



Modern eco-home Black Mountain the natural choice

**Product Description**

Black Mountain insulation is a general purpose natural wool fibre product designed for use in loft, rafter, internal wall and inter-floor applications. Specified to match and surpass the Part L Building Standards with reference to Thermal, Fire, Mould Resistance and Structural performance.

The product is well suited to brick, timber and steel form construction applications, and offers improved thermal and acoustic ratings over many man made materials. Wool insulation is not only breathable but also able to absorb, retain and release moisture without affecting its thermal properties or performance, Black Mountain insulation is ideal for breathable wall construction.

**Environmental Information**

The manufacture of Black Mountain insulation requires only 15% of the energy required to manufacture mineral wool insulation. In use, the durability and moisture control properties of wool allow for a higher level of performance and longevity – retaining its insulating properties for the life of the building. Wool is naturally fire retardant and is treated with boron salts so as to heighten its vermin resistance.

**Applications**

Black Mountain insulation is designed for use in new and existing buildings within the loft, rafter, internal wall and inter-floor use. Wool insulation is ideal for dry lining on external walls and through out all parts of timber frame buildings.

**Fire Standards**

Wool is naturally fire retardant; the material only chars since there is insufficient oxygen in the atmosphere to support combustion of wool. In the event of a fire, wool will not add to the fire risk and produces no toxic gases. All of our products are tested to: Euro Class C Building Regulations Part L BS:5803-4.

**Thermal Performance**

Wool insulation matches the following standards for loft, rafter and internal wall thermal requirements as follows:

England / Wales Approved Document L1, L2 – Table 1.

Scotland Technical Standard Table J23.

N. Ireland Technical Booklet F – Table 1.2 / 1.4.

**Other Performance and Technical Standards**

Fire Euro Class C /BS 5803-4:1985.

Condensation BS 5250: 1989.

Thermal Conductivity 0.04 W/mK

U Value (100mm) 0.4



Black Mountain Insulation in a roll

**Sizes Available**

Widths 400mm or 600mm. Thicknesses 50mm, 75mm, 100mm – see table below.

Black Mountain insulation rolls				Black Mountain insulation batts* Batts 1.2 metres long		
Thickness / Width mm	Length in roll metres	Area in roll m <sup>2</sup>	Order code	Thickness / Width mm	Area in batt m <sup>2</sup>	Order code
50 x 400	10	4.0	BMR504	50 x 400	0.48	BMB504
75 x 400	5	2.0	BMR754	75 x 400	0.48	BMB654
100 x 400	5	2.0	BMR1004	100 x 400	0.48	BMB1004
50 x 600	10	6.0	BMR506	50 x 600	0.72	BMB506
75 x 600	5	3.0	BMR756	75 x 600	0.72	BMB756
100 x 600	5	3.0	BMR1006	100 x 600	0.72	BMB1006

\* Batts are supplied in complete packs. 50 x 400 = 20 per pack  
75 x 400 = 13 per pack  
Others = 10 per pack



Black Mountain Batt Insulation

**Loft insulation – current requirement**

Total thickness 250mm has a U-value of 0.16 W/m<sup>2</sup>K.

Total thickness 275mm has a U-value of 0.15 W/m<sup>2</sup>K.

NOTE: The calculation assume joist sizes to be 100mm x 48mm at 400mm or 600mm nominal centres with 8% bridging plus 1% for cross-noggins allowed)

# Black Mountain Wool Insulation means...

## ...Low-allergy

Wool is the safest insulation material on the market today. By its nature it doesn't harbour dangerous chemicals, dust or mould that can lead to allergic or other reactions. And it's treated with Boron for additional safety.

## ...Non-combustible

Unlike almost all alternatives, wool is non-flammable. Put simply, it needs more oxygen to become flammable than there is in the air – making it one of the most fire-safe materials imaginable.

## ...Formaldehyde free

Formaldehyde is a carcinogenic nasty, used as a binder in large numbers of building products. These include timber, OSB, MDF, paints, plastic – as well as mineral wool insulation. A number of US mineral fibre insulation manufacturers have discontinued the use of formaldehyde binders due to health concerns. Real wool has never had this problem.

## ...Formaldehyde-protective

What's more, wool has a unique ability to absorb formaldehyde – locking it permanently into the fibre. In fact, studies show that 80% of formaldehyde in the atmosphere is absorbed within a short period of time. No man made insulation has this remarkable feature.

## ...A millennia-long safety record.

Wool's unbeatable safety profile has been proven over a period of millennia. Man-made fibre insulation, by contrast, is far more recent – with issues that have yet to be ironed out. It's made from extremely fine, brittle strands which can become airborne due to handling, then inhaled, damaging the respiratory tract. They also cause severe irritation when they come into contact with skin. Safety clothing and mask are required when installing these products. Wool doesn't need these precautions.

## ...No mould, no mess

Man made insulation can often become a breeding ground for mould growth in damp conditions. Black Mountain Wool, by contrast, is treated with non-toxic material to prevent mould growth.

## ...No dust or hazardous VOCs

Black Mountain Wool is a natural product and emits no VOCs. Wool can also absorb a number of VOCs from surrounding materials and lock this within the fibre core permanently. Man-made insulation cannot absorb VOCs.

## ...A better material for sensitive locations.

Wool's excellent safety profile makes it an ideal product for every location – especially those where health and safety are prime concerns, such as hospitals, churches, schools and nursing homes. Here, wool can provide full long life performance without posing any risk to occupants over its tenure.

## ...Energy Efficiency for your home

Insulation critical to energy efficiency. A building's insulation has the most direct impact on its energy efficiency, comfort and running costs. Although man-made insulation can match the required building standards for u-values and thermal performance, it is unable to deal with moisture and humidity. Natural insulation materials have a number of technical advantages – including being able to absorb, retain and release moisture without affecting their performance. Buildings may fail to meet minimum standards over time.

Many buildings fitted with the required depth and density of insulation when constructed, are likely to fail those standards over time. This is because the brittleness of the man-made fibres combined with vibration and moisture cause its fibres to compact, resulting in the loss of most of its insulating performance.

Man-made slab insulation needs a precise fit. But keeping that fit isn't guaranteed. Rigid board and man-made fibrous insulation have little elasticity – so they must be fitted to leave no gaps or loose contact between insulation and joists. Even a 5mm gap more than 1 to 2 cm long will reduce the effectiveness of that piece of insulation by 50%. But every professional knows that joists in new and old homes are given to warping and settling overtime as the building 'beds in' – leading to well-fitted boards later becoming looser and less efficient as their position changes. Cold spots result from poor installation of passive insulation. Where insulation is fitted, any gaps between joists and insulation will allow cold air to flow easily between them. Air gaps, direct contact with outer leaf surfaces and dampness all result in cold spots being created.

Moisture is another problem with man made insulation Mineral wool relies on small pockets of dry air to create a layer of insulation; the mineral wool itself is a good conductor of heat. When moisture condenses in the material the insulation capability drops dramatically – this also reduces the material's ability to dissipate humidity, which can then cause mould or decay on timbers or plaster surfaces. Man-made insulation is almost impossible to renew cost-effectively.

Man-made insulating materials break down faster than wool-based ones. What's worse, once fitted between walls and floors, they are almost impossible to renew or replace without undertaking major building work to remove and replace plasterboards, party walls, floor timbers etc.

By contrast, wool lasts longer and is more forgiving. Unlike man-made materials, wool is naturally flexible and doesn't fracture – so it always maintains its insulating capability. What's more, it's not compromised by dampness or moisture. This gives it an unmatched longevity, often measured in centuries, rather than decades. Wool even prevents condensation – naturally. When wool absorbs moisture it actually emits energy which warms the wool and prevents condensation; no man-made insulation has this naturally adaptive capability.

## Technical Service and Helpline

For general enquiries about the application and installation of Black Mountain insulation email [sales@nbs-home.co.uk](mailto:sales@nbs-home.co.uk) .

Copies of relevant performance reports are available on request.

The nationwide build shop limited is also pleased to provide technical advice on how to incorporate the product into different forms of constructions, for both refurbishment and new self-build projects.

nbs1 BLACKMOUNTAIN 05.02.10

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