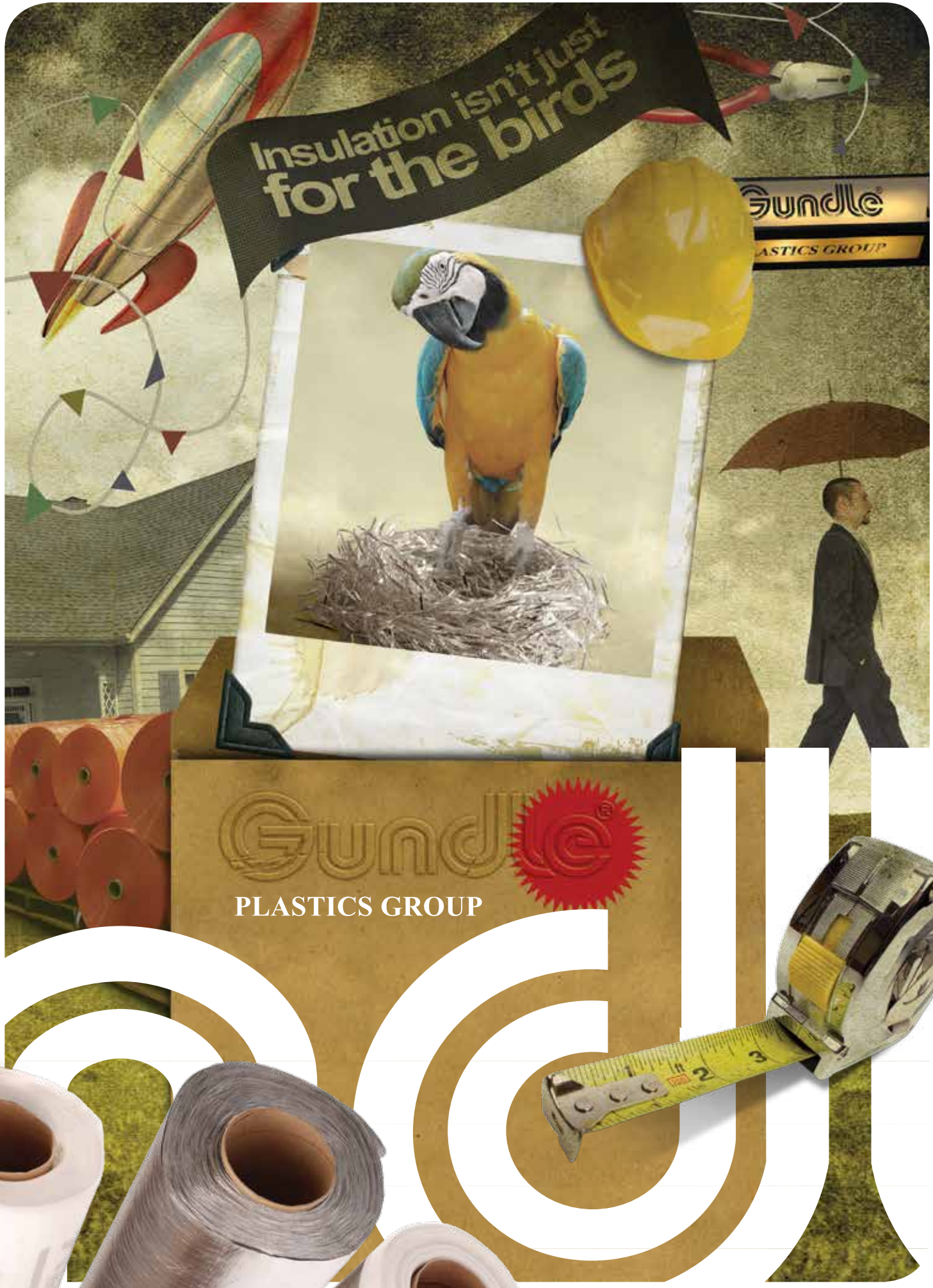


ISO 9001 SABS

SABS APPROVED

INTRODUCING THE NEW GUNDLE API RANGE OF LAMINATED ROOFING PRODUCTS

INSULATION MEMBRANES

The latest addition to the Gundle range of products is the Durafoil insulation membranes. These membranes are all aluminium foil laminates and conform to the SABS 1381-4 specification covering material for the thermal insulation of buildings, as indicated.

The Durafoil range consists of various laminates, and each product has been specially formulated for a specific insulation application - be it industrial or domestic.

GUNDLE QUALITY

All Gundle API products comply with the national building regulations and are accepted by all municipalities and government departments.

Gundle API has one of the most sophisticated and well equipped test laboratories in S.A. to ensure conformance with SABS and ISO standards. The quality of Gundle products has become a benchmark in the industry.

GUNDLE API CERTIFIED PRODUCTS - ROOFING PRODUCTS.

