



Fast Track Installation

Low Embodied Energy

Recyclable

Flame Free Installation

Durable

Lightweight Membrane

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



Creating the **Difference**, Delivering the **Advantage**

## Thermoplan T System

Superior Single Ply Waterproofing Systems

# Introducing Thermoplan T

At Bauder, we provide flat roof waterproofing solutions that exceed industry expectations. Our philosophy is to provide clients with a total system package and believe that compromise should never be accepted.

Our single ply systems suit all dimensions, sizes and shapes of flat roof. That is why the Thermoplan T waterproofing system is attracting the interest of architects, designers and specifiers alike.

The Thermoplan T Single Ply System from Bauder has quality, reliability and durability all in one waterproofing solution. Thermoplan T has exceptional performance characteristics and is versatile to meet the specific design challenges of each individual project.

Our continuous and stringent quality control checks throughout the manufacturing process ensure Thermoplan T is guaranteed to live up to its excellent reputation, while also confirming that our policy on environmental sensitivity and management is upheld.

**Thermoplan T is a Bauder system, therefore outstanding service and attention to detail is assured. At Bauder, we have built a solid reputation for excellence in everything we do, from initial concept to post-installation checks. We use our expert knowledge and years of experience to create exceptional solutions every time.**

**At Bauder, our 150 years of manufacturing, research and development, coupled with our skills, knowledge and specialist expertise in the waterproofing and green roof market has founded our reputation throughout the construction industry for providing the best systems, service, technical back-up and guarantee.**

## Contents

page three	The Technology Behind Thermoplan T
page four & five	Key Features and Benefits
page six & seven	Thermoplan T Gallery
page eight & nine	System Construction Options
page ten	Insulation and Accessories
page eleven	Service and Guarantee

# The Technology Behind **Thermoplan T**

## Technology

Thermoplan T is a Flexible Polyolefin (FPO) membrane. This alloy comprises thermoplastic polypropylene (PP) for strength and rubber (EPDM) for flexibility and is especially designed to emphasise the key characteristics of both constituents to make it an exceptional waterproofing layer.

Thermoplan T is free from plasticisers, halogens and heavy metals making this synthetic waterproofing system environmentally sound.

Thermoplan T is 100% recyclable and has been specially designed so that all production waste is returned to the manufacturing process. Thermoplan T has low embodied energy and all the materials used are subject to strict quality control procedures that conform to ISO9001.

Thermoplan T is simple to install using either the mechanically fixed or fully adhered systems. With both methods using hot air to weld the seams a flame-free working environment is ensured, which is important for on-site safety and insurance costs.

The high strength reinforced membrane for Thermoplan T is manufactured in thickness options from 1.2 to 2.0 mm to meet the varying needs of a project. Where the system is adhered with liquid polyurethane adhesive, the 1.5 mm membrane used is additionally produced with a factory laminated fleece-backing to provide the necessary key for the adhesive to bond securely.

The inherent flexibility of the unreinforced detailing membrane allows full scope for the incorporation of complex detailing with full confidence.

A full range of compatible accessories ensures the integrity of the system is complete, whatever the type of specification.

Whether it is new build or refurbishment, ballasted or green roof, Thermoplan T is proving that as a new generation of flat roofing solution it is making its mark in the industry.

Thermoplan T carries BBA certificate 04/4120 and has been tested by the BRE to BS476 part 3, 1958, achieving a FAB fire classification.



FLL tested for root resistance and is suitable for extensive green roofing specifications.

Thermoplan T	Polyester reinforced	
Thickness	1.2mm	1.5mm / 1.8mm / 2.0mm
Roll size	1.5m x 25m	1.5m x 20m
Tensile strength	> 1200N	
Cold flexibility	-45°	

# Key Features and Benefits

## Benefits

### The Power of Perfection

Thermoplan T is already providing major benefits for a wide variety of projects. You just have to take a look at some of the advantages to understand why Thermoplan T is creating great interest within the industry and meeting the needs of architects, designers and specifiers.



#### COST EFFECTIVE

- Thermoplan T's application techniques offer **fast track installation** on every project it is specified for, creating real value by reducing site labour time.
- Thermoplan T's rapid installation programme often permits early fit-out below, keeping works to programme and reducing the time to completion and hand-over.
- This **lightweight system** allows for other building materials and structural steel to be reduced at the building's conceptual stage.
- Thermoplan T can be installed throughout the year.
- Fully compatible with bitumen based systems, Thermoplan T is **ideal for refurbishment** as an overlay system.

