



THE CODE FOR
SUSTAINABLE
HOMES

The Code for Sustainable Homes,
discover how Isover can help you crack it.

ISOVER

The World's Leading Acoustic and Thermal Insulation



Meeting your code obligations.

On the 27th February 2008 the Government confirmed that, as part of their 2006 Code for Sustainable Homes initiative, a mandatory rating system would be implemented against all new homes. The standards set by the Code will become the single national standard for design and construction for house builders and will form the basis of the Building Regulations in relation to carbon emissions and energy usage.

The code measures the sustainability of a new home against categories of sustainable design, rating the 'whole home' as a complete package. Performance is based on nine categories including energy consumption and CO₂ emissions and is measured using a 1 to 6 star rating. Level 1 offers basic compliance, above the level required by the Building Regulations, and 6 provides aspirational or 'zero carbon' performance. Whereas builders can choose what levels of the Code they wish to achieve, any home built with Government funding must now achieve Code 3 as a minimum performance level. A zero star rating will be awarded if the dwelling has not been assessed against the Code.

For home purchasers, the new rating system provides better information concerning the environmental impact their new home will have and the likely running costs. Additionally, it allows the builder to differentiate their homes in terms of sustainability.

THE CODE IS BASED ON NINE KEY CRITERIA:

1. Energy and CO₂
2. Water
3. Materials
4. Surface water run-off
5. Waste
6. Pollution
7. Health and Wellbeing
8. Management
9. Ecology

Each of the above categories is weighted based on their environmental impact and a set number of credits is available for each category. The credits are converted to points to determine the actual Code level achieved.



**SUSTAINABLE
PRODUCT**

Environmental impact categories	Total No. of credits in category	Environmental weighting factor (as % of total possible points score available)
Category 1 - Energy and CO ₂	29 credits	36.4%
Category 7 - Health and wellbeing	12 credits	14%
Category 9 - Ecology	9 credits	12%
Category 8 - Management	9 credits	10%
Category 2 - Water	6 credits	9%
Category 3 - Materials	24 credits	7.2%
Category 5 - Waste	7 credits	6.4%
Category 6 - Pollution	4 credits	2.5%
Category 4 - Surface water run-off	4 credits	2.5%
Total	104 credits	100%

Gain credits by using Isover products/systems in these areas

By simply installing Isover glass mineral wool insulation you can earn valuable credits, thus increasing the points you require to achieve a better Code level of performance.





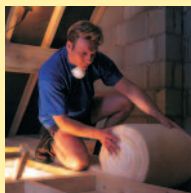
Gain up to 30 credits with Isover in four key areas.

Category 1 - Energy and CO₂ emissions

Dwelling Emission Rate - 15 Credits available
Isover = 8 Credits up to Code level 4

Building Fabric - 2 credits available
Isover = 2 Credits by combining insulation with air tightness

This category aims to limit energy and CO₂ emissions from a property through factors such as insulation, building fabric, lighting and low or zero-carbon energy technologies. The superior thermal performance of Isover products is proven to reduce energy usage and CO₂ emissions .



Category 7 - Health and Wellbeing

Sound Insulation - 4 Credits available
Isover = 4 Credits by providing 8dB higher party wall airborne sound insulation than Part E

This category aims to improve the quality of life for occupants by reference to a number of criteria such as sound insulation and the amount of private space available. Isover insulation products have a direct bearing on both these criteria since they provide excellent acoustic performance.





Category 3 - Materials

Environmental impact on materials - 15 Credits available
Isover = 15 Credits when used in the constructions listed

Recognising and encouraging the use of responsibly sourced materials during the construction process will considerably lower their environmental impact.

Isover glass wool insulation is manufactured from a combination of silica sand and up to 80% recycled post-consumer glass from building regeneration projects or flat glass manufacture that would otherwise go to landfill. This makes Isover one of the most environmentally sustainable insulation products on the market today.



