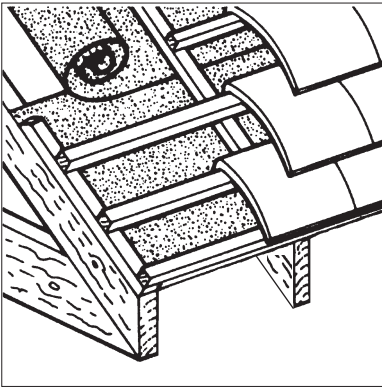


WEB UV 25 ROOF TILE UNDERLAY**Product**

- THIS DETAIL SHEET RELATES TO WEB UV 25 ROOF TILE UNDERLAY, FOR USE AS A FULLY SUPPORTED OR UNSUPPORTED UNDERLAY FOR TILED OR SLATED PITCHED ROOFS.

This Detail Sheet must be read in conjunction with the Front Sheets, which give the products' position regarding the Building Regulations, general information relating to the product and the Conditions of Certification respectively.

Technical Specification**1 Description**

1.1 Web UV 25 Roof Tile Underlay is manufactured by thermally bonding two spunbonded polypropylene fabric layers (each 70 gm⁻²) with a microporous film, between the two layers, to form a breathable waterproof membrane. For recycling purposes, the polymer content of the membrane is 100% polypropylene. The membrane is produced with a black upper surface and a blue lower surface. Other colours are available to order.

1.2 The product has the nominal characteristics of:

roll width (m) ⁽¹⁾	1.5
roll length (m) ⁽¹⁾	50
weight per unit area (kgm ⁻²)	165

(1) Other sizes available to order.

1.3 Quality control checks are carried out on the finished product. Quality control checks include:

- weight
- tensile strength and elongation
- nail tear strength
- hydrostatic head.

2 Delivery and site handling

2.1 Rolls are delivered to site individually wrapped in polyethylene film. Labels bearing the Certificate holder's name, product name, product code, dimensions and the BBA identification mark incorporating the number of this Certificate are attached to each roll.

2.2 Rolls should be stored flat on a clean, level surface and kept under cover from sunlight.

Design Data**3 General**

3.1 Web UV 25 Roof Tile Underlay is satisfactory for use as a fully supported or unsupported underlay in tiled and slated pitched roofs constructed in accordance with the relevant clauses of BS 5534 : 2003.

3.2 The product has a high coefficient of friction, when dry, giving a slip-resistant surface for increased safety during the installation of the roof covering. Care should be taken, in wet conditions, during installation work, due to a reduction in slip resistance.

3.3 When used in direct contact with treated timber the advice of the Certificate holder should be sought on compatibility.

4 Weathertightness

4.1 Tests indicate that the product will resist the passage of water and wind-blown snow and dust into the interior of a building, under all conditions to be found in a roof constructed in accordance with the relevant clauses of BS 5534 : 2003.

4.2 The product resists penetration of liquid water to a head of 8 metres and consequently may be used as temporary waterproofing prior to the installation of slates or tiles. The period of such use should be kept to a minimum.

5 Risk of condensation

5.1 The product has a significantly higher water vapour resistance than that quoted as a minimum

for conventional roof tile underlays in BS 5534 : 2003 (see Table 1 of this Detail Sheet), which also describes the factors to be considered in reducing condensation to a satisfactory minimum.

5.2 When used unsupported or over uninsulated sarking board the product may be treated as a permeable underlay when considering the need for additional ventilation of the roof space over the minimum required in BS 5250 : 2002, Sections 8.4.2.1 to 8.4.2.3.

5.3 Ventilation of the space between the underlay and the insulation may not be required if the designer is satisfied that the roof system is convection-tight for the life of the roof.

5.4 When there is no ventilation of the space between the underlay and the insulation, the space between the roof covering and the underlay should be ventilated. Ventilation may be provided through the slate/tile assembly.

5.5 Condensation risk assessment calculations in accordance with BS 5250 : 2002 should be carried out for specific applications. When using thermal insulation with a low vapour resistance, a vapour control layer on the warm side of the insulation may be required. Where the roof may be subject to high humidity conditions (eg kitchens, swimming pools, bathrooms) a vapour control layer should be considered with all types of insulation.

5.6 Typical values of water vapour resistance are given in Table 1.

Material	Water vapour resistance (MNsg ⁻¹)
Web UV 25	0.21
traditional felt underlay	570 (maximum)
polyethylene sheet (0.15 mm)	450

6 Properties in relation to fire

6.1 The product has similar properties in relation to those of traditional roof tile underlays, which are acceptable under BS 5534 : 2003.

6.2 When the product is used in a fully supported situation, the reaction to fire will be determined by the support.

6.3 When used unsupported, there is a risk fire can spread if the material is accidentally ignited during maintenance works (eg roofer's or plumber's torch). As with all types of sarking material, care should be taken during building and maintenance to avoid the material becoming ignited.

Installation

7 Procedure

7.1 Web UV 25 Roof Tile Underlay must be installed and fixed in accordance with the manufacturer's instructions and the relevant recommendations of BS 5534 : 2003 and BS 8000-6 : 1990. Installation can be carried out under all conditions normal to roofing work.

7.2 With an open eaves construction, the underlay should be used in conjunction with eaves guards to control water in the gutter.