#### DURABLE

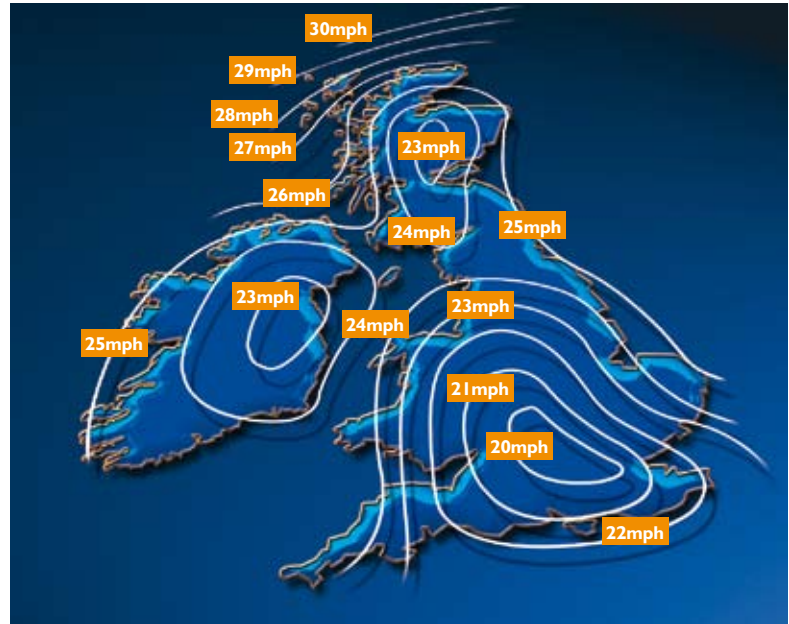
- Thermoplan T uses hot air welding for the seams to provide a **strong and reliable bond** that is well recognised in the single ply roofing industry. The fused overlapping membrane sheets provide a homogenous layer and total waterproofing security.
- With **high tensile strength** in excess of 1200N, the closed fibre polyester cross-weave reinforces the membrane and makes it resistant to tears and punctures.
- The membrane has no inherent memory and therefore **will not shrink**.
- The FPO membrane is chemically resistant.
- Our use of **high quality polymers and constituents in the formula** ensures the membrane remains flexible at -45 degrees centigrade.

#### FLAME-FREE INSTALLATION

- With Thermoplan T, the **seams are thermally welded with hot air** replacing traditional torching methods, bringing its installation in line with the outlook for safety conscious practice.

## RESISTANCE TO THE NATURAL ELEMENTS

- The integrated woven lattice reinforcement within the membrane, together with the high performance fastening system and strong homogenous welded seams combine to **eliminate the risk of wind uplift failure**.
- The reflective pearl white finish of the membrane **reduces solar gain**, minimising thermal and structural movement in the construction.
- The FPO formulation ensures **full resistance to micro-organism** attack which is vital to a membrane's success in ballasted or green roof situations.



Source BS6399-2 mean wind speed contours with 2% risk of exceedance per annum. Windspeed indicated at 25m above ground level.

## FIRE RESISTANCE

- To provide **maximum fire resistance**, our formulation includes a high performance halogen-free fire retardant which means the membrane carries a FAB fire rating.
- Our choice of fire retardant reduces the volume of product required allowing for a **greater percentage of active polymer** in the formulation.



## ENVIRONMENTALLY FRIENDLY

- Thermoplan T contains **no heavy metals, halogens or plasticisers**.
- Thermoplan T has one of the **lowest production embodied energy values**.
- The reflectivity of Thermoplan T reduces solar gain and contributes to **energy conservation** within the building.

## PRACTICAL SUSTAINABILITY

- Thermoplan T is **100% recyclable** and can be reprocessed at our manufacturing plant.
- Putting an extensive green roof on top of the Thermoplan T system provides an area of **natural habitat** for plants and small wildlife.
- An extensive green roof will protect the waterproofing membrane from climatic extremes, ultra-violet light and mechanical damage, significantly **increasing the life expectancy** of the Thermoplan T system.
- With an extensive green roof over the Thermoplan T system all the additional environmental benefits are gained including a **reduction in rain water run-off** which humidifies the air helping to reduce the 'heat island' effect.
- An extensive green roof, ballasted or paved finish will considerably **reduce sound** from both inside and outside the building.