Category 6 - Pollution

Global Warming Potential of Insulants - 1 Credit available
Isover = 1 Credit with a GWP of zero

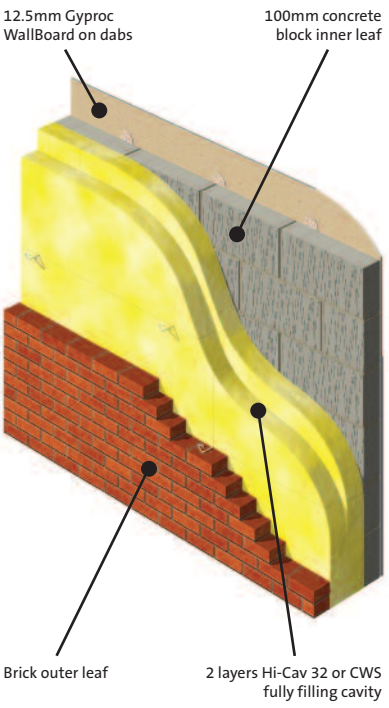
The manufacture, installation, use and disposal of Isover insulation products can significantly reduce carbon emissions and therefore global warming. Furthermore, glass mineral wool boasts zero ODP (Ozone Depletion Potential) and zero GWP (Global Warming Potential).





Masonry Wall

Full Fill Insulation



CWS
(Thermal conductivity = 0.036 W/m.K)

U-value	100mm Block Type		
	Lambda 0.11	Lambda 0.15	Lambda 0.51
0.25	100mm	125mm	130mm
0.20	155mm	160mm	175mm
0.15	225mm	235mm	245mm

Hi-Cav 32
(Thermal conductivity = 0.032 W/m.K)

U-value	100mm Block Type		
	Lambda 0.11	Lambda 0.15	Lambda 0.51
0.25	100mm	100mm	125mm
0.20	135mm	150mm	160mm
0.15	200mm	215mm	225mm

- Brick outer leaf, block inner leaf
- Insulation batts installed in two thickness
- Break bonding on vertical insulation joints to ensure no thermal bridges

This complies with BRE Green Guide A+ construction.



Masonry Separating Walls

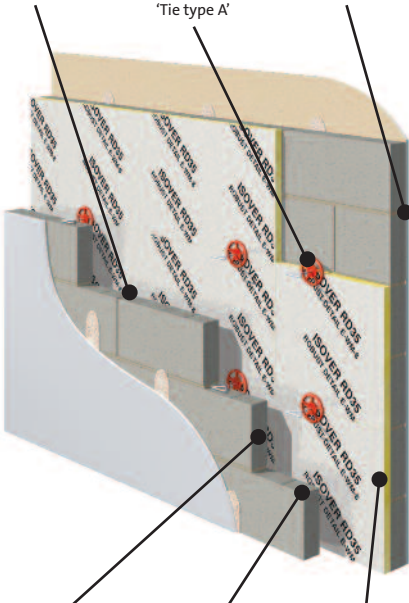
E-WM-8, E-WM-14 & E-WM-15

RD35

Cavity Width
75mm (min)
leaf to leaf
or 100mm -
see table

Wall Ties
Insulation
retaining wall
ties to Approved
Document E
'Tie type A'

Wall Finish
Gypsum-based
board (nominal
9.8kg/m²)
mounted on dabs



Block Thickness
100mm (min),
each leaf

Block type
See table

Insulation
35mm RD35
foil-faced
mineral wool
acoustic batt

DRY FINISH MASONRY WALL ROBUST DETAILS WITH RD35

Wall	Cavity width (mm)	Block type	Credits
E-WM-8	75	Light Weight Aggregate	1
E-WM-14	100	Light Weight Aggregate	3
E-WM-15	75	Aircrete	1

- Robust Detail approved
- Isover solutions are the only dry finish constructions
- Most economical solution
- E-WM-8 RD35 in 75mm cavity = **1 credit**
- E-WM-14 RD35 in 100mm cavity = **3 credits**
- E-WM-15 RD35 in 75mm cavity = **1 credit**
- Isover next generation RD = **4 credits**

Sound Insulation

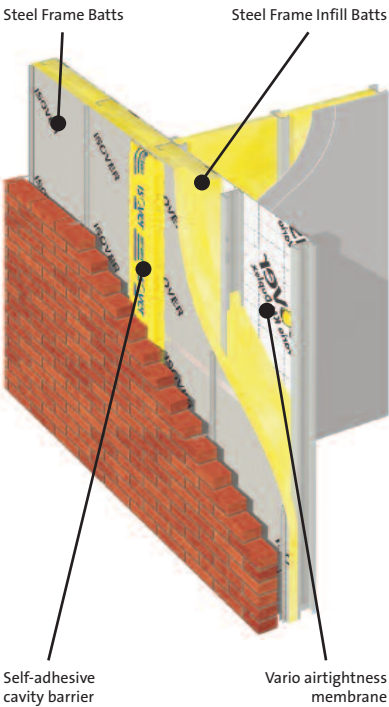
4 available credits.

