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Validity

Users of any Agrément certificate
should check its status: all currently
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website. In addition, check whether
the certificate is [Active or Inactive](#).

The certificate holder is in possession
of a confirmation certificate attesting
to its status.

**SANS 10400: The application of the
National Building Regulations**

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Economy Double Sided Foil Under-Lay Membrane

Certificate holder:

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Description and use

The “Spunbond Economy Double Sided Foil Under-Lay Membrane”
is manufactured from black non-woven

polypropylene spunbond base, coated with a polyolefin film blend
and laminated on both sides to an aluminium foil. The membrane
has a mass of 134 g/m² with a thickness ranging from 0,2 mm - 0,3
mm for under-Lay roofing applications. It is supplied in rolls of 30 m
long and 1.5 m wide.

The Economy Double Sided Foil Under-Lay Membrane is suitable for
installation in all tiled-roof buildings with timber, lightweight steel
and aluminium or Agrément approved roof construction. It can be
used in all regions of South Africa for all types of occupancy
classification (**SANS 10400: Table 1 of regulation A (20) (1)**). When
used in the conventional manner it can:

- reduce air movement between tiles, since the membrane
can contribute to maintaining a balanced air pressure on
both sides of the roof tiles; and
- reduce ingress to the roof space of wind-driven rain and
dust.

This certificate and Agrément South Africa’s assessment apply only
to the Economy Double Sided Foil Underlay Membrane that is
manufactured by Spunbond Holdings (Pty) Ltd t/a Spunchem
International. It is installed in accordance with the certificate
holder’s installation manual and as described and illustrated in this
certificate, and where the terms and conditions of certification are
complied with.

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PREAMBLE

This certificate is issued by Agrément South Africa in terms of the Agrément South Africa Act No.11 of 2015. This certificate:

- has been granted after a technical appraisal of the performance of Economy Double Sided Foil for the uses covered by the certificate;
- is independent of any patent rights that may or may not subsist in the subject of the certificate; and
- does not relieve the user from the obligation to obtain the prior approval of the building authority concerned for the use of the subject.

Agrément South Africa considers that the quality and performance of Economy Double Sided Foil will be satisfactory, provided that the requirements stipulated in this certificate are adhered to. However, Agrément South Africa does not on behalf of itself, or the State, or any of its employees or agents guarantee such quality or performance.

Responsibility for compliance with the requirements of this certificate and the quality of the finished product resides with the certificate holder.

No action for damages, or any other claim whatsoever, lies against Agrément South Africa, its members, the State or any of its employees should the said material fail to comply with the standard set out in this certificate.

Interested parties or users who are in any doubt about any detail or variation should contact [Agrément South Africa](#).

The validity of this certificate is reviewed every three years. The certificate shall remain valid as long as Agrément South Africa is satisfied that:

- the certificate holder complies with the general and specific conditions of certification and the technical requirements stipulated in the certificate;
- the performance-in-use of the subject is acceptable; and
- any changes in building legislation, regulations, relevant standards or Agrément performance criteria have not invalidated the technical assessment which formed the basis of certification.

Agrément South Africa reserves the right to withdraw the certificate at any time, should reasonable cause exist.

Notices affecting the validity of this certificate will be published in the *Government Gazette*.

PART 1: CONDITIONS OF CERTIFICATION

Good building practice as discussed in:

- the supplement to certificates, by [Agrément South Africa](#)
- The *Home building manual* issued by the National Home Builders Registration Council (NHBRC)

SANS 17050-1, Conformity assessment- Supplier's declaration of conformity Part 1: General requirements

SANS 17050-2, Conformity assessment- Supplier's declaration of conformity Part 2: Supporting documentation

Economy Double Sided Foil Under-Lay Membrane

Tested and approved fit-for-purpose for use as a roofing radiant insulation barrier when used as specified in

CERTIFICATE 2020/605



The Economy Double Sided Foil as described in this certificate must be:

- manufactured by the certificate holder;
- installed in accordance with:
 - the technical description set out in [Part 3](#)
 - the certificate holder's installation manual and;
 - good building practice.

Any change to the material formulation, the production process, or the installation techniques set out in the certificate holder's brochure could result in various aspects of the performance of this product no longer complying with Agrément South Africa's performance criteria. Any change not authorised by Agrément South Africa in writing prior to its implementation will invalidate this certificate and the certificate can then not be used to demonstrate compliance with the National Building Regulations.

Spunbond Holdings (Pty) Ltd t/a Spunchem International shall be responsible for the accuracy of the information contained within the Material Data Sheets, Technical Data Sheets and Material Performance Specifications, and all other information pertaining to the conformity of the underlay roofing membrane used. Spunbond Holdings (Pty) Ltd t/a Spunchem International shall submit a COA (Certificate of Analysis) and COC (Certificate of Compliance) in terms of the requirements stipulated in **SANS 17050-1** Supplier declaration of conformity when requested by Agrément South Africa in accordance with the documentation requirements of **SANS 17050-2**. Spunbond Holdings (Pty) Ltd t/a Spunchem International change or substitute any ingredient in the formulation of the product in question, then a notification shall be addressed to Agrément South Africa immediately.

General conditions

Marking

The layer of Economy Double Sided Foil is marked with:

- the trade name printed on the roll;
- the batch number;
- the date;
- Agrément identification logo and certificate number as illustrated in this certificate and;
- 150 mm side-overlap dotted lines.

The packaged rolls are marked with:

- the works order number;
- the roll number;
- Agrément identification logo and certificate number as illustrated in this certificate and;

- storage recommendations.

Validity

The continued validity of this certificate is subject to a satisfactory review by Agrément South Africa every three years.

Quality monitoring

The certificate holder is required to participate in Agrément South Africa's post-certification quality management systems, which requires:

- that the certificate holder shall continue to implement and manage the quality management system approved by Agrément South Africa in the assessment of Economy Double Sided Foil;
- the certificate holder to notify Agrément South Africa within 30 days of any change of address of a factory and any new factories brought into operation by the certificate holder, for the purpose of manufacturing the subject of the certificate and;
- the co-operation of the certificate holder in facilitating post-certification quality monitoring by Agrément South Africa or its authorised agents.

Reappraisal

- must be requested by the certificate holder prior to implementing changes to the product and
- will be required by Agrément South Africa if there are changes to the National Building Regulations or to Agrément criteria.

This certificate may be withdrawn if the certificate holder or a registered licensee fails to comply with these requirements.

On behalf of the Board of Agrément South Africa



Chairperson

March 2020

PART 2: ASSESSMENT

Scope of assessment

This assessment applies to the innovative aspects of the Economy Double Sided Foil. These aspects have been assessed as an integral part of a product that comprises both innovative and conventional aspects. The innovative aspects are the use of:

- a pigmented ultraviolet (UV) light resistant and non-toxic nonwoven polypropylene membrane and
- the laminating of the aluminium foil via a polyolefin extruded film blend web through the first and second pass.

This assessment is based on:

- factory inspection
- known behaviour of the materials used in the roofing radiant barrier
- documentation provided by the applicant and
- tests conducted on the product.

Assessment

In the opinion of Agrément South Africa, the Economy Double Sided Foil as described in the certificate is suitable for the use specified (see page 1).

The performance-in-use of the product will be such that the membrane will satisfy:

- the requirements of the National Building Regulations stated in Table 1. Any regulation not specifically referred to is considered to be outside the scope of this certificate and must be applied by the local authority in the normal manner and;
- Agrément South Africa's performance criteria.

Agrément South Africa's detailed comments on the assessment are set out in Table 1, 2 and 3 below. Each aspect of performance was assessed by experts in that field.

Republic of South Africa. *National Building Regulations*, Government Notice R. 711, Government Gazette No 34586, Pretoria, South Africa, 9 September 2011

Table 1: Compliance with National Building Regulations

Aspects of performance	Opinion of Agrément South Africa	National Building Regulations satisfied
Materials	The quality and suitability of the materials are satisfactory.	The materials used in the Sisalation Fireshield DS Roofing Radiant Insulation Barrier are deemed to satisfy the requirements of Regulation A13 (1) (a): Materials.

Table 2: Performance

Aspects of performance	Opinion of Agrément South Africa	Explanatory notes
Membrane thickness	Satisfactory.	Specimen tested indicates that the specified film thickness is achieved.
Breaking strength and elongation at break	Satisfactory. EN12311-1: Flexible sheets for waterproofing, Part 1: Bitumen sheets for roof waterproofing – Determination of tensile properties.	Tested in accordance with the requirements of EN12311-1 . The performance is affected by heat ageing, however, the effect of heat is not considered to be as detrimental to the performance of the roofing radiant insulation barrier in practice as to negate fitness-for-purpose.
Puncture resistance	Satisfactory. SANS 952: Polyolefin film for damp and waterproofing in buildings.	Tested in accordance with the requirement of SANS 952 . The roofing radiant insulation barrier is considered to be vulnerable to impacts caused by sharp pointed objects. Therefore, the exposure of the roofing radiant insulation barrier to sharp object should be limited.
Resistance to tearing	Satisfactory. EN12310-1: Flexible sheets for waterproofing, Part 1: Bitumen sheets for roof waterproofing – Determination of resistance to tearing (nail shank).	Tested in accordance with the requirements of EN12310-1 .
Emissivity	Satisfactory. SANS 1381-4: Materials for thermal insulation of buildings- Part 4: Reflective foil laminates.	Meets the requirements of SANS 1381-4 .
Water permeability and vapour transmission rate	Satisfactory.	Meets the requirements of SANS 952 .
Durability	Satisfactory.	Agrément South Africa’s opinion is based on all the above mentioned test results.

Table 2: Performance (Continued)

<p>Performance in fire</p> <p>SANS 428: Fire performance classification of thermal insulated building envelope systems.</p> <p>SANS 10177-5: Fire testing of materials, components and elements used in buildings-Part 5: Non-combustibility at 750 °C of building materials.</p> <p>SANS 10177-10: Fire testing of materials, components and elements used in buildings-Part 10: Surface burning characteristics of building materials using the inverted channel tunnel test.</p> <p>SANS 10177-11: Fire testing of materials, components and elements used in buildings Part 11: Large-scale fire performance evaluation of building envelope thermal insulation systems (with or without sprinklers)</p>	<p>Satisfactory.</p> <p>It is suitable for installation in industrial buildings when used in conjunction with steel roof construction with galvanised sheet steel cladding and side cladding.</p> <p>Fire propagation properties of the Sisalation Fireshield DS Roofing Radiant Insulation Barrier were evaluated in accordance with the requirement of SANS 428 and tested with accordance to the requirement of SANS 10177-5 and SANS 10177-10.</p> <table border="1"> <tr> <th colspan="3">Combustibility</th> </tr> <tr> <td>A</td> <td>Non-combustible</td> <td>✓</td> </tr> <tr> <th colspan="3">Surface fire properties</th> </tr> <tr> <td>A1</td> <td>No flame spread</td> <td>✓</td> </tr> <tr> <th colspan="3">Uses of material</th> </tr> <tr> <td>1</td> <td>No limitation</td> <td>✓</td> </tr> <tr> <th colspan="3">Application of material</th> </tr> <tr> <td>H&V</td> <td>Horizontal & Vertical</td> <td>✓</td> </tr> <tr> <th colspan="3">With or Without sprinklers</th> </tr> <tr> <td>SP & USP</td> <td>Protected by a sprinkler system or not protected by a sprinkler system</td> <td>✓</td> </tr> </table>	Combustibility			A	Non-combustible	✓	Surface fire properties			A1	No flame spread	✓	Uses of material			1	No limitation	✓	Application of material			H&V	Horizontal & Vertical	✓	With or Without sprinklers			SP & USP	Protected by a sprinkler system or not protected by a sprinkler system	✓
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Table 3: Quality management system

Aspects of performance	Opinion of Agrément South Africa	Explanatory notes
Quality management system	Satisfactory. The certificate holder's quality management system complies with Agrément South Africa's requirements. When Properly applied, the quality management system will ensure that acceptable standards are maintained in the manufacture and installation of the membrane.	<p>Agrément South Africa's requirements, based on SANS/ISO 9001.</p> <p>SANS/ISO 9001. Quality management systems- Requirements.</p>

PART 3: TECHNICAL DESCRIPTION

General description

The “Spunbond Economy Double Sided Foil Under-Lay Membrane” is manufactured from black non-woven polypropylene spunbond base, coated with a polyolefin film blend and laminated on both sides to an aluminium foil. The membrane has a mass of 134 g/m² with a thickness ranging from 0,2 mm - 0,3 mm for under-Lay roofing applications. It is supplied in rolls of 30 m long and 1.5 m wide.

Manufacture

The polypropylene homopolymer granules are mixed with the ultraviolet (UV) masterbatch and extruded into fibres which are then laid onto a moving porous web belt and transported through a heated calender to form the nonwoven spunbond. The fabric is then transferred to the lamination line where it is laminated to the aluminium foil via a polyolefin extruded film blend web through first and second pass.

The extruded molten film blend is then taken to a secondary process where printing and trimming takes place and wound into 30 m rolls. The trade name printed on the roll as follows

- The batch number
- The date
- Agreement identification logo and certificate number as illustrated on the certificate and
- 150mm side-overlap dotted lines

Handling, Storage and Transportation

The rolls are supplied in a sealed and clear protective sleeve, together with an insert detailing the roll specifications and storage as well as handling and installation requirements. All rolls are supplied on wooden pallets, stretch-wrapped and labelled.

On site, Economy Double Sided Foil Under-Lay Membrane should be kept out of direct sunlight and stored on a raised, flat surface free of sharp objects.

Installation

The rolls are supplied in a sealed, clear protective sleeve, together with an insert detailing the roll specifications and storage, handling and installation requirements. All rolls are supplied on wooden pallets, stretch wrapped and labelled.

The Economy Double Sided Foil is installed by contractors and roof erectors in accordance with the certificate, Spunbond Holding (Pty) Ltd t/a Spunchem International’s installation brochure and good building practice.

The membrane is installed horizontally across the rafters, starting at the eaves and working towards the ridges of the roof, with each subsequent layer overlapping the lower layer by 150 mm (minimum), with the overlapping line of 150 mm facing upwards. Each horizontal run must be installed with a drape of 10 mm between rafters at 600 mm centres. The membrane is tacked to the trusses with corrosion resistant staples or E.P clout nails to secure the membrane in position until the battens are installed on top of the Economy Double Sided Foil.

The membrane between the trusses must be sufficiently taut, while allowing a shallow trough to facilitate runoff should rainwater penetrate the tiles. At the eaves it is important that the membrane is taken from under the second-last tiling batten over the tiling batten to prevent ponding of water.

At ridges and hips, a layer of DPC should be applied over the apex on top of the roofing under-Lay membrane. In valleys, a strip of Economy Double Sided Foil at least 600 mm wide must be laid under the main roofing membrane and held down by valley battens, where used.

After the membrane has been installed, tiling battens should be installed as soon as possible to prevent damage to the membrane by wind, and roof tiles placed to minimise exposure to the sun.

It must be ensured that the roof membrane is turned up to less than 50mm at all abutments to be overlapped by the flashings, and that it overlaps the lining tray by not less than 100 mm at the back face of any abutment. Good building practice should be followed when installing Economy Double Sided Foil Under-Lay Membrane at penetrations and abutments.

Any damage to the membrane should be sealed as recommended by the manufacturer.

Protection of the membrane

The rolls must be stored under cover and when removed from the packaging, the membrane must be installed as soon as possible, and the roof sheet installed as soon as practicable.

Protection is also required against traffic on the ground, during storage, during the installation process and once installed.

Diagrams



