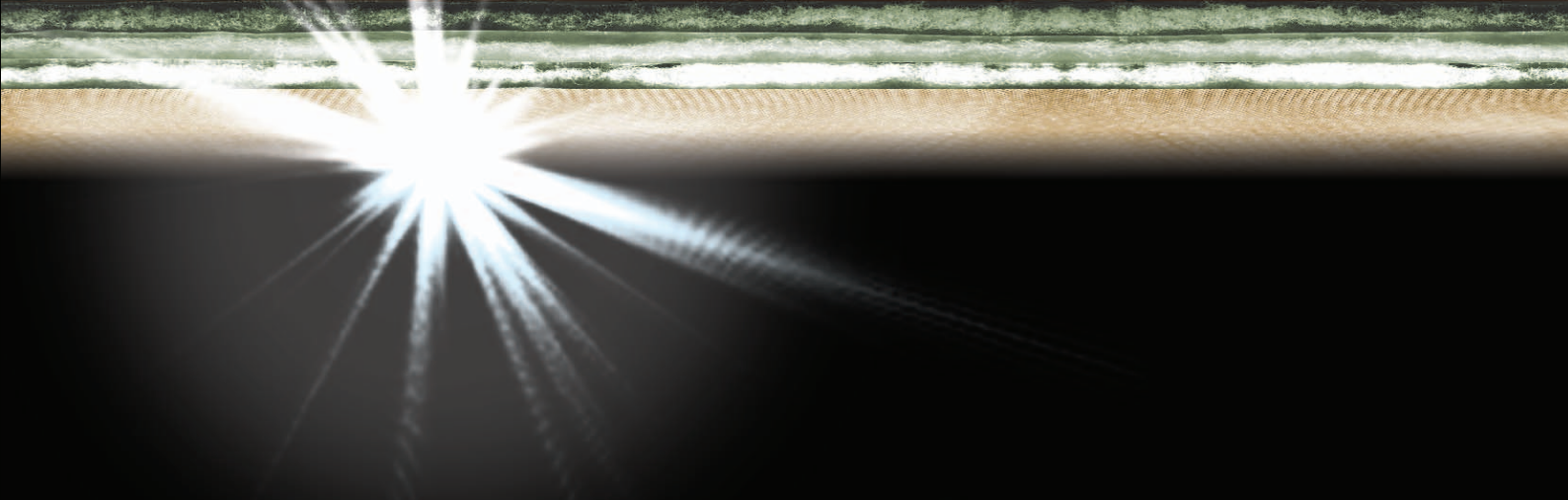


**TLX™**  
MULTI-FOIL INSULATION

*Gold*

The world's first  
breathable multi-foil  
and roofing membrane



# The brighter way to insulate

- Upgrades existing insulation
- Delivers an air barrier
- Allows water vapour to pass through

UKAS tests by

**BBA** BRITISH BOARD OF AGREEMENT

**BTTG** FIRE TECHNOLOGY SERVICES

**BTTG** HIGH PERFORMANCE MATERIALS

**University of Salford** THERMAL MEASUREMENT LABORATORY

**Installation instructions**

**thermal hotline 01204 674 730**



## TLX Gold 33mm thick, seven-layer composite structure

Top layer high performance breather membrane

Core of PET wadding interleaved with reflective layers

Bottom layer of reflective film

All layers are breathable, so moisture passes through

Bottom layer reflects infrared rays back into living space

**Benefits**

- Upgrades existing insulation
- Replaces roof underlay
- Air barrier
- Allows water vapour to pass through
- Controls heat loss through management of convection, conduction and radiation
- Requires minimal space
- Easy and quick to install
- Light weight
- Clean and easy to use, no protective clothing required

## TLX Gold technical data

### Performance

Emissivity	0.21	ASTM C 1371 - 98	
Fire	Class E	EN 11925 - 1	UKAS
Moisture transmission	Sd: 0.03m MVTR: 1340g/m <sup>2</sup> .24hr	EN ISO 12572 Condition C	UKAS
Core R-value	0.95 m <sup>2</sup> K/W	EN ISO 8302:1991 (BS EN 12667:2001)	UKAS