Party Wall airborne sound insulation
8dB higher than Part E.

Isover = 3 credits via Robust Detail.
4 credits via Pre Completion Testing.



Light-weight Steel Frame Infill Wall



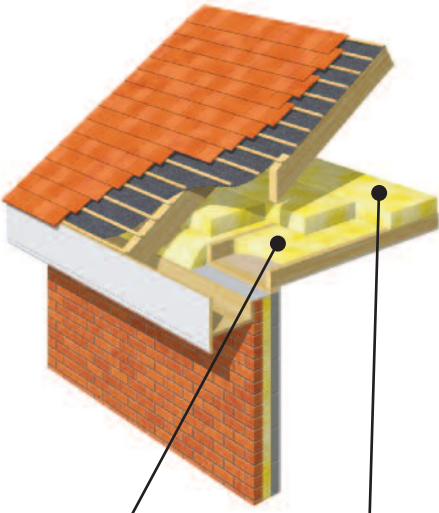
SF3+ STEEL FRAME INSULATION SYSTEM		
SF1 (Thermal conductivity = 0.031 W/m.K) Thickness (mm)	SF2 (Thermal conductivity = 0.036 W/m.K) Thickness (mm)	U-Value
50	50	0.29
50	75	0.26
50	100	0.25

- SF1 (Steel Frame Batt's) fixed to the outside of the frame
- SF2 (Infill Batt's) positioned in the stud framework
- SF3 (Self Adhesive Cavity Barriers) to prevent spread of flame and flanking noise down the brickwork cavity
- SF+ (Vario KM Duplex) to ensure airtightness requirements



Pitched Roof

Insulation at Ceiling Level (Cold Roof)



100mm Iover insulation between joists

Second layer Iover insulation cross laid over joists

Spacesaver
(Thermal conductivity = 0.043 W/m.K)

Combined thickness (mm)	U-values
270	0.16
320	0.13
420	0.10

Spacesaver Plus
(Thermal conductivity = 0.040 W/m.K)

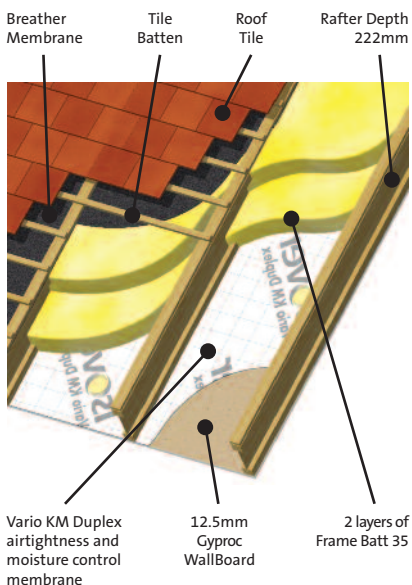
Combined thickness (mm)	U-values
250	0.16
300	0.13
400	0.10

- Spacesaver or Spacesaver Plus
- Ventilated pitched roof
- Insulation installed in 2 layers



Pitched Roof

Insulation at Rafter Level (Warm Roof)



Frame Batt 35

(Thermal conductivity = 0.035 W/m.K)

I-beam thickness (mm)	Insulation thickness (mm)	U-values
195	180	0.16
240	240	0.13
350	340	0.10

- Insulation push fitted between I-beam rafters
- Vario membrane behind plasterboard for airtightness



The Isover Multi-Comfort House

Because the most inexpensive energy is the one that's not consumed in the first place

OUR COMMITMENT TO MORE SUSTAINABLE HOUSING AND A REAL LIFE MODEL FOR LEVEL 4 AND BEYOND.

