roof. To some degree, components are interchangeable depending on use, location and outcome priority.

Please contact the team at Ezy-Fit if in doubt and always refer to the BEIS Best practice guidance issued for Room in Roof Installations

EZY FIT		ELEMENT/INSULANT MATRIX																					
		ROOF ROOM ELEMENTS																		COLD BRIDGES		WINDOW REVEALS	
INSULANT U values	DESCRIPTION	HORIZONTAL LOFTSPACES/ CEILINGS	mm thk	SLOPING CEILINGS	mm thk	STUDWORK DWARF WALLS	mm thk	MASONRY DWARF WALLS	mm thk	GABLE WALLS	mm thk	PARTY WALLS	mm thk	DORMER CHEEKS AND CEILINGS	mm thk	RESIDUAL LOFT SPACES	mm thk	EXPOSED TIMBERS IN STUD WALLS	mm thk	ROOF LIGHTS, WINDOWS,	mm thk
MI ROLL 0.16 W/m2K	Mineral wool roll L=0.044 W/mK	Where access allows top up to:	300											Where existing lath and plaster removed due to narrow window frame width	100	Where access allows top up to:	300				
MI BOARD 0.30 W/m2K	Plasterboard and PIR insulant laminate L= 0.021W/mK	Where over-boarding *	73	Some sitations *	73	Where over-boarding *	73							Where window frame widths allow	73						
MI STUD & MI BRIDGE 0.42 W/m2K	Mineral wool roll L= 0.040W/mK					where insulating to rear of wall	100														
MI SLAB 0.36 W/m2K Party wall only: 0.38 W/m2K	High-strength mineral wool slab L = 0.036 W/mK	Where over-boarding **	80	Some sitations **	80	Where over-boarding **	80	All situations	80	All situations	80	Majority of situations	80	Where window frame widths allow	80						
STORMDRY	Water-repellent brick cream							refer to stormdry matrix													
MI BRIDGE	Dense mineral wool slab L- 0.036W/mK													Fitted in conjunction with MI ROLL as above	20			All situations	20	All situations	20
MI SEAL	High-motility sealant	Provides an air tight seal to all room roof plane junctions																			
*		This insulant can be used to maximise ceiling heights. More waste is generated. It is often difficult to manouvre into position.																			
**		This insulant maximises fire protection. Easier to manouver into position. Plasterboaard is fixed over rather than laminated to the insulant. More cost effective.																			

Installation Components

Then components are (from Left to Right)

MI Roll, MI Slab, MI Bridge, MI Stud and MI Board

Before work is undertaken – General

Care should be taken when unloading and storing all materials by maintaining wrapping and any other protective coverings on the products. This has been placed onto the products to protect them until use.

All insulation components must be cut to provide (once fitted to the corresponding roof element) full and tight to the edge coverage of that roof element. All plane junctions formed by the installation of components must be sealed, to each other or an appropriate solid substrate, with **MI Seal**.

Where internal element faces are not insulated, the plane junctions must still be sealed to provide air tightness to the whole of the room, as far as practical. Similarly, all component penetrations must be made air tight by the application of **MI Seal**.

Installers should determine the location of any services behind internal surfaces receiving MI RIRI components (prior to any penetrative works) using a multi detector (including live wire sensors) to ensure that pipes and wires are not compromised by MI RIRI Fixings. We always recommend using a suitably qualified individual at this point.

Pre-Design Survey

Refer to your copy of the pre-design survey prior to the commencement of and during all works. The survey should be completed by a suitably qualified individual, trained to complete the survey.

Risk Assessment

Installers should have a copy of an appropriate risk assessment completed at the point of survey and be fully aware of and be able to reduce any risks indicated.

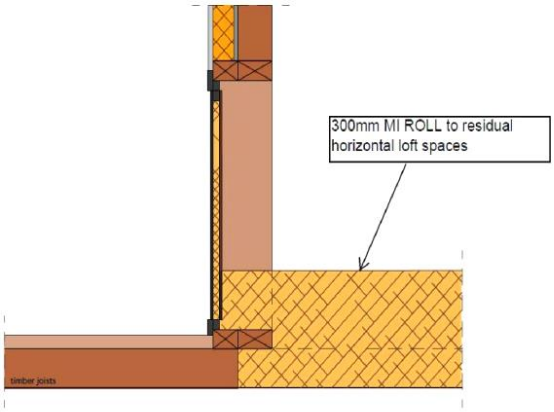
Should any other risk present itself on the day of installation, Installers must assess the risk and take the necessary steps to reduce the risk to an acceptable level

Required tools

As an example, but this list is for guidance only. Each site is different.

