

# BauderECO FF

When biomass becomes flat roof insulation for a sustainable future



[bauder.co.uk](http://bauder.co.uk)

**BAUDER**  
making roofs secure.

# BauderECO FF

Thermal insulation is expected to deliver ever stricter requirements to reduce energy consumption and meet sustainability targets.

Our first step towards a sustainable future without compromising the quality and established, long term performance of our PIR insulation is to introduce BauderECO FF.

## Our journey has started

With our BauderECO FF we offer a biomass balanced polyisocyanurate insulation material.

Utilising the biomass balance approach, our ECO FF insulation is manufactured from 80% biomass and renewable inorganic materials. This is the start of our journey towards removing the use of fossil raw materials in Bauder insulation products.



**80%**  
biomass-based raw  
materials and renewable  
inorganic raw materials



# The journey of **RE**volutionising our PIR Insulation

## **RE**spond

Integrate ethical product manufacturing that supports the environment and our planet.

## **RE**duce

Cut the use of fossil fuel derivatives in the formulation of our PIR insulation and reduce its embodied carbon.

## **RE**place

Utilise renewable raw materials derived from biomass waste and residues from, for example, agricultural production or food processing, certified by REDcert.



REDcert<sup>2</sup>-900-36600100-P-30378

## **RE**tain

Preserve the durability, thermal properties, and fire performance of PIR insulation to ensure buildings are well insulated.

## **RE**arrange

Continue to look for more alternative solutions to manufacture PIR insulation and adopt the biomass balance approach.

## **RE**sult

PIR insulation that meets the needs of the environment and the construction industry.

