GreenSteps

THERMAFLEECE® PB20
SHEEPSWOOL & RECYCLED POLYESTER INSULATION

Thermafleece PB20 – A Lifetime of Performance

Thermafleece PB20 is a wool-based building insulation incorporating a recycled polyester bulking agent to enable the insulation to be rolled and compressed by up to 60% whilst retaining many of the functional and environmental benefits associated with wool fibres such as breathability and carbon fixation.

Thermafleece PB20 is available in packs of 2 or 3 compressed rolls that are easy to store, easy to handle and easy to install making it the ideal solution for applications such as lofts.

Why Insulate With Thermafleece PB20?

Insulating a property will significantly reduce the amount of energy lost from the building envelope, reducing energy consumption and carbon dioxide released to the atmosphere. Thermafleece PB20 contains 60% British sheep's wool combined with recycled polyester to provide a versatile compressed insulation with thermal performance equal to or better than many conventional materials.

- ***Versatile***

Not only does Thermafleece PB20 provide excellent thermal insulation, it can be used in many acoustic applications, it acts in sympathy with your property absorbing many indoor air pollutants and helps control humidity levels.

- ***Long Lasting***

In order to ensure consistent thermal performance, it is important that insulation regains its thickness when unrolled and retains its shape throughout its service life. Thermafleece PB20 contains a lofting agent to maintain fibre stability and recycled polyester fibres that ensure the insulation regains its thickness when unrolled. Moreover, the manufacturing process ensures that each roll of insulation is composed of a random matrix of wool and recycled polyester fibres that will not split or delaminate in service.

- ***Quality Guaranteed***

Thermafleece PB20 is manufactured in accordance with ISO 9001 quality standards.

- ***Environmental Excellence***

Using Thermafleece PB20 can reduce carbon emissions by many tones over the lifetime of use. Moreover, wool fibres fix carbon dioxide from the atmosphere helping reduce atmospheric greenhouse gas levels and making Thermafleece PB20 one of the most sustainable building materials currently available.

- ***Safe***

Thermafleece PB20 is safe to handle without the need for personal protective equipment.

- **Free Support & Advice**

We don't just sell products, we also guide our customers and provide comprehensive support throughout the entire design and build process. We pride ourselves in offering the highest quality products, industry leading technical support and first class customer service.

Technical Specification

- ***Thermal Performance***

Thermafleece PB20 is manufactured using state of the art techniques to produce a tightly bound random matrix of hollow wool fibres and recycled polyester with a large internal surface area that ensures the finished insulation has excellent thermal insulating properties.

Thermafleece PB20 has a nominal density of 20kg/m^3 and a thermal conductivity of 0.042 W/mK which is better than most equivalent conventional insulation.

- ***Acoustic Performance***

Thermafleece PB20 can be used in many applications outlined in Approved Document E, contributing to the reduction in the passage of sound in structures in line with current UK Building Regulations and Robust Details.

As part of the overall sound reduction measures the use of an appropriate absorbent material such as Thermafleece PB20 to fill wall voids will make a valuable contribution towards passing required acoustic tests under the regulations.

- ***Moisture & Temperature Control***

The hygroscopic nature of wool fibres means that Thermafleece PB20 can act in sympathy with buildings to control internal moisture levels and contribute to a more stable and comfortable indoor environment.

When the wool in Thermafleece PB20 encounters moisture it is capable of releasing and absorbing heat. Wool releases heat when absorbs moisture and absorbs heat when it releases moisture which can have a stabilising influence over air temperature.

- ***Fire Resistance***

Thermafleece PB20 is treated with a low level of borate fireproofing agent to improve its intrinsic fire resistance and comply with BS 5803-4 achieving a pass for flammability and smouldering resistance.