- Hand Tools
- Battery operated drills / drivers and cutting equipment
- Plastering tools
- Access equipment
- Access platforms
- Harness and safety equipment and training required
- Personal protective equipment
- Suitable Dust masks
- Dust suits
- Safety Goggles
- Hearing protection
- Hard hat
- Hi-Vis
- Safety Boots

Horizontal, Residual and Pitched roof Dormer Roof Lofts / Ceilings



Section Showing Residual loft space

MI Roll fitted to horizontal roof space

Where necessary insulated and or fire rated hatch may be cut in to the ceiling stud work short walls to allow ingress. Cut out plasterboard to the dimensions required to fit the hatch. Supporting timbers may be required. Once the frame is secured, ensure it is sealed to the plasterboard with **MI Seal**.

Should downlighter fittings be present in the ceiling below the loft space, ensure they are protected by suitably rated fire caps. Top up or fit MI Roll to ensure a minimum insulation depth of 300mm is achieved.

Insulate exposed pipework and / or water tanks in accordance with Bylaw 49. Provide suitable walkways or platforms to enable safe access to any live tanks.

Ensure that the crossflow ventilation is clear, following any requirements indicated in the pre-design survey.

NB. If access to the horizontal loft space above the roof room is unsafe or access hatches cannot be formed these elements should be over boarded using the same method as element 2 (Below)

Sloping Ceilings

Sloping ceiling using MI Board

Elevation view of sloping ceiling using MI slab

As the image demonstrates MI Board and MI slab are interchangeable components. Selection will depend upon both the spread of flame regulation requirements and headroom restraints. Ease of handling considerations may also influence selection, along with material wastage ratios and customer preference.

MI Board is a laminate to which plasterboard is fixed where as MI Slab is a mineral insulant to which plasterboard is then fitted.

Prior to fixing either component into place, existing vapor barriers should be disabled by drilling through the existing ceiling covering at 600mm centres. The location of rafters should be established to ensure correct fixing alignment of the chosen component.

MI Board should be fixed to the existing ceiling with propriety 155mm zinc coated screws at 400mmcentres across the face of the board at maximum distance of 100mm from board edges.

MI Slab should be tacked in position with 2no fixings as above per slab in a staggered pattern.

Once in position MI Slab should then be covered with the appropriate plasterboard sheets, secured with the same fixings at 400mm centres across the face of the board. Fixings should be set at 100mm from the edge of boards.

Fixing heads should be taped with propriety heat resistant scrim before plasterboard application.

Studwork short walls

MI Stud and MI Bridge fitted to the inside of a studwork wall with residual loft space insulated with MI Roll.

Please refer to horizontal, Residual and pitched roof Lofts / Ceilings for method to insulate residual horizontal loft spaces, including the formation of new or treatment of existing access hatches.

If householder preference dictates, access can also temporarily be made in the existing stud wall covering and clad over with plasterboard, then skimmed, once the element has been insulated.