Live comfortably. Make no sacrifices, but go easy on the environment. A fantastic vision? Much more than that. The Isover Multi-Comfort House can make this vision come true. No matter what you have in mind: the passive house standard allows you to realise all your building dreams. Simply, economically and efficiently.

This pioneering concept is now a reality across Europe with numerous Multi-Comfort houses now in existence.

The energy and CO₂ usage of a home constructed in this manner is approximately equivalent to Level 4 of the Code for Sustainable Homes. So, by achieving Multi-Comfort House standards you can be confident that the required design features are in place for the Code levels 4, 5 and even 6.



THE ISOVER MULTI-COMFORT HOUSE EXPLAINED

An Isover Multi-Comfort House ensures agreeable room temperatures all year round, generated from the energy retained and emitted by the house, rather than from external energy sources (electricity, gas, oil) used to provide heating. House ventilation works naturally too, via a permanent flow of filtered fresh air free of dust, pollen and aerosols. The self-heating capabilities of an Isover Multi-Comfort House work on a thermos flask principal, protecting the interior against loss of ambient heat and then using that captured energy to warm the house. Compared to a conventionally built new house, space heating requirements for an Isover Multi-Comfort House are lower by some 75% - and compared to an old house, this figure increases to around 90%. In cold winters, for example, a 20m² room in an Isover Multi-Comfort House can be heated with just ten tea lights or two 100-watt bulbs. And in terms of fuel consumption, an Isover Multi-Comfort House requires less than 1.5 litres of heating oil or 1.5m³ natural gas per square metre per year.



Airtightness, moisture protection, roof and wall insulation, all-round thermal insulation, triple-glazed windows, sustainable building materials, alternative energy sources - all these factors plus the benefits of a maximised living area and acoustic comfort are embraced by the Isover Multi-Comfort House; and if you include its principles in your house-building, you'll be creating truly self-supporting passive housing that will achieve extraordinarily high CFSH assessments.

Multi-Comfort House - Key Benefits.

- Energy saving construction pays off from the very first day
- Safe investment into the future
- Added value every year through decreased operating costs
- Comfortable living all seasons long
- Longer useful life thanks to the highest quality standard
- Valuable contribution to sustainable climate protection
- Maximising comfortable living space
- Improved acoustic comfort level

If you would like to order a copy of the Isover Multi-Comfort House brochure then please call us on 0115 969 8010 or email us at isover.enquiries@saint-gobain.com





Environmental Benefits

of installing glass mineral wool insulation

INGREDIENTS FROM AN INFINITE SOURCE

Isover glass wool insulation is manufactured from a combination of silica sand and up to 80% recycled post-consumer glass from building regeneration projects or flat glass manufacture that would otherwise go to landfill. This makes Isover one of the most environmentally sustainable insulation products on the market today. The credentials of Isover glass wool insulation include:

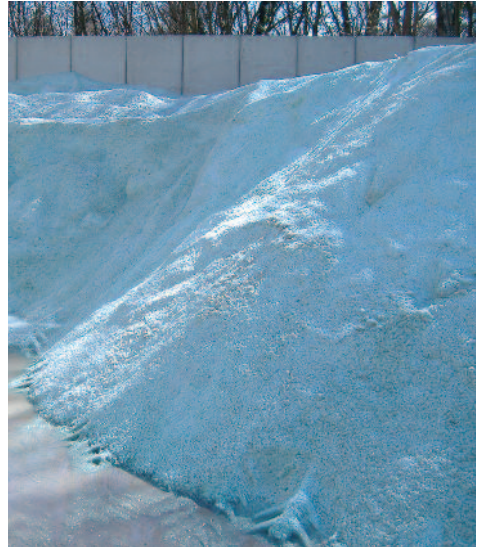
- Zero ODP (Ozone Depletion Potential)



- Zero GWP (Global Warming Potential)



- A contribution towards the available credits in four key areas under the Code for Sustainable Homes
- Glass mineral wool insulation achieves an A+ rating under the BRE Green Guide



Cullet - raw material: recycled post-consumer glass

So, with Isover, you're not just investing in some of the world's most effective, efficient, energy saving products, you're also investing in the healthy, sustainable future of our precious planet.

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