## HMP Pentonville

Building works at a prison always cause a security headache. When HMP Pentonville needed a new roof, it was vital for the prison authorities that the specified company could guarantee a quality result and no security risks at any time.

It was crucial that the building itself remained in constant use and was not decommissioned at all while the roof was refurbished.

Bauder's solution was to cover the existing roof with a new Thermoplan T single ply membrane. A thermographic survey highlighted the extent of the water ingress allowing Bauder to de-water the failed existing system and repair the asphalt before refurbishment works commenced.

The Thermoplan T fleece-backed membrane system was installed as a refurbishment overlay, providing extended life to the existing asphalt. The system was fully bonded with contact liquid polyurethane adhesive. In this way the building remained in constant use and security was never breached.

***"The professional service we experienced from Bauder shows in the finished roof. We would not hesitate to use the Thermoplan T Single Ply Waterproofing System on future projects."***

**John Wilkinson, Head of Works, HMP Pentonville**



## Thermoplan T

### Plessington Catholic High School Technology College

From day one, the new Plessington Catholic High School Technology College has adhered to stringent quality controls to ensure excellence at every step of the way.

The roofing solution maximised on two waterproofing systems and married both the bituminous-based Bauder Total Roof System and the Thermoplan T Single Ply on different areas of the roofs. There is full compatibility between the systems and so the integrity of the roof is assured. It was also designed to incorporate a tapered insulation scheme which helped to simplify the overall roofing design of the supporting structure.

With a wealth of experience, Bauder has supplied a full technical back up service throughout. From the beginning of the project until the impressive guarantee was issued, this unique design project was carefully managed.

***'Bauder was chosen for the new extension building as they delivered roofing systems designed by a single manufacturer encompassing both a bituminous and an environmentally friendly single ply system all with a highly efficient insulation that provided cut to falls design. Their waterproofing meets all demands and coupled with the guarantee, it means that our client will have complete peace of mind for many years to come.'***

**Ian Stewart, OMF Derek Cox Architects**







### Key Workers Housing, Well Farm Heights

Constructed on a 4 acre brownfield site, Well Farm Heights, Whyteleafe, Surrey is a series of designer flats that have been developed with key workers, such as those within the health and educational profession, in mind.

The flats are situated within a green belt area so the architect, Hawkins Brown, required an aesthetic and environmental option for the roof and selected a sedum green roof solution.

Bauder's single ply system was chosen as it is manufactured to be as environmentally friendly as possible and 100% recyclable with all production waste returned to the manufacturing process. Bauder's expertise was a key credential that proved invaluable in the delivery of the project.



On nine of the blocks, the Bauder sedum blanket was installed on top of the mechanically fixed Thermoplan T system, whilst on two of the higher blocks the light grey single ply was the preferred finish.

***"The roofing element of Well Farm Heights ran very smoothly. The fact that Bauder trains all their roofing operatives individually meant that works were kept to schedule, with all products being delivered to site on time. No additional costs were incurred and the roofing element of the project was able to be completed within budget".***

**Harji Patel**  
**Botes Construction**

## Ensuring Excellence



### The Mount Wolseley Golf and Country Club

Set in the idyllic Irish countryside, Mount Wolseley offers visitors an exceptional place to play golf or simply relax. The new extension developments have greatly enhanced the facilities on offer to guests.

The main criteria for the roofing material on the new extension to the Mount Wolseley Hotel and Country Club was that the low level roofs had to be a green roof, light in weight, low in maintenance and aesthetically pleasing, the high level roofs had to withstand large amounts of foot traffic due to the positioning on the roof of M & E equipment, both roofs had to be economically viable and be covered by a robust guarantee.