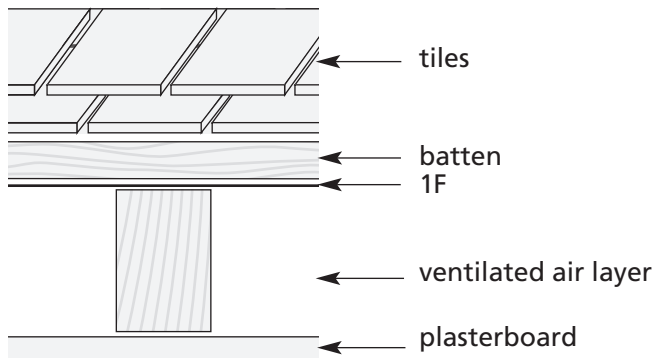
### Structure

Thickness	33mm	<b>Pack information</b>	
Composite layers	7	Roll width (excluding flap)	1.2m
		Roll length	10.0m
		Overlap flap	0.1m
		Roll weight	11kgs

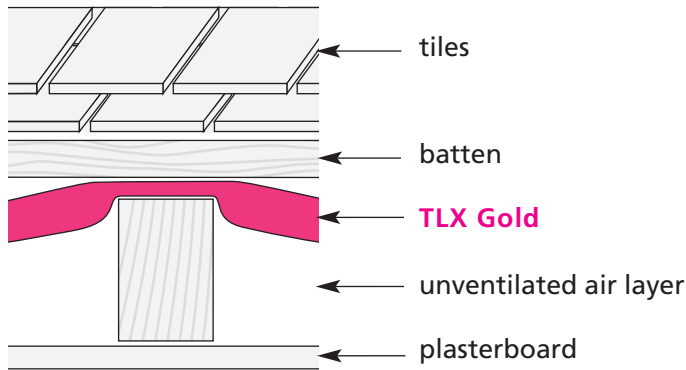
Contact the thermal hotline 01204 674 730 for technical advice

# Retrofit roof insulation – warm roof

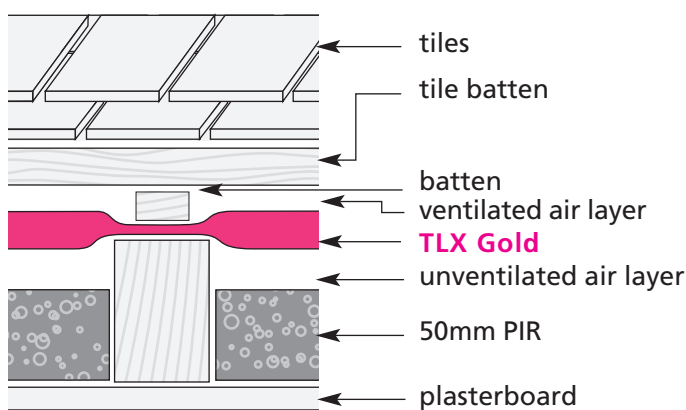
75mm rafter before refurbishment: U-value = 3.68



