NEW! Permo® extreme RS SK² underlay

for increased demands on pitched roofs

for increased raintightness / loads as well as for extreme loads
according to ÖNORM (Austrian standard) B 3661 /
SIA (Swiss Society of Engineers and Architects) 232/1:2011
with system accessories

KLÖBER

Meeting regulations and codes

Whether you are building new houses or renovating existing ones, you will need to comply with building regulations on energy efficiency (now commonly expressed in terms of carbon emissions).

However, many public sector newbuild developments, such as for housing associations, now need to comply with more stringent requirements than the building regulation minimum, as set out in the Code for Sustainable Homes*.

New developments

All the UK countries have similar building regulation requirements for the rate of carbon emissions from dwellings and they all include a requirement for air pressure testing to check that uncontrolled air leakage is minimal. The extent of the testing depends on the number of houses on the development, as well as the number of different house types.

In order to pass the pressure test, the air permeability of the building should not be more than a certain value. Currently, the maximum air permeability is 10 $m^3/hr/m^2$, although for public sector housing, an air permeability of 3 $m^3/hr/m^2$ is required to comply with the current standard of Level 4 in the Code for Sustainable Homes.

Housing renovation

Under building regulations, any newly constructed thermal element, ie, insulated wall, floor or roof, eg, which forms part of an extension, needs to include reasonable provision to reduce unwanted air leakage.The need for pressure testing is likely to be determined by Building Control.

However, given the need to improve the existing housing stock, the Energy Saving Trust's best practice recommendation is to aim for an air permeability standard of 5 $m^3/hr/m^2$ for a renovated dwelling.

The Code for Sustainable Homes

* The Code for Sustainable Homes is a 6-level sustainability rating system where, in terms of carbon emissions, Level 1 is just better than building regulations and Level 6 represents "zero carbon". It complements the star rating system used in Home Information Packs (HIPs).

However, it also covers other aspects of sustainability, such as water use, surface water run-off and the environmental impact of materials. In England, the proposed carbon emission standard in Building Regulations for all new homes is to be equivalent to Code Level 3 from 20 I 0, rising to level 4 in 2013 and to level 6 in 2016.

Watertight

The first requirement of this regulation is for the roof to be weather-tight. In the case of pitched roofs the document states that any roof will meet the requirement if it has overlapping dry joints, is impervious or weather-resisting, and is backed by a material which will direct precipitation which enters the roof towards the outer face (as with roofing felt).
Impervious materials include metal, plastic and bituminous products, weather-resisting materials include natural stone or slate, cement based products, fired clay and wood.

The regulation goes on to state "Dry joints between roofing sheets should be designed so that precipitation will not pass through them, or the system should be designed so that precipitation which enters the joints will be drained away without penetrating beyond the back of the roofing system. Note: Whether dry joints are suitable will depend on the design of the joint or the design of the roof system and the severity of the exposure to wind driven rain. This would imply that dry joints between roof tiles, slates and roofing components need to be suitable for the situation, location and with other components.

Perhaps the most important clause states "Each sheet, tile and section of roof should be fixed in an appropriate manner. Guidance as to appropriate fixings methods is given in BS 800-6 1990." As BS 8000-6 refers fixing of slates and tiles to BS5534, this makes the need to use the wind uplift and resistance calculations of BS 5534 a requirement of the Building Regulations, which it has never been before. While it does not state that proof of calculations is required, this would appear to be the logical conclusion.

Interstitial Condensation

Three documents are referred to:

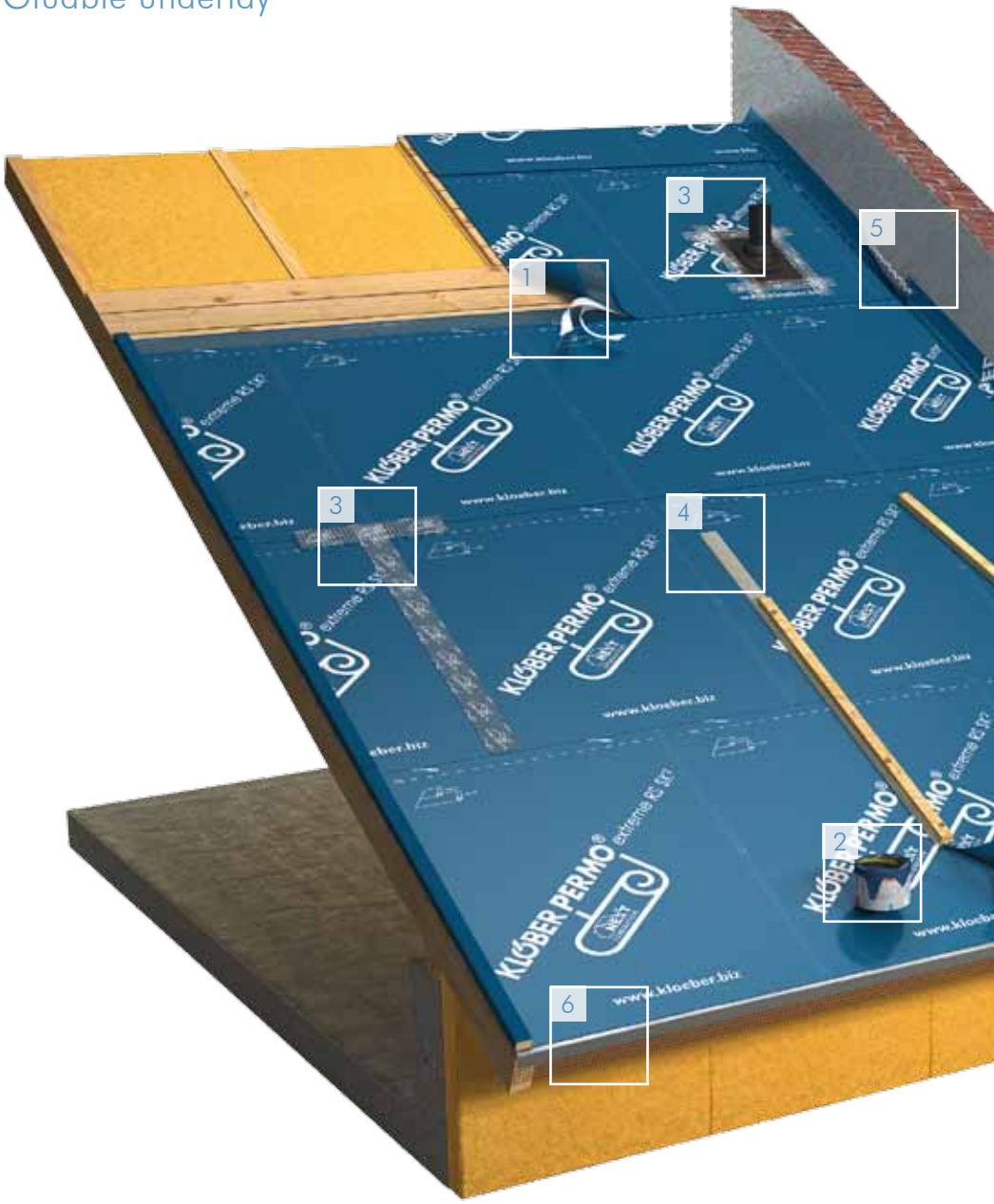
- BS 5250:2002 Code of practice for the control of condensation in buildings
- BS EN ISO 13788:2001 Hygrothermal performance of building components and building elements. Internal surface temperature to avoid critical surface humidity and interstitial condensation. Calculation methods
- BRE Report BR 262 Thermal insulation: avoiding risks, 2002

PERMO® EXTREME RS SK² Gluable underlay

With Permo® extreme RS SK², Klober is now offering premium underlay designed especially for the increased demands on pitched roofs. In connection with the respective coordinated system accessories, they meet the highest requirements:

- Roof support systems with increased raintightness according to ÖNORM (Austrian standard) B 3661 and/or B 4119
- Roof support systems for increased loads and/or roof support systems for extreme loads according to SIA (Swiss Society of Engineers and Architects) 232/1:2011

PERMO® EXTREME RS SK²
Gluable underlay



Permo® extreme RS SK² (240 g/m²)

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Permo® extreme RS SK² is a highly vapour perme- and gluable underlay for increased demands on raintightness on pitched roofs (roof pitch >15° und snow load <4 KN/m²). Of the high-temperature stability reason is Permo® extreme RS SK² can be installed under the Solar Panels (In-roof system).

System accessories

Permo® sealant

2

EPDM sealing collar Permo® TR

3

Butylon® tape

4

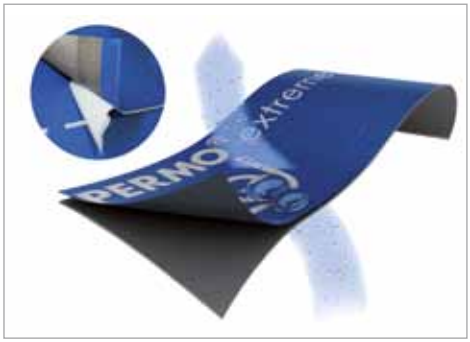
Pasto® sealant

5

Underlay Support Tray

6

Permo® extreme RS SK²



Gluable two-layered underlay with monolithic TPU coating on extremely tear-resistant PES fleece

- Highly vapour permeable (sd-value 0.08 m)
- Surface weight 240 g/m2
- Roll 1.5 x 50 m
- Meets the requirements as a roof support system with improved raintightness according to ÖNORM (Austrian standard) B 3661/B 4119 (with rule exception roof pitch >15°C and snow load <4 kN/m²)
- Meets the requirements as a roof support system for extreme loads according to SIA (Swiss Society of Engineers and Architects) 232/1:2011
- Double self-adhesive strips permit permanent wind and waterproof sealing of overlaps (shear resistance > 300 N tested)
- High-temperature stability at peaks up to 100° C and highly UV-resistant
- Fleece with capillary stop controls the formation of condensation water Robust PES fleece ensures improved mechanical load capacity, thus facilitating the use on sheathing
- Sealing edge provides good overlapping and improved water drainage
- High water tightness and tested against heavy rain
- Use with Klober accessories is recommended. These are specially coordinated with the layer and included in the warranty.

System accessories

Prod.Code KU 0136

Permo® extreme sealant,
1 K PUR air humidity hardening liquid sealant

- Connection of Permo® extreme RS SK² to rising structural components
- Connection of Permo® extreme RS SK² to the eave flashing
- For the sealing of transverse seams/T-joints
- Package size 1 kg

Prod.Code KU 8001

EPDM sealing collar

- Gluable collar for the sealing of pipe penetrations
- Gluing is done with Permo® TR tape
- For pipe diameters ø 100 and ø 125

Prod.Code KU 0103
Prod.Code KU 0105

Butylon® tape

- Double-sided butylon-rubber adhesive tape
- Ideal for creating seals around nail penetrations through underlays/AVCL's or adhering underlays/AVCL's
- Applicalbe for smooth and rough surfaces
- Available in 20 or 50mm wide

TECHNICAL DATA

CE

Weight, DIN EN 1849-2	approx. 240 g/m²	
Fire rating, EN 13501-1, EN 11925-2	E	
Resistance to water penetration, EN 1928	W1	
Water vapour permeability sd-value, EN 12572	0,08 m	
Tensile strength longitudinal / transverse, EN 12311-1	310 N/5 cm	360 N/5 cm
Elongation longitudinal / transverse, EN 12311-1	45 %	55 %
Resistance to tearing (nail shank) longitudinal, EN 12310-1	215 N	200 N
Resistance to temperature	-40°C /+100°C (in Spitzen)	
Water column, EN 20811	> 4500 mm	
Resistance to air penetration	< 0,1 m³/m² h 50 Pa	
UV stability, EN 13859-1	4 months	
Natural weathering as temporary covering	8 weeks	
Heavy rain test at Technical University Berlin	passed	
Product Code	KU 0171-11	

Prod.Code KU 0128

Pasto® sealant

- 1 K glue
- Alternative to Permo® extreme sealant for the connection of the lower fleece from Permo® extreme RS SK² to rising structural components
- 310 ml cartridge

Prod.Code KP973800

Underlay Support Tray

- ensures no underlay is carried into the gutter
- prevents water ponding behind the fascia; thereby reducing long term maintenance to the eaves of a building
- Protects the roofing underlay from UV degradation

For further information please visit our website **www.klober.co.uk** or contact our Sales Office.

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