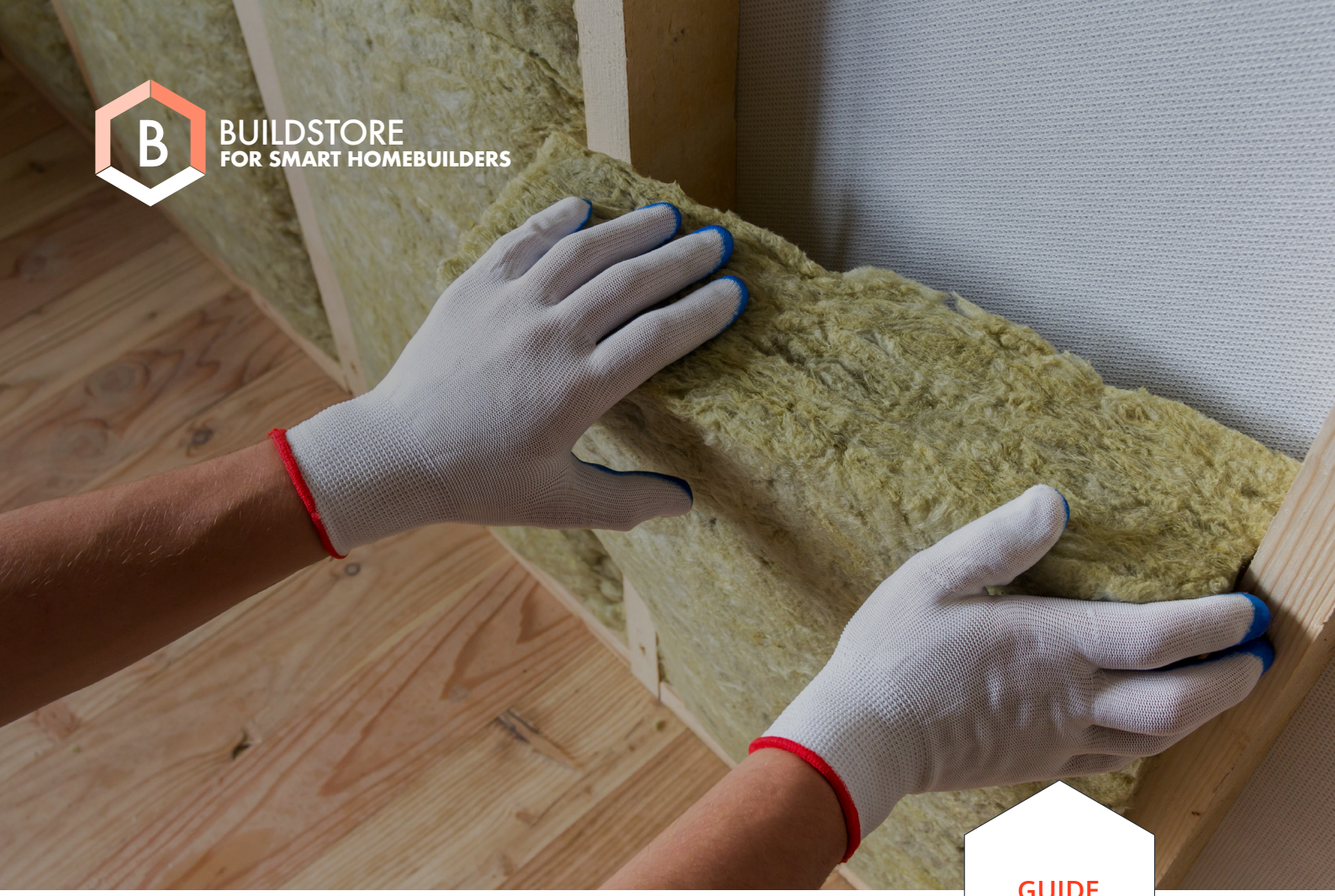
BUILDSTORE
FOR SMART HOMEBUILDERS



GUIDE

INSULATION, ENERGY EFFICIENCY, ECO AND GREEN ISSUES

For those interested in Green issues there is probably no better way to make your home ECO friendly than to spend the money on increased insulation and, unlike many of the other options, this one is the most likely to provide an immediate and worthwhile payback.

Insulation in its various guises and uses has featured in most of the Build Stages that precede this section. However, insulation is just one part of the whole equation that goes towards the energy requirements for your new home.

The SAP (Standard Assessment Procedure) measures the space and hot water heating costs per square metre of the floor area, taking into account a - whole host of different factors such as the size, the heating system and what type of boiler is used with which type of fuel, the ventilation characteristics plus the expected occupation and heating requirements.

The results are converted into a rating from 1-100 and, in order to comply with the Building Regulations, homes must achieve a minimum SAP value of 60, although most modern houses achieve far higher.

There are three main methods of demonstrating compliance with the Building Regulations:

THE ELEMENT METHOD

The most publicly understood method of heat loss calculation is the 'U' value, which measures the heat loss in watts for every square metre of the material in relation to each degree of temperature difference between the inside and the outside. The lower the 'U' value, the more thermally efficient the material is. The elemental method lays down specific 'U' value targets for each element of the building.

	Floors	Walls	Standard Roofs	Sloping Roofs	Windows	Flat Roofs
England & Wales	0.25	0.35	0.16	0.20	2.0	0.25
Scotland	0.25	0.30	0.16	0.20	2.0	0.25

Metal framed windows can have an average 'U' value of 2.2. In Scotland, the level of 'U' value achieved is dependant upon the type and efficiency of the boiler.

TARGET 'U' VALUE METHOD

This method is slightly more complicated but allows for greater flexibility in design. It calculates an average 'U' value for the home.

CARBON INDEX METHOD

This provides the greatest flexibility of the three in terms of design, but it is not easy to understand, and it requires extensive data on the construction and location of the home.

TIPS

1. When choosing green materials for your build look for those which take the least energy in manufacture and which are either recycled or can be recycled
2. Sheep's wool and recycled newspaper products can be used for insulation
3. There is a wide range of good environmentally friendly paints and stains to choose from
4. When choosing appliances for your new home make sure that they are low energy and where appropriate low water consuming
5. Many package suppliers offer an energy efficient upgrade to their standard products and there are some companies who specialise only in low energy homes
6. A wind turbine could be useful for a remote and exposed house and might provide a significant proportion of the home's electricity needs
7. Alternative water and waste systems such as reed bed sewage systems and the collection and cleaning of rainwater for washing machines and flushing toilets can be considered

45%

Homes can benefit from up to a 45% uplift in energy efficiency

90,000

Over 90,000 homes benefitted from new insultation in 2018

79%

79% of UK homes could improve their energy efficiency