***'The Bauder Thermoplan T SV 2 mm system satisfied all the requirements set out and provided the durability and resistance that was needed. The substantial 20 year guarantee was a major contributory factor for the client and means he can depend on the roof for years to come. The on site monitoring was unobtrusive and ensured that all works were carried out to requirements and specification.'***

**Aidan O'Connell, Aidan O'Connell & Associates Ltd**





# System Construction Options

## Options

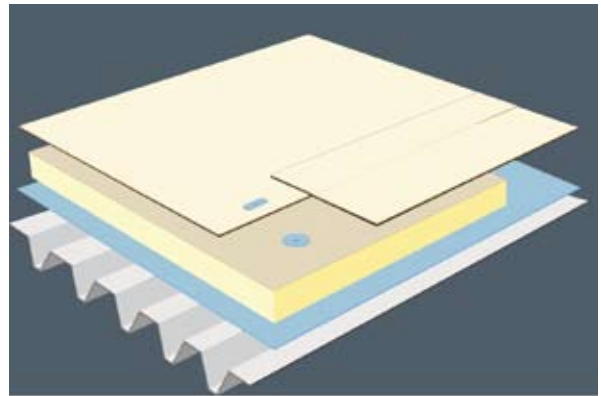
### Opting for Excellence

Thermoplan T has **four installation options** to deliver the ideal solution for each project it is specified for.

The installation options for the Thermoplan T system make it the ideal choice for all construction works, particularly for fast track projects. Installation is straightforward and maximises on safe application techniques.

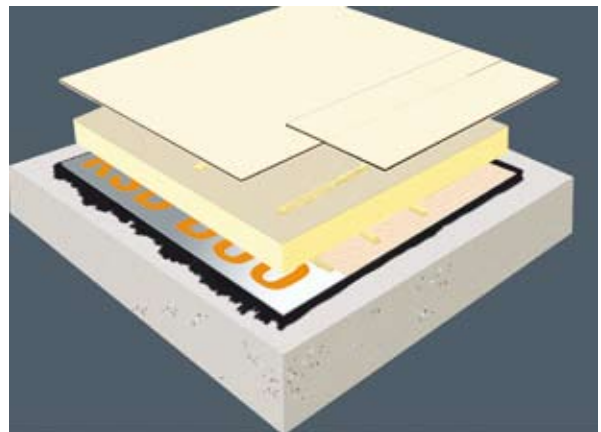
#### MECHANICALLY FIXED

- A mechanically fixed system is suitable for all roof types and decking structures, but is **ideal for warm roofs with metal or plywood decks.**
- Mechanical attachment allows the membrane and components to be removed at the end of the system's serviceable life, so that they can be **recycled.**
- This is the preferred option for where an **extensive green roof** is to be incorporated.



#### ADHESIVE BONDED

- An adhesively bonded system is suitable for warm roof construction with all decking structures, but is **ideal for concrete decks.**
- Adhesive bonding is recommended when the concrete deck cannot be drilled due to it having a high proportion of stone, or where the deck structure may be compromised by the drilling, or the visibility of the fixings is not desirable.
- The polyurethane adhesive bond provides **excellent wind-uplift resistance.**





Thermoplan T is resistant to micro-organism attack and root penetration making it ideal for a ballasted or green roof system.

These different aesthetic finishes provide protection to the membrane from the natural elements and so **extend the life expectancy** of the waterproofing system.

#### BALLASTED OR PAVED

- Thermoplan T with a ballasted or paved finish is ideal where the roof has **regular maintenance or access traffic**, or where wind uplift is a risk consideration as the membrane is held on to the deck by the weight of the ballast or paving.
- The specification of a ballasted or paved roof should be considered at the design stage when the structural deck supporting it can be calculated and budgeted for.
- The visual appearance of this type of roof construction may be enhanced by the use of supported paving, improving functionality and **creating additional space** as a roof terrace. With the addition of planters or potted plants, the area can share some of the benefits of a traditional roof garden.



#### GREEN ROOF

- Creating an extensive green roof using the **sedum vegetation system** is the perfect solution for projects that need to blend into the surrounding environment.
- Thermoplan T provides a **lightweight and cost effective** green roof system that requires little maintenance.
- A Thermoplan T Green Roof is ideal for reinstating green areas in environmentally sensitive sites in both **rural and suburban locations**.

All the joints and seams are hot air welded to provide the strongest bond between the membrane sheets and ensure total waterproofing integrity.