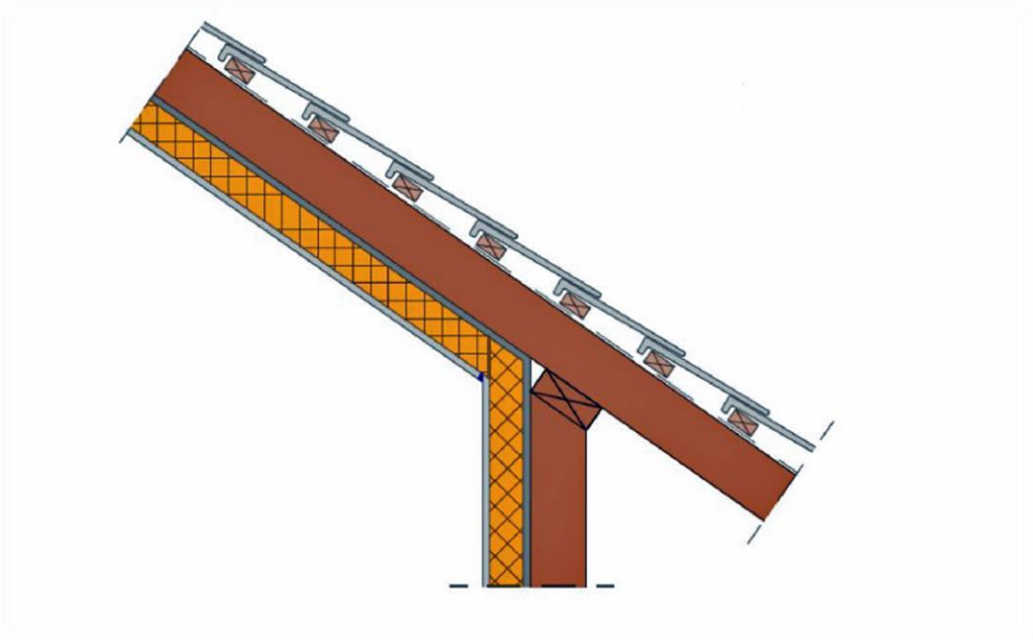
MI Stud should be friction fitted between the vertical studwork members. Reconnection of any electrical outlets can be easily achieved without air leakage by penetrating the MI stud insulation with suitably sized cylindrical instrument and sealing the aperture with **MI seal**. This must be carried out by a suitably skilled individual.

Cut 20mm **MI Bridge** strips to length, allowing for a 50mm overlap on either side of the exposed timber stud work heads (see image above). Fix **MI Bridge** into place using **MI Bridge Fixings** at 400mm centres. Ensure any other exposed timbers, where present, are insulated with **MI Bridge** to mitigate any cold bridging.

To ensure the element is air tight following insulation, the studwork wall must be sealed to the floor from within the room in roof with **MI Seal**, generally at the junction of the skirting board and floor board.

MI Board or MI Slab fitted over an existing stud wall covering

Where the stud work walls are to be insulated from within the roof room (a method often preferred by the householder, as the internal faces receive a skim finish), remove and set aside any skirting boards, radiators, shelving, or other fixtures for future use



Where electrical outlets are to be removed for later repositioning, this should be carried out by a suitably qualified individual

Again, **MI Slab** or **MI Board** can be selected as the insulation component and should be cut to size to ensure the angles between the short walls, floor boards and sloping ceilings provide an air tight fit. The position of any electrical outlets should be marked on the insulation and drilled to allow penetration of electrical cables. The boards should be fixed to existing plasterboard, following the same procedure as outlined in "Sloping Ceilings" above.

Electrical back boxes should be fitted in line with the above procedure by a competent individual and rewired.

Any penetrations and all plane edges should be sealed with **MI Seal** to prevent air leakage.

A full skim coat of plaster should be applied in line with the BEIS Best practice Guidance to the extent of the short wall, ensuring fixing heads are taped with propriety heat resistant scrim before plaster application.

Skirting boards, shelving and radiators should be refitted using propriety 155mm zinc coated screws and appropriate wall plugs.

NB; Where the short wall is of masonry construction, please refer to gable end instructions within this guide.

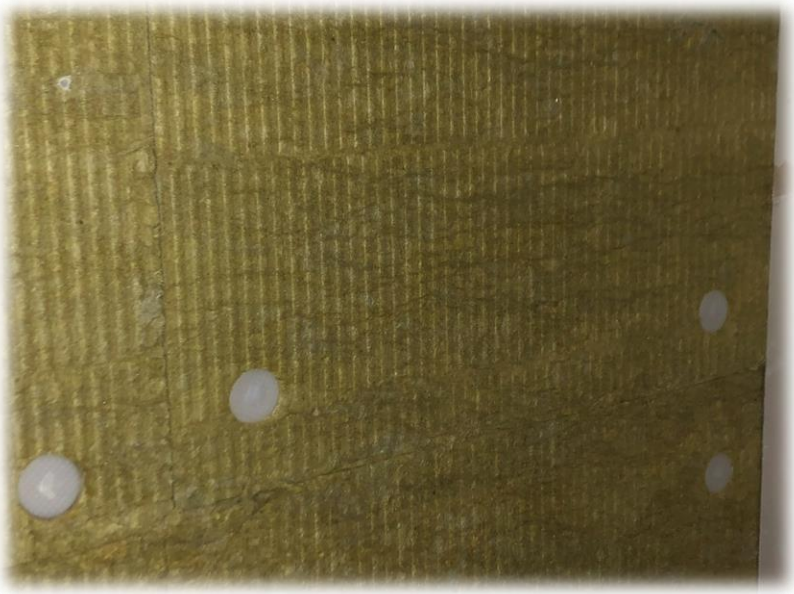
Masonry Gable, party and common short walls

MI Slab insulation should be close butted to the masonry wall (with staggered and horizontal staggered joints) and fixed into a position using **130mm MI Fix** hammer set fixings, four fixings per slab or part of.