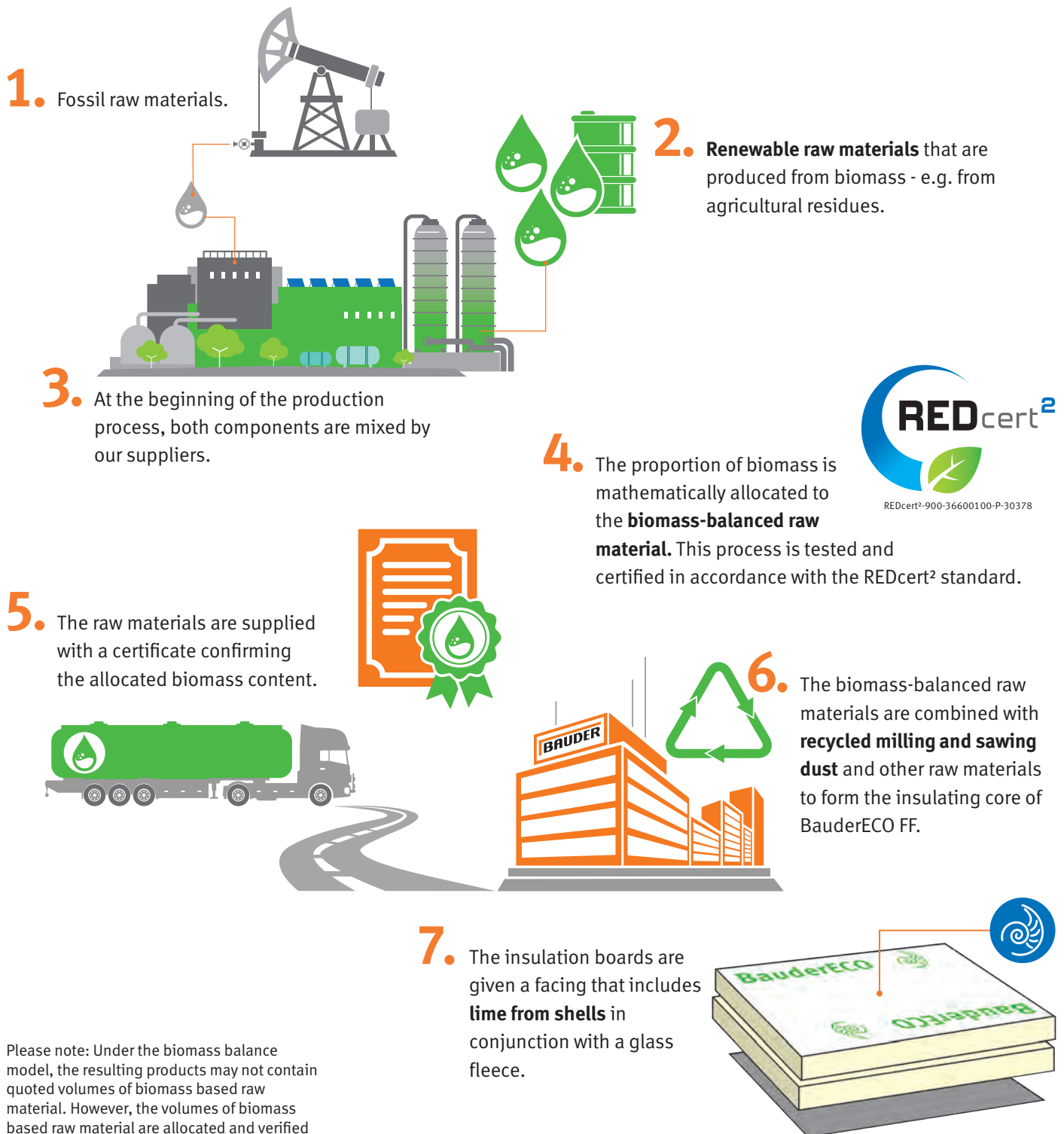


## We a**RE** committed to doing g**RE**at things

# What is the Biomass Balance Approach?

## Supplementing raw materials sourced from sustainable bio-based materials into our ECO FF insulation

This is a chain of custody accounting approach for the levels of sustainable biomass materials mixed with the same compounds gained from conventional sources for co-processing. This method does not disrupt the formulation or manufacturing method of this PIR insulation as the sustainable and conventional compounds are chemically the same.



Please note: Under the biomass balance model, the resulting products may not contain quoted volumes of biomass based raw material. However, the volumes of biomass based raw material are allocated and verified by a 3rd party certification scheme.

# BauderECO FF PIR Insulation for Flat Roofs

## Insulation consisting of 80% biomass and renewable inorganic materials according to the mass balance approach

BauderECO FF flat roof insulation is manufactured from biomass waste, e.g residues from agriculture; recycled materials from our manufactured PIR offcuts (approximately 1%); and natural shell waste from the food industry.

To be used within a warm roof construction for a heat/conditioned building on both new build construction and refurbishment of existing flat roofs.

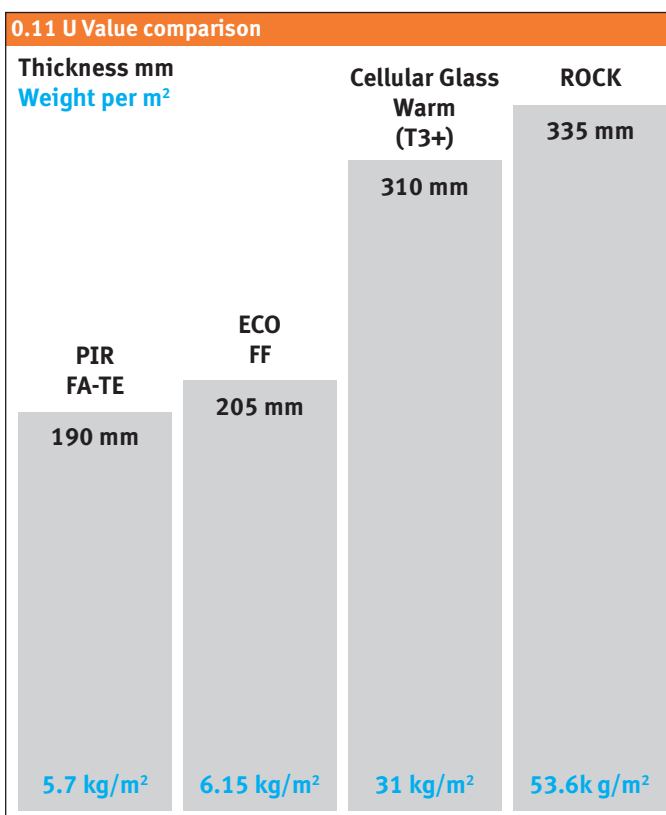
### Plus points

- Low embodied carbon compared to standard PIR production that uses 100% raw material from conventional fossil fuel derivatives based on the biomass balance approach.
- Manufactured using renewable raw materials derived from biomass waste and residues from, for example, agricultural production, crop or food processing.
- REDcert<sup>2</sup> sustainability certification - 3rd party auditing for a voluntary certification scheme for the use of sustainable materials in the chemical industry. This is for the chemicals used to make our PIR insulation and the finished product itself.
- Retains all the benefits of PIR - lightweight, thin, cost-effective, durable and long-lasting.
- Fire performance matches that of our conventional PIR.
- Wind load testing and fire testing has been carried out for our BTRS system and Thermofol mech fixed system. Further system testing is ongoing.
- BBA certification is in progress to verify our performance data and ECO FF will be added to our current PIR certificate.

### Achieving thermal performance

The boards are available in three thicknesses to meet different thermal requirements or U-values.

The BauderECO FF insulation, when tested to EN 13165 has a thermal conductivity value of  $\lambda_D = 0.024 \text{ W/m}^2\text{K}$  for 80 – 119 mm thicknesses and  $\lambda_D = 0.023 \text{ W/m}^2\text{K}$  for 120 – 240 mm thicknesses.



The BauderECO FF PIR foam core provides the same thermal conductivity as Bauder PIR FA-TE. The lime/glass fleece facing accounts for the differential in thermal performance between the two products.

ECO FF Insulation thickness	Approx. U-value (W/m²K)	Weight (kg/m²)
125 mm	0.18	3.75
160 mm	0.14	4.8
205 mm (two boards: 125 + 80 mm)	0.11	6.15

# Waterproofing Systems Utilising BauderECO FF Insulation

BauderECO FF insulation can be used with our warm roof waterproofing solutions for flat roofs

Currently, two of our waterproofing systems have been tested with BauderECO FF and are available for specification.

## Reinforced bitumen membrane systems

Bauder Total Roof System with a range of membranes for a tailored solution for each project with our BauderK5K bitumen cap sheet modified with SBS. Once the project includes a green roof our BauderPLANT E root resistant cap sheet is specified.

### Enhance with:

- Green roofs
- Solar PV
- Biosolar PV

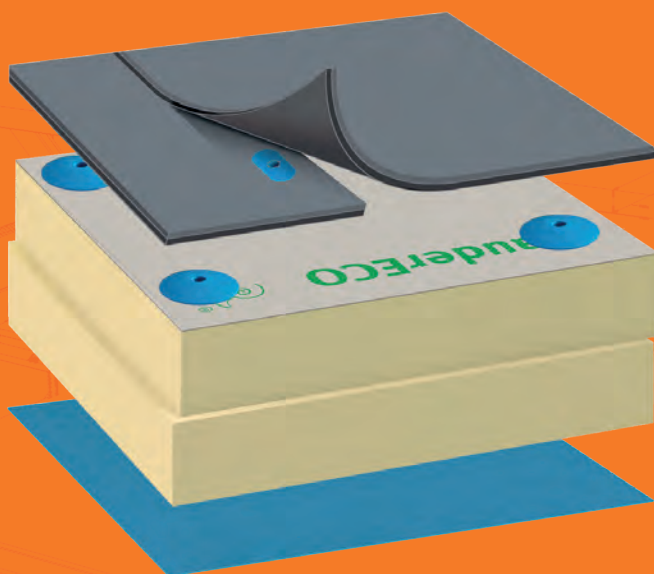


## Single Ply Systems

Bauder Thermofol, mechanically fixed application, our popular PVC single ply waterproofing for lightweight solutions where load-bearing limits are a factor. The membrane offers root resistance for extensive green roofs.

### Enhance with:

- Extensive Green roofs
- Solar PV
- Biosolar PV





## What's next?

We are making progress, and we're not stopping here!

We still have a long way to go, but we have taken the first steps!

Here at Bauder, we are well known for our sustainable flat roof solutions that incorporate green roofs, blue roofs and solar PV. With ECO FF we are making progress at product level.

Sustainable production means that the economic processes behind it are sensible and negative effects on the environment are minimised. At the same time, energy and natural resources should be protected. This requires that we, at Bauder, adopt new ways of thinking and innovative approaches. This is our mission for the years ahead.

**Reflect**

**Review**

**Revolutionise**





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