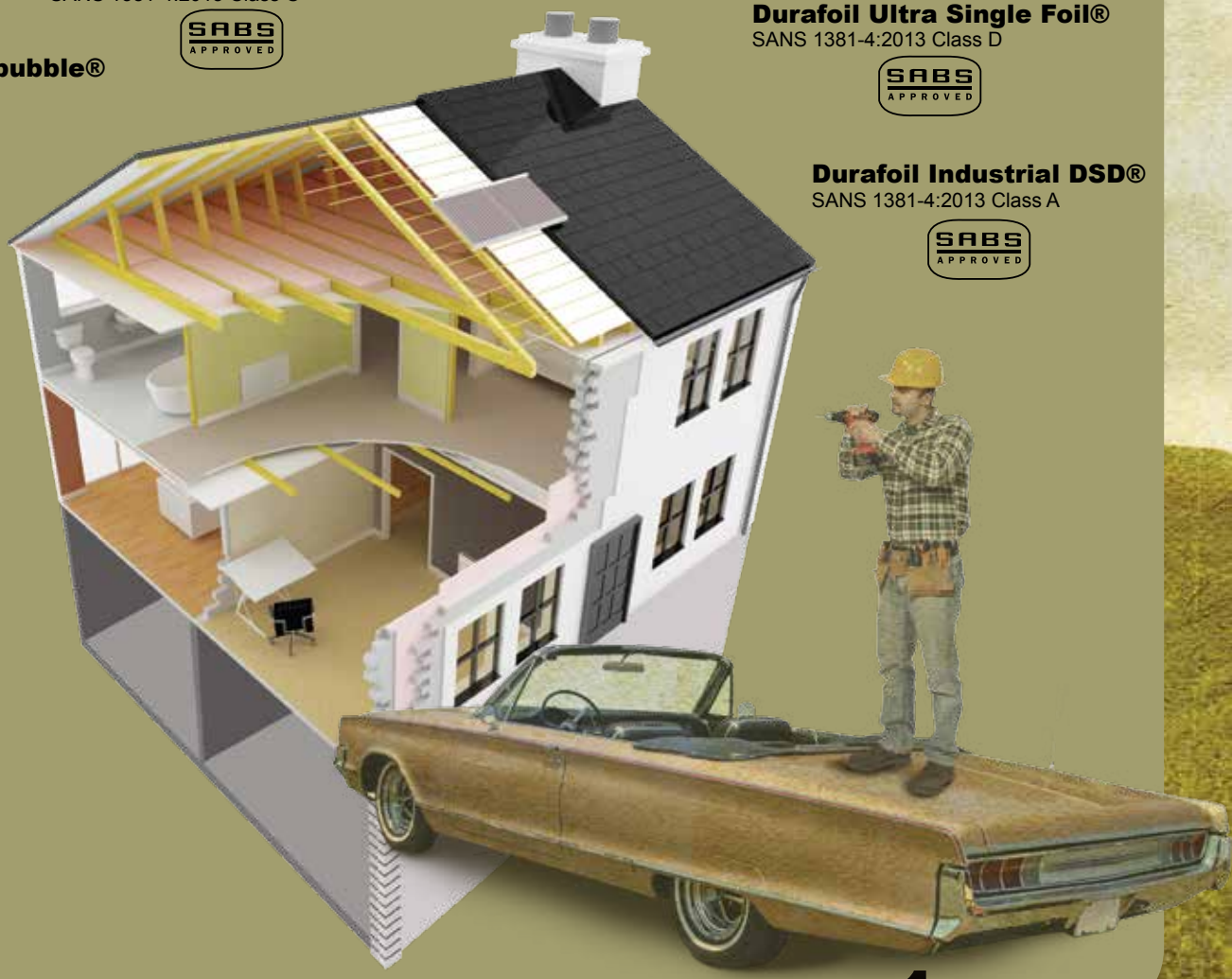
UT WOVEN®

Durafoil Ultra Double Foil®
SANS 1381-4:2013 Class C
SABS APPROVED

Durafoil Insububble®

Durafoil Ultra Single Foil®
SANS 1381-4:2013 Class D
SABS APPROVED

Durafoil Industrial DSD®
SANS 1381-4:2013 Class A
SABS APPROVED



Gundle PLASTICS GROUP

DURAFOIL INSUBUBBLE®

SANS 1381-4:2013 Class E

FLAME RETARDANT

DURAFOIL INSUBUBBLE

Durafoil Insububble is a four layer laminate which utilizes

1) the foil layer for reflective isulation
2) a laminating layer
3) the spunbond layer for stability, strength and thermal isulation and
4) the polyethylene bubble layer for additional insulation.

The product is aesthetically pleasing and attractive when applied under metal roofs. Insububble can be used under domestic or industrial roofs. It is flame retardant, tested in terms of SANS 10177 the product has been classified as class B/BI/2/H which means it has a superior flame retardancy and can be used in any structure with a B1 rating with sprinklers. The product has been tested with sprinklers.

Insububble has a strong tear resistance and will not expand when in contact with changing roof temperatures as in the case with other bubble type insulation membranes which consist mainly of polyethylene layers.

Insububble is dimensionally stable and easy to work with.

DURAFOIL INSUBUBBLE®

DATA	UNIT	UNIT
Class	–	E
Form	–	Roll
Length	mm	40m
Width	mm	1250
Thickness	mm	1.56
Mass per unit area	g/m2	360 ± 10%
Resistance to delamination		
a) Dry at elevated ambient temperatures	–	No delamination
b) Wet at elevated ambient temperatures	–	No delamination
c) Resistance to corrosion	–	No corrosion
Shrinkage:		
a) Machine direction	%	<1.5
b) Cross machine direction	%	<1.5
Emissivity	–	<0.05
Water vapour permeance:		
Reflective surface facing dessicant	g/(s.MN)	<0.002
Fire performance:		
Tested in terms of SANS101 77-11	Class	B/B1/2/H only
Tensile breaking strength:		
a) Machine direction	kN/m	>4.9
b) Cross machine direction	kN/m	>4.8
Bursting strength	kPa	>527
Puncture resistance	Mj	>3316
Edge tear resistance		
a) Machine direction	N	>250
b) Cross machine direction	N	>190
System thermal resistance:		
(Two air gaps - heat flow down)	(m2.K)/W	>0.90

INSTALLATION INSTRUCTIONS

1) Domestic specifications

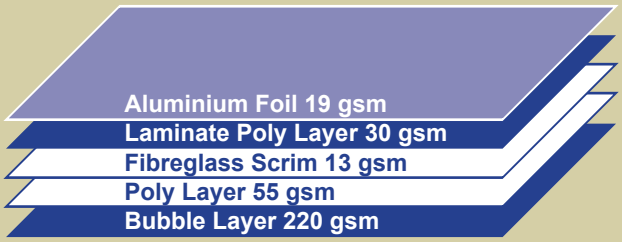
One layer of Durafoil Insububble over rafters and under battens. Lay Durafoil Insububble longitudinally over the rafters working from the eaves to the ridge and lapped 150 mm at joins.

2) Industrial specifications

Fix strainer wires from ridge to eave purlins at 300mm to 600mm centres depending on the application. The wires must run on top of the purlins. Lay Durafoil Insububble over the strainer wires from the ridge to the eave. Secure Durafoil Insububble to leg face of top purlin, pull taught down to the eave and fix to bottom purlin. The Durafoil Insubble should be overlapped 150mm at each joint to ensure that the strainer wires support each lap.

Special precautions

The foil layer has a poor resistance to acids and alkalis and must not be used in contact with wet concrete or be exposed to a corrosive environment. Unless special precautions are taken, the atmosphere in the roof space can cause corrosion of the foil layer that will directly effect its emissivity and therefore its thermal insulation properties.



DURAFOIL INDUSTRIAL DSD®

SANS 1381-4:2013 Class A

FLAME RETARDANT

DURAFOIL INDUSTRIAL INSULATION MEMBRANE

Durafoil DSD is a 6 layer laminate consisting of two outer layers of aluminium foil, one layer of spunbond, one layer of reinforcing scrim and two layers of laminating polyethylene. It is a top of the range product and carries the SANS 1381-4 Class A mark certification.

The reinforcing scrim provides additional strength and stability making the product ideal for industrial applications.

Durafoil DSD has a B/B1/2/H fire rating which means it has a superior fire resistance and can be used in any structure with a B1 fire rating with sprinklers.

DURAFOIL INDUSTRIAL DSD®
SABS 1381-4:1985 Class A

DATA	UNIT	DURAFOIL DSD® LIMITS
Class	-	A
Form	-	Roll
Length	mm	40 000
Width	mm	1250
Mass per unit area	g/m^2	177 ± 15
Resisitance to delamination:		
a) Dry at elevated ambient temperatures	-	No delamination
b) Wet at elevated ambient temperatures		No delamination
c) Resistance to corrosion	-	No Corrosion
Shrinkage:	-	
a) Machine direction	%	< 1.5
b) Cross machine direction	%	< 1.5
Emmissivity	-	< 0.05
Fire performance tested in terms of SANS 10177 - 11	Class	B/B1/2/H
Water vapour permeance: Reflective	g/(s.MN)	< 0.002
Surface fire index	Class	1
Tensile breaking strength: a) machine direction	kN/m	> 4.5
Bursting strength	kPa	> 338
Puncture resistant	mJ	> 1500
Edge tear resistant:		
a) Machine direction	N	> 70
b) Cross machine direction	N	> 50
System thermal resistance: Reflective	$(m^2 \cdot K)W$	> 1.23

INSTALLATION INSTRUCTIONS