If the internal face of the wall has been finished using the dot and dab plasterboard method, the plasterboard should be removed. High spots created by the dot and dab method should be removed to ensure the wall is flat and level.

Minor deviations in wall level can be overcome using more fixings to ensure the **MI Slab** is in firm and continuous contact with the entire surface of the scarified surface below.

Care should be taken to ensure that the edges of the slabs will not coincide with the edges of the plasterboard, once fixed.



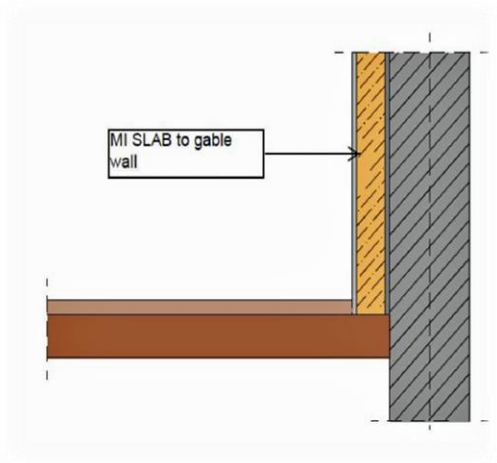
Carefully mark the position of any electrical outlets on the **MI Slab** and drill to allow penetration of suitable wiring.

Cut away suitable area of **MI Slab** to allow electrical outlet to be fitted to allow the back box to be fitted. Ensure that at least 20mm of insulation remains behind the electrical outlet to prevent cold bridging.

12.5x1800x900mm plasterboard should be fixed to the entire face of **MI Slab** using propriety 155mm zinc coated fixings and appropriate plugs at maximum 400mm centres within the board and minimum distance to the edge of 100mm.

Previously described methodologies around electrical outlets are as above.

Above: **MI Slab** with plasterboard covering fitted to gable wall.



All plane junctions must be sealed with MI seal to maximise air tightness, either before or after plasterboard is fixed into position. Refit or replace skirting boards and radiators accordingly.

NB; Where the Short walls are a continuation of the common wall and therefore constructed of masonry, the same procedure should be followed as described for gable walls within this guide.

Dormer Cheeks and Ceilings

Where Dormer roofs are pitched, the roof space should be insulated as per horizontal / pitched ceilings within this guide.

Dormer cheeks and flat roofs should be insulated using either MI Board or MI Slab to match the insulation chosen for the remainder of the roof room elements. This should be installed using the same installation as detailed within the sloping ceiling element of this guide.

In some cases, the thickness of the **MI board** or **MI Slab** will exceed the width of the window frame. System adjustments are required to ensure the elements are adequately insulated to prevent condensation forming and to ensure the elements finish within the width of the window frame.

Frame is 40mm wide or greater (but less than the width of the system component)

The existing plasterboard / lathe and plaster covering of the dormer cheeks should be removed and exposed timbers de-nailed. A propriety building membrane should then be installed between the timbers, tight against the inside face of the external weather board / tile / flat roof board. **MI Roll** 100mm should then be fitted between the exposed timbers, which should in turn be covered with a propriety vapor barrier.

20mm **MI bridge** should then be fitted, butted up to the window frame and fixed with propriety 75mm zinc coated screws at each section corner. This should then be covered with 12.5mm plasterboard, fixed with the same screws at 400mm centres and no closer to the edge than 100mm.

MI Seal should be applied to the perimeter edge and junctions to ensure air tightness.