**A** 75mm rafter: U-value = 0.67

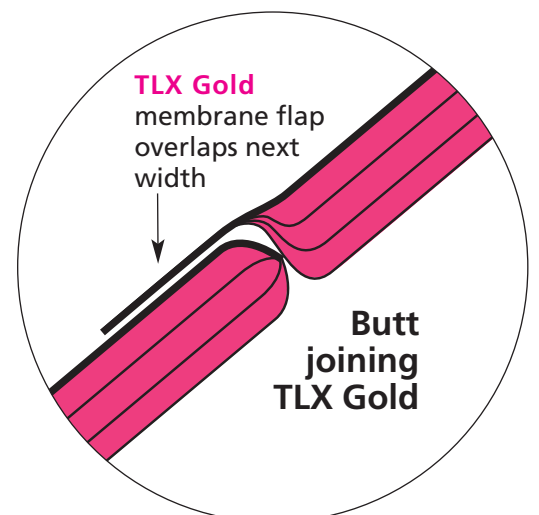
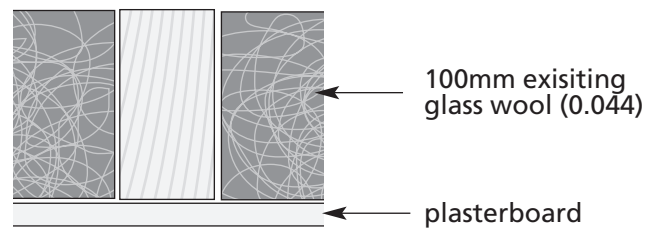
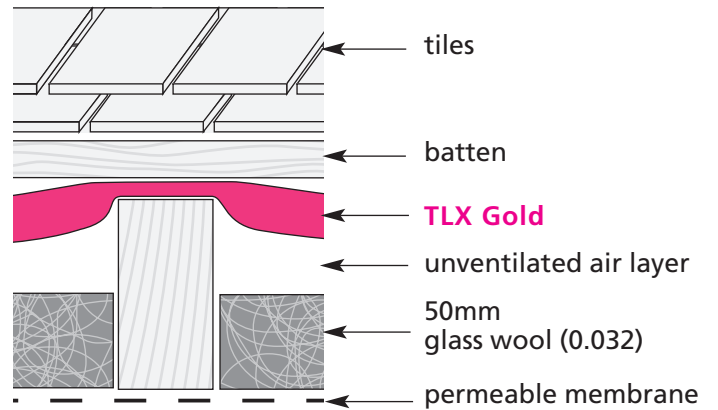