Technical Data

Performance Standards	
Thermal Conductivity	0.042 W/m.K
Water Absorption (@100% RH)	24% w/w
Mould Resistance	CUAP Vegetable Fibre Draft 2002-01-25
Moth/Beetle Proofing	ISO 3998
Ignition Point	Approx. 500°C
Spread of Fire	BS 5803-4

Thickness mm (tolerance +/- 5mm)	***Thermal Resistance Km^2W***
70	1.67
100	2.38
200 (2 x 100mm)	4.76
270 (2x 100mm + 1 x 70mm)	6.43
300 (3 x 100mm)	7.14

Technical Support

We offer a free comprehensive support to meet all your technical requirements including:

- Dedicated technical help line **0845 416 1671**
- On-site and off-site support throughout the design and build process

- Advice on meeting current regulations including Building Regulations and Code for Sustainable Homes
- U-value and condensation risk analysis
- Advice on environmental impact
- Application guidance notes, comprehensive product data and reports

Recommendations as to methods, use of materials and construction details are based on the experience and knowledge of Second Nature UK Ltd and are given in good faith as a general guide and a service to designers, contractors and manufacturers.

Environment

- ***Utilizing Waste***

Thermafleece PB20 contains the coarse wool of British hill sheep which is unsuitable for many common applications. Rather than going to waste, this wool can be transformed into a long lasting sustainable product that fixes carbon from the atmosphere for at least 60 years. The polyester component is recycled and originates from ethical sources.

- ***Zero Global Warming Potential (GWP)***

With a GWP of zero, Thermafleece PB20 helps reduce global warming by removing carbon dioxide from the atmosphere.

- ***Local Sourcing and Production***

We use only wool from British hill sheep and conduct all processing and manufacturing in the UK minimising unnecessary transport and reducing the carbon miles for each order.

- ***Zero Ozone Depletion Potential (ODP)***

Thermafleece PB20 has an ODP of zero meaning that none of the materials contained in the insulation or used in its production pose any danger to the ozone layer.

- ***Reduced Carbon Footprint***

By installing 270mm of Thermafleece PB20 in a loft, the typical household can reduce its heating costs by up to 25% and their CO2 emissions by a staggering one tonne per year.

- ***Long Lasting***

Because Thermafleece PB20 is capable of maintaining its structure and loft throughout the life of the building, replacement costs are virtually eliminated.

- ***Safe Re-Use and Disposal***

At the end of its long service life, Thermafleece PB20 poses no threat to the environment and can be recycled for other environmentally friendly applications or Thermafleece PB20 can be composted leaving the residual recycled polyester fibre that is suitable for recycling.

- ***Free of Organic Pesticides***

Our wool is treated with the natural mineral borax and contains no harmful organic pesticides such as pyrethrins or chlorphenapyr.

Environmental Data	
Energy Consumption in Manufacture	15 MJ/Kg or 300 MJ/m^3
Global Warming Potential	Zero
Ozone Depletion Potential	Zero

Installation and Handling

Thermafleece PB20 is harmless and can be installed without gloves or protective clothing, although we do recommend that you wear a dust mask in an enclosed space like a loft. It is not irritating to the skin, eyes or respiratory tract and causes no discomfort to site workers during installation. Any fibres which happen to reach the living space will present no hazard to health

To retain the benefits of water vapour, absorption and release, Thermafleece PB20 may be used in conjunction with a vapour permeable underlay.

For the best results, allow the insulation to regain its thickness before installing in vertical wall situations.

Protect the insulation from prolonged exposure to sunlight and wetting for extended periods, store under cover and clear of the ground.

Cutting Tips

For accurate cutting, tightly compress or clamp the insulation between two pieces of solid 15mm board. Overhang the fleece where you want to cut keeping the two board edges aligned. Saw cut the edge using a sharp, scalloped edged knife and keep the blade firm and square against both board edges throughout. Trim any fine remaining fibres with large scissors or shears.

Thermafleece PB20 can also be cut using a straight edge and a Stanley knife, or simply torn apart.

Pack Sizes

Thermafleece PB20 is available in two widths as shown in the table below:

Dimensions (mm) per Roll	Rolls per Pack	Density (Kg/ m^3)	m^2 per Roll	m^2 per Pack	Pack Volume (m^3)	Pack Weight (Kg)
370 x 100 x 5300*	3	20	1.96	5.88	0.588	11.16
570 x 100 x 5300*	2	20	3.02	6.04	0.604	12.08
570 x 70 x 7570*	2	20	4.31	8.62	0.604	12.08

*Insulation is compressed, allow up to 5 days for the unrolled insulation to regain its thickness.

How to Buy

Available from the GreenSteps website at www.greensteps.co.uk
Tel: 0845 416 1671
Fax: 07902 890016