# Thermoplan T Insulation and Accessories

Building on Quality

# Insulation



# Accessories

## THERMOTECH INSULATION

Thermotech insulation is a closed-cell polyisocyanurate (PIR) insulation board that is specially formulated and manufactured by Bauder. It is fully compatible with the Thermoplan T system and is available as both flat board and tapered where improved falls are required. It is both strong and inert and has a compressive strength of 0.1 N/mm<sup>2</sup> making it suitable for all kinds of load-bearing decks. The high thermal conductivity allows for the insulation to be of a reduced thickness compared to many other well known insulants, such as mineral wool or cellular glass.

Thermotech is both CFC and HCFC free giving zero ozone depletion potential (ODP) and provides excellent airborne sound reduction, helping to curtail noise pollution.

Thermotech is self extinguishing in the event of fire. It has a water absorption rate of just 2% vol at the surface as the closed cell structure does not permit capillary action.

Thermotech insulation provides superior performance throughout the life cycle of the flat roof. High thermal conductivity values and compressive strength allow for use in all styles of load-bearing decks, making it ideal for all types of construction projects.

## ACCESSORIES

The Thermoplan T single ply waterproofing system provides everything that is required to produce a superior flat roof, first time. We've developed a comprehensive range of fully compatible accessories to enable our contractors to securely waterproof to the full range of details found on a roof, from rooflights to preformed corners, lightning conductors, rain water outlets and soil vent pipes.

# Bauder Service and **Guarantee**

## Success That is Guaranteed

### SERVICE

Bauder's exceptional 'no obligation' service takes the worry out of the planning stage for architects, designers and specifiers. The service we provide is always focused on the individual needs of each project, to ensure the best possible results every time.

Our Area Managers have sound technical backgrounds and are well qualified to offer the best advice on a roofing solution to meet your project's specific requirements.

Their extensive experience is invaluable for refurbishment projects where they will inspect the existing roof to establish defects, prepare full reports on the findings, and propose the ideal solution. They are also equally at home discussing new build projects and are able to advise on the relevant building details.

Our technical department and drawing office will compile a full and comprehensive specification with all the relevant roofing works and detailing that is accurate for any tendering procedure. All our specifications follow an industry recognised format.



### APPROVED CONTRACTORS

The Thermoplan T waterproofing system is only installed by Bauder Approved Contractors whose installation teams have undergone full product, technical and hands-on training. This ensures that the Thermoplan T system is correctly installed first time, every time.

### GUARANTEE

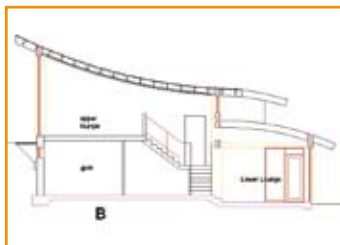
The Bauder service continues throughout construction with on-site technical backing for the Approved Contractors who install Bauder products. With project monitoring by our Area Managers and inspections carried out at key stages by system surveyors, quality is assured and the stringent standards required to meet our guarantee are always upheld.

The noteworthy Bauder guarantee underlines the total confidence we have in our products and contractors workmanship, and has made Bauder the leader in the high performance waterproofing market.



**Thermoplan T**  
**Absolute Quality as Standard**

If you require further copies of any of our brochures, please complete the attached reply slip or contact our Marketing Department on +44 (0)1473 257671  
E: [marketing@bauder.co.uk](mailto:marketing@bauder.co.uk)



Bauder reserve the right to amend information and product specifications without prior notice. All reasonable care has been taken to ensure that all information is current at the time of print, however, because Bauder pursue a policy of constant development we recommend ensuring that your copy of the literature is current by contacting our Marketing Department.

Recommendations for use should be verified as to the suitability and compliance with actual requirements, specifications and any applicable laws and regulations.

© All rights reserved. All images and text are under copyright and no part of this publication may be reproduced in any form or by any means without the prior permission of Bauder Limited.

*Edition: Summer 2006*

*Department contacts:*

**E:** [marketing@bauder.co.uk](mailto:marketing@bauder.co.uk)

**E:** [technical@bauder.co.uk](mailto:technical@bauder.co.uk)

# BAUDER

**Bauder Limited**

Broughton House, Broughton Road, Ipswich, Suffolk IP1 3QR, England

**T:** +44 (0)1473 257671 **F:** +44 (0)1473 230761 **E:** [mail@bauder.co.uk](mailto:mail@bauder.co.uk)

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