Isover Installation Guide

Installing External Masonry Cavity Wall Insulation

ISOVER
SAINT-GOBAIN

At Saint-Gobain Isover we develop sustainable insulation solutions to protect both your built environment and the natural environment. To maintain our focus we have placed environmental responsibility at the heart of our business strategy.

The importance of correct installation

The purpose of this guide is to provide technical guidance for installing Isover insulation into external masonry cavity walls. Quality and accuracy of installation is vitally important if a dwelling's actual performance is going to meet its designed targets.

Poorly installed insulation may create an energy inefficient building with uncomfortable draughts and can lead to cold spots on the internal leaf leading to condensation problems.

Correct installation also reduces the risk of acoustic weak spots and therefore improves the acoustic comfort of the building.

Our vision to lead the UK mineral wool market in energy efficiency and acoustic insulation solutions will be achieved with products that meet the highest thermal, acoustic and fire safety performance levels. We will meet changing regulations first and surpass current regulations for those that wish to excel. Our products will provide best value solutions for the residential, commercial, RMI and technical building environments, be safe to use and help to protect the environment.

Isover Technical Advice

Our dedicated technical support team can provide guidance with regulation compliance, product installation and product performance.

Tel: 0115 945 1143
E-mail: isover.enquiries@saint-gobain.com

Why use Isover's full-fill glass mineral wool solution over rigid foam board alternatives?

✔ Cost efficient solution

The following example compares the installed cost of an Isover full-fill glass mineral wool solution and a partial-fill system using a rigid foam board.

Isover solutions are 51% the cost of rigid foam alternatives

- **Isover full-fill glass mineral wool solution**
  103mm brick, 100mm cavity fully-filled with Isover CWS 36,
  100mm medium density block (0.51W/mK), 12.5mm plasterboard on dabs.

Component	Unit	Quantity	Price	Labour	Installed cost
Isover CWS 36 100mm	m²	80	2.65	2.16	384.80
Retaining discs on wall ties	nr	0	0.07	0.03	0.00
Closing cavities with cavity barriers	m	0	8.84	2.01	0.00
			Total Installed Cost		**384.80**

- **Rigid foam board partial fill solution**
  103mm brick, 100mm cavity partial-filled with 50mm Kingspan TW50,
  100mm medium density block (0.51W/mK), 12.5mm plasterboard on dabs.

Component	Unit	Quantity	Price	Labour	Installed cost
Kingspan TW50 50mm	m²	80	5.00	3.41	672.80
Retaining discs on wall ties	nr	240	0.07	0.03	24.00
Closing cavities with cavity barriers	m	5	8.84	2.01	54.25
			Total Installed Cost		**751.05**

Note: Based on calculations in SPONS Architects and Builders Price Book 2011 for a 100mm cavity wall with medium density blocks and a U-value of 0.27W/m²K. Insulation costs based on an order of 1000m² from a national distributor at time of publication.

✔ Quick and easy on-site installation

- **No requirement for retaining discs on wall ties** – Isover full-fill insulation negates the need for retaining discs saving on material costs and installation time.
- **No requirement for cavity fire barriers –** Isover full-fill insulation helps minimise flanking sound transmission and prevents the spread of fire within the concealed cavities.
- **Isover full-fill insulation is lightweight and easy to handle, cut and install –** Isover full-fill insulation is flexible, allowing the slabs to fit together with minimal air gaps and heat loss. It will also mould to fill uneven surfaces.
- **Robust solution –** Isover full-fill insulation is able to withstand the demands of on-site installation, improving in-situ performance and reducing on-site waste.

Before you start installing Isover insulation

Storage and packaging

Palletised packs of Isover external wall insulation can be stored outdoors on a flat, well-drained, hard standing surface. Loose packs must be stored under cover and off the ground until required for use. For safety reasons it is not recommended that pallets are stacked.

Free pallet repatriation service

To further support our 3 Point Plan for environmental sustainability, we are pleased to advise that a new pallet repatriation service is now available to allow removal of Isover pallets from your branch or site location, in an environmentally responsible way.

European Logisitics Management Ltd (ELM) will be providing a free collection of Isover pallets (minimum quantity applies per collection) from your preferred stockist or site location – your stockist or contractor simply has to call **0800 282 488** to arrange a collection.

Wall ties

The following text gives generic guidance for the installation of cavity wall ties. For a detailed installation procedure and guidance, advice should be sought from the wall tie manufacturer.

Wall ties are vital for securing the structural integrity of a wall. Installing them incorrectly can lead to damp issues, cracking or even the collapse of walls.

Spacing
For walls where both leaves are thicker than 90mm, position wall ties at a maximum of 900mm horizontal x 450mm vertical centres (2.5 per m²). Wall ties should be evenly distributed over the wall area and should preferably be staggered.*

Around openings, position wall ties with a minimum vertical spacing of 300mm (usually 225mm to suit one block course) and no more than 225mm from the edge of the opening.

Additional Guidance
Position wall ties with a slight downward slope towards the external leaf. This prevents the ties forming a path for moisture to cross the cavity.

Clear mortar droppings from wall ties in order to reduce the chances of cold bridging and to prevent the ties forming a path for moisture to cross the cavity.

The use of non-metallic thermal efficient wall ties is recommended to reduce cold bridging and therefore improve the overall thermal efficiency of the wall.

* This is guidance only

Installation procedure

The following procedure is a summary of the guidance given by the British Board of Agrément (BBA), Certification No: 90/2465.

Step 1

Build up the first section of leading leaf (either leaf depending on preference) to include the first row of wall ties. Insulation should start a minimum of 150mm below DPC level to provide effective edge insulation to the floor and reduce thermal bridging at the junction.

Step 2

Before installing the insulation, clean off any mortar snot protruding into the cavity and from any wall ties or cavity trays. Use a cavity board to prevent mortar build up at the bottom of the cavity.

Step 3

Position the insulation slabs against the masonry, between the wall ties, ensuring the drips are half way across the top of the insulation.

If necessary, cut the insulation to course using a sharp knife and straight edge to ensure an even fit.

Installation procedure (continued)

Step 4

Build up the second leaf to the top of the insulation. Wall ties must slope away slightly from the internal leaf to the external leaf.

Step 5

Successive sections of wall may proceed as described in points 1 to 4. Excess mortar must be removed from the cavity face and a cavity board used to prevent mortar droppings on the top edge of the insulation. When installing Isover insulation care should be taken to ensure butt joints are tightly butted and vertical joints staggered from course to course.

Step 6

It is recommended that at corners, the insulation should be closely butted to avoid cold bridges. Ideally, the uncut edge of the insulation should be used for this purpose or an edge straight cut with a sharp knife. Folding the insulation around corners is not recommended.

Step 7

Where openings such as doors and windows are in close proximity, a continuous lintel or cavity tray should be used. Individual lintels or cavity trays should have stop ends and be adequately drained. The insulation should be cut to butt tightly against the vertical DPC.

Best practice tips

Do not pierce the insulation with wall ties to prevent tearing the insulation, creating a potential themal bridge.

Do not push insulation down into the cavity as a tightly butted horizontal joint cannot be ensured.

Do not bend insulation around corners as this creates air pockets within the cavity.

Do cut the insulation using a sharp knife and straight edge.

Do fit small pieces of insulation with the fibres running horizontally to the wall to ensure fully-fitted.

Do keep the top edges of the insulation clean of mortar by using a cavity board.

Do protect all exposed areas of insulation with a weatherproof material or board when work is suspended or during rain.

Do stagger vertical joints and ensure they are tightly butted.

Isover CWS 32

A glass mineral wool full-fill cavity slab providing thermal performance in masonry cavity walls to meet Approved Document L (England and Wales).

Product	Thickness (mm)	Width (mm)	Length (mm)	Batts per pack	Pack area (m²)
Isover CWS 32	50	455	1200	14	7.64
Isover CWS 32	65	455	1200	12	6.55
Isover CWS 32	75	455	1200	10	5.46
Isover CWS 32	85	455	1200	8	4.37
Isover CWS 32	100	455	1200	6	3.28
Isover CWS 32	125	455	1200	5	2.73
Isover CWS 32	150	455	1200	4	2.18

- ✔ **Thermal conductivity of 0.032W/mK**
  Helps to meet the requirements of Approved Document L 2010 (England & Wales).
- ✔ **Enables U-values as low as 0.17W/m²K in a single thickness of insulation.**
- ✔ **Euroclass A1 fire rating**
  Totally non-combustible and fire safe.
- ✔ **BBA approved for use in masonry walls (England & Wales) –**
  Approved for use in severe exposure zones and in buildings up to and including 25m in height (Certification No: 90/2465).

Isover CWS 36

A glass mineral wool full-fill cavity slab providing thermal performance in external masonry cavity walls to meet Approved Document L (England and Wales).

Product	Thickness (mm)	Width (mm)	Length (mm)	Batts per pack	Pack area (m^2)
Isover CWS 36	50	455	1200	20	10.92
Isover CWS 36	65	455	1200	16	8.74
Isover CWS 36	75	455	1200	16	8.74
Isover CWS 36	85	455	1200	12	6.55
Isover CWS 36	100	455	1200	12	6.55
Isover CWS 36	125	455	1200	8	4.37
Isover CWS 36	150	455	1200	6	3.28

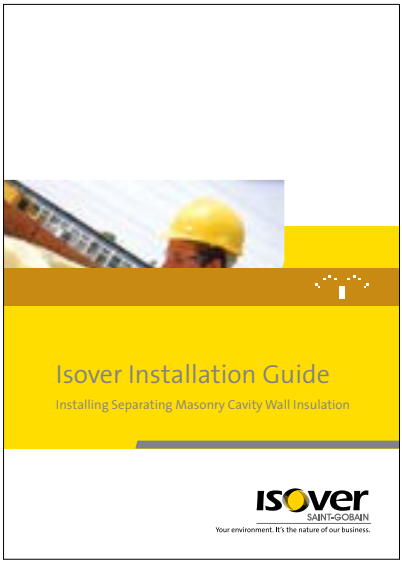
- ✔ **Thermal conductivity of 0.036W/mK –** Helps to meet the requirements of Approved Document L 2010 (England & Wales).
- ✔ **Enables U-values as low as 0.19W/m^2K in a single thickness of insulation.**
- ✔ **Euroclass A1 fire rating** Totally non-combustible and fire safe.
- ✔ **BBA approved for use in masonry walls (England & Wales) –** Approved for use in severe exposure zones and in buildings up to and including 25m in height (Certification No: 90/2465).

Isover Installation Guide - Installing Separating Masonry Cavity Wall Insulation

The Isover Installation guide for separating masonry cavity wall insulation is also available. The guide provides a step by step procedure for installing Isover RD Party Wall Roll along with best practice tips for optimal performance.

Isover RD Party Wall Roll is a proprietary component for E-WM-17, E-WM-20 and E-WM-24 Robust Details wall construction and also conforms to the Robust Details generic full-fill mineral wool specification for all other masonry cavity separating details.

For your copy visit **www.isover.co.uk** or call **0800 032 2555**



www.3pointplan.co.uk www.isover.co.uk

Isover Order Placement or Order Enquiries:
Tel: 0800 032 2555
Fax: 0800 917 9188

Isover Technical Advice – Buildings Insulation:
Tel: 0115 945 1143
Email: isover.enquiries@saint-gobain.com

Published Date: July 2014
Isover Document Reference: I-EMW-IG-1401

Saint-Gobain Isover
Gotham Road
East Leake
Loughborough
Leicestershire
LE12 6HX
Tel: 0115 969 8010
Email: isover@saint-gobain.com

SAINT-GOBAIN