**B** 75mm rafter: U-value = 0.34



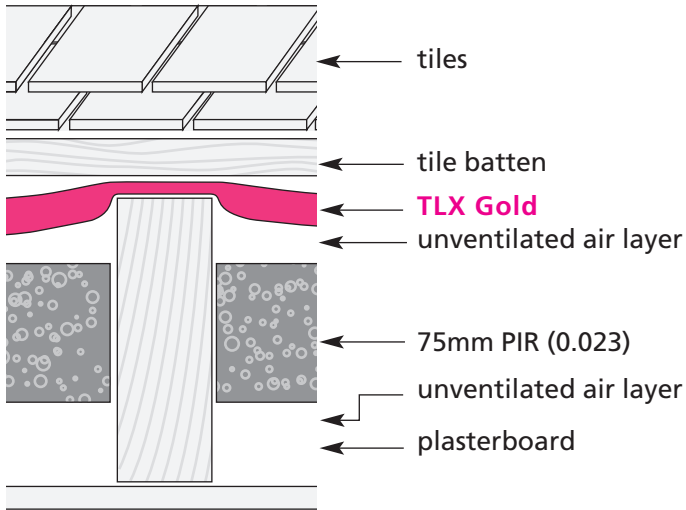
# Retrofit roof insulation – cold roof

**C** 100mm rafter: U-value = 0.20



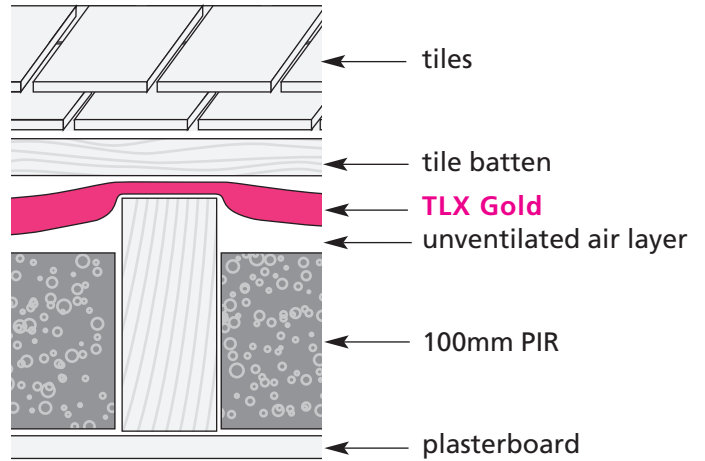
# Loft conversion

**D** 175mm rafter: U-value = 0.20

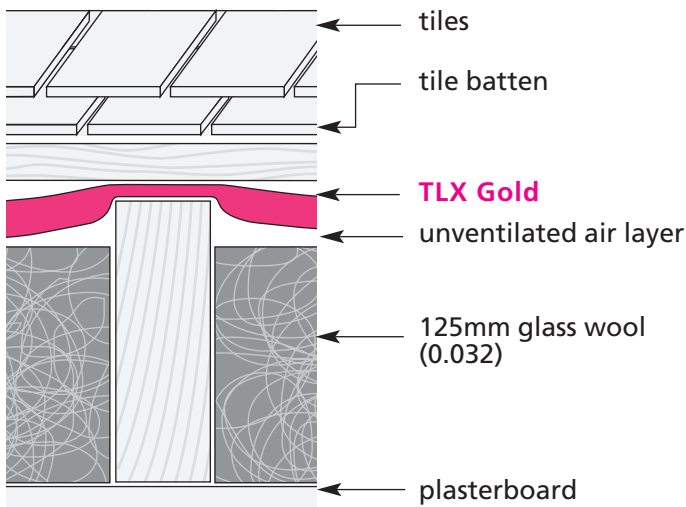


# New build roof insulation

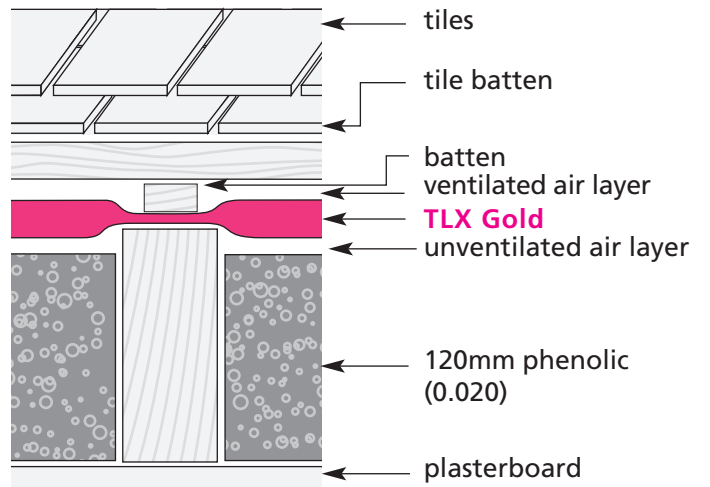
**F** 150mm rafter: U-value = 0.20



**E** 175mm rafter: U-value = 0.20



**G** 150mm rafter: U-value = 0.16



## GENERAL INSTRUCTIONS

- Protective clothing is not required when handling TLX Gold
- TLX Gold must be installed Gold side facing in.
- Bare electrical wiring must not be allowed in contact with TLX Gold. PVC coated electrical wiring to normal domestic items such as light fittings may come into contact with TLX Gold.
- If electrical cables are surrounded by insulation they may need to be de-rated and guidance should be sought from a qualified electrician.

## INSTALLATION WITHOUT COUNTER BATTENING

- The left hand side of TLX Gold is fixed in place with staples or nails of at least 14mm, and the TLX Gold rolled across the rafters leaving a 10mm drape between each rafter space. Staple the TLX Gold every few rafter spaces to hold it in place. The product is installed horizontally, either from ridge to eaves or from eaves to ridge.
- Each layer of TLX Gold must butt-join the previous layer, with the membrane overlap running onto the lower layer, thus ensuring that any water runs down the roof slope without penetrating between layers. The drape should be consistent for each layer of TLX Gold.
- A 10mm channel should run above the TLX Gold, up the centre of each rafter space, to allow water to run down and for air movement. If a clear channel is not formed, 10mm spacers underneath the tiling battens may be fitted.
- The membrane overlap on the bottom layer of TLX Gold should extend onto a suitable eaves carrier. Additional breather membrane may be used to cover the gaps between TLX Gold and the eaves carrier if required.
- Vertical overlaps should be a minimum of 50mm.
- TLX Gold is permanently held in place by tiling battens and tiles are fitted. The tiling battens should hold the layers of TLX Gold in close contact, if there is any doubt then the overlap may be taped in place with a suitable double sided tape.

## INSTALLATION WITH COUNTER BATTENING

- TLX Gold is rolled taut across the rafters in horizontal layers parallel to the eaves. The product can be installed either from ridge to eaves or from eaves to ridge.
- The membrane overlap on the lowest layer of TLX Gold should extend onto a suitable eaves carrier. Additional breather membrane may be used to cover the gaps between TLX Gold and the eaves carrier if required.
- As TLX Gold is unrolled across the rafters it is fixed in place with nails or staples of at least 14mm length. The next layer of TLX Gold must butt-join the previous layer, with the membrane overlap running onto the lower layer, thus ensuring that any water runs down the roof slope without penetrating between layers. Vertical overlaps should be a minimum of 50mm.
- TLX Gold is permanently held in place with 25mm deep counter battens, then tiling battens and tiles are fitted. The counter battens should hold the layers of TLX Gold in close contact, if there is any doubt then the overlap may be taped with a suitable double or single sided tape.

## CUTTING

- TLX Gold can be cut using a sharp knife with the TLX Gold resting on a board, with sharp scissors, a special cutter or a hot knife.
- Pieces which have been cut should be stapled and battened as soon as possible, and should not be left unsecured overnight.
- Small pieces (such as around Velux windows or in dormer cheeks) should be taped in place, stapled and battened immediately.
- Any small tears or holes should be repaired with tape. Larger holes in the top layer of TLX Gold should be patched with a piece of breathable underlay.

## TAPING

- Where TLX Gold requires taping, it is recommended that Indasol 666 38mm double sided tape is used.
- Henkel All Purpose Duck tape may be used.

## AIR LAYERS

- Unventilated air layers form an important part of the TLX Gold system. If the air spaces are omitted, whilst there is no danger of condensation, the overall thermal performance of the structure will decrease, and the U value will be higher. Additional insulation may be needed to achieve the desired U value for the roof.

## ADDITIONAL INSULATION

- Install additional insulation according to the manufacturer's instructions.
- Provide for air gaps between TLX Gold and additional insulation as required.

## STORAGE

- TLX Gold rolls must be stored on a dry flat surface, protected from the weather and direct sunlight.
- Make sure when installing TLX Gold that it does not come into contact with heat sources above 80°C.

## VAPOUR CONTROL AND VENTILATION

- A vapour control layer is not required for any of the recommended solutions, using breathable products prevents trapping of water vapour.
- A well-sealed ceiling is essential to prevent large amounts of water vapour from entering the roof space through air movement.
- Ventilation of the space between the TLX Gold and the outer roof covering is not required for air-open coverings such as clay or concrete tiles and rough natural slates. Smooth slates and sealed roof coverings such as metal roofs require additional ventilation of this space.
- If in any doubt about possible harmful condensation, contact Web Dynamics Ltd for guidance.

## ACCESSORIES

- For information on suitable tapes, cutters and spacers please refer to [www.webdynamics.co.uk](http://www.webdynamics.co.uk) or phone the thermal hotline 01204 674 730 for advice.

**Contact the thermal hotline 01204 674 730 for technical advice**

Web Dynamics Ltd Moss Lane, Blackrod, Bolton, Lancashire BL6 5JB [www.webdynamics.co.uk](http://www.webdynamics.co.uk) © Web Dynamics Ltd 2008