7.3 When installed as a fully supported system, the product is laid over the support and secured using corrosion-resistant staples or galvanized clout nails. Counter battens at least 25 mm thick are then installed over the underlay and fixed through to the rafters. The battens for tiling are fixed to the counter battens leaving space between the underlay and the battens for drainage.

7.4 When installed as an unsupported system, the product is fixed in the traditional method for roof tile underlays, ie draped between the rafters. Batten spacing should not exceed 200 mm in areas of high wind loading and 350 mm in areas of normal wind loading.

7.5 Laps should be installed to shed water out and down the slope.

7.6 Overlaps must be provided with the minimum dimensions given in Table 2.

Roof pitch	Horizontal lap (mm)		Vertical lap (mm)
	Partially supported	Fully supported	
12.5° to 14°	225	150	100
15° to 34°	150	100	100
35° +	100	75	100

7.7 Minimum overlaps of Web UV 25 at hips should be 150 mm, and in valleys 300 mm.

7.8 When the product is laid directly onto insulation without a ventilation gap, in a convection-tight system, the vapour resistance of the insulation material should be taken into account when deciding if a vapour control layer is required (see section 5 of this Detail Sheet).

7.9 Ingress of moisture to the roof space should be restricted by sealing around pipes and other penetrations and details.

Technical Investigations

The following is a summary of the technical investigations carried out on Web UV 25 Roof Tile Underlay.

8 Tests

8.1 Samples of Web UV 25 Roof Tile Underlay were obtained from the company for testing. The result of the tests carried out by, or on behalf of, the BBA, which show typical results for the material, are summarised in Tables 3 to 5.

Table 3 Physical properties

Test (units)	Method ⁽¹⁾	Mean result
Mullen burst strength (kNm ⁻²)	BS 3137	780
Water vapour permeability (gm ⁻² day ⁻¹)	BS 3177 (25°C/75% RH)	975
Water vapour resistance (MNsg ⁻¹)	BS 3177 (25°C/75% RH)	0.21

(1) The test documents are detailed in the *Bibliography*.

Table 4 Physical properties — directional

Test (units)	Method ⁽¹⁾	Mean result				
		Long ⁽²⁾	Trans ⁽³⁾			
Tensile strength (Nmm ⁻²)	BS 2782 : 320A (500 mm min ⁻¹)	unaged	13.9	8.6		
		heat aged ⁽⁴⁾	12.8	7.3		
		wet strength ⁽⁵⁾	14.4	8.9		
		water soak ⁽⁶⁾	13.1	7.5		
		UV aged ⁽⁷⁾	8.0	5.2		
		Elongation (%)	BS 2782 : 320A	unaged	52	63
				heat aged ⁽⁴⁾	43	49
wet strength ⁽⁵⁾	51			65		
water soak ⁽⁶⁾	50			59		
UV aged ⁽⁷⁾	37			31		
Tear strength (N)	MOAT 27 : 5.4.1	unaged	193	151		
		heat aged ⁽⁴⁾	191	144		
		water soak ⁽⁵⁾	193	149		

(1) The test documents are detailed in the *Bibliography*.

(2) Longitudinal direction.

(3) Transverse direction.

(4) Heat aged for 56 days at 70°C.

(5) Water immersion for 24 hours at 23°C and tested wet.

(6) Water immersion for 56 days at 23°C and tested dry.

(7) Ultraviolet aged for 500 light hours using UVB lamps with a cycle of 4 hours condensation at 50°C and 4 hours light at 50°C.

Table 5 Service performance

Test (units)	Method ⁽¹⁾	Mean result	
Hydrostatic pressure (mm)	BS EN 20811	minimum	7160
		mean	8780
Wind loading (kPa)	T1/O3 ⁽²⁾	batten spacing 350 mm	0.5 ⁽³⁾
		batten spacing 300 mm	1.0 ⁽³⁾
		batten spacing 250 mm	2.0 ⁽³⁾
		batten spacing 200 mm	2.5 ⁽³⁾

(1) The test document is detailed in the *Bibliography*.

(2) BBA test method.

(3) Maximum pressure achieved.

8.2 Tested on the following properties was also carried out:

- thickness
- width
- weight per unit area.

9 Investigations

9.1 The quality control procedures for the final product were assessed.

9.2 Calculations on the condensation risk in warm roof constructions incorporating a product of similar composition, but lower vapour permeability, from the same manufacturing source were examined.

9.3 The following tests were carried out on a product of similar composition, but lower specification:

- resistance to water spray
- low temperature flexibility
- coefficient of dynamic friction.

Bibliography

BS 2782-3 : Methods 320A to 320F : 1976
Methods of testing plastics — Mechanical properties — Tensile strength, elongation and elastic modulus

BS 3137 : 1972 *Methods for determining the bursting strength of paper and board*

BS 3177 : 1959 *Method for determining the permeability to water vapour of flexible sheet materials used for packaging*

BS 5250 : 2002 *Code of practice for control of condensation in buildings*

BS 5534 : 2003 *Code of practice for slating and tiling (including shingles)*

BS 8000-6 : 1990 *Workmanship on building sites — Code of practice for slating and tiling of roofs and claddings*

BS EN 20811 : 1992 *Textiles — Determination of resistance to water penetration — Hydrostatic pressure test*

MOAT No 27 : 1983 *General Directive for the Assessment of Roof Waterproofing Systems*



On behalf of the British Board of Agrément

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Chief Executive