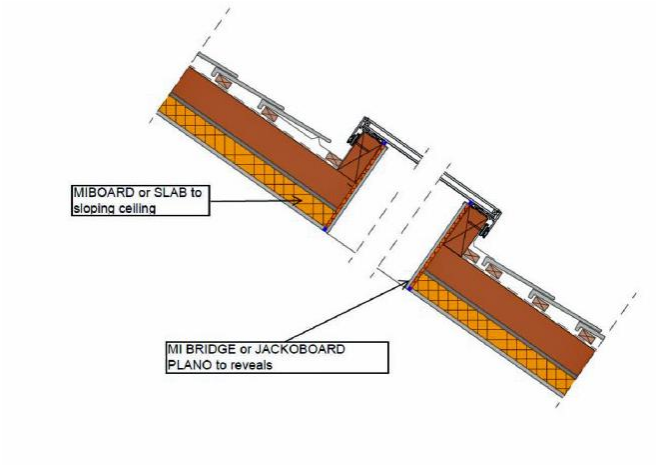
Frame is less than 40mm but greater than or equal to 20mm

The timbers of the effected element should firstly be insulated with **MI roll** as detailed above.

A propriety 20mm tile backer board with an extruded polystyrene core should then be fitted, butted up to the window frame and fixed with 75mm zinc coated screws at 400mm centres. **MI Seal** should be applied at the perimeter edges to ensure an air tight seal is achieved.

Insulating Window Reveals

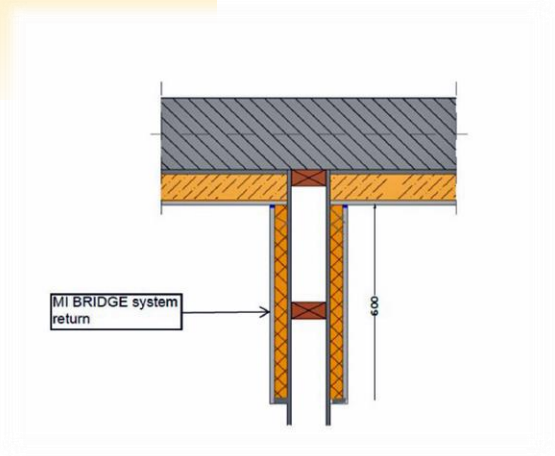
Where roof lights are fitted to sloping ceiling plane, or standard frames are present within gable wall elevations, the reveals should be insulated with either 20mm **MI Bridge** and 12.5mm plasterboard or with 20mm thick tile backer board with an extruded polystyrene core, depending on the width of the window frame. These insulants should be fixed to the solid masonry or plasterboard reveals using the fixing pattern and sealant as detailed above.



Roof light shown above with details of reveals

Returning the System

Where the external gable wall is intersected by an internal partition **MI Bridge** should be fitted to return at least 400mm along the length of the partition wall to prevent cold bridging, using the fixing pattern and **MI seal** as described in Dormer Cheeks and Windows



Should gable and party walls intersect, as in the case of back-to-back terrace properties, the system should return along the party wall as described above. This is unless the party wall itself is to be fully insulated or if the neighbouring property has not been treated with a room in roof insulation system.

Protection from Wind Driven Rain

Where masonry walls within exposure zones 3 and 4 are to be insulated (see below table) it may be necessary to apply storm dry brick cream to exposed masonry faces to prevent ingress of rain.

If the Pre-Design survey identifies the requirement, the exterior face of the masonry wall should be examined and if necessary repaired to ensure it is free from major cracks and defects. To prevent ingress of wind driven rain, Storm Dry Brick Cream must then be applied to the external surface area of the masonry wall containing the room in roof, including window reveals.

Note: Rendered masonry (in a stable condition), granite and unfilled cavities do not require the application of Storm Dry Cream as an effective barrier is already in place.

The treatment must extend to at least 200mm below Room in Roof floor level and be applied in accordance with manufacturers instructions. Storm Dry should be applied when rain is not expected for a further 24 hours after application.

Installation Quality Checks

Regular site installation quality control should be undertaken by the approved installing Company. This shall be based on visual inspections at key installation stages, to check on:

- Product Compliance (Correct products used at correct stages)
- Specification Compliance (Design compliance and technically competent)
- Installation Compliance (Line and level, smooth application of materials with an even coverage)

Completion

At completion documentation should be provided to the householder to include:

- The property address
- The Building Owner
- The System Designer
- The System Supplier
- The System Installer with full address
- The system components
- The date of installation
- A user guide including post installation of fixtures and fixings

Should you need further information please contact Ezy-Fit via
sales@ezy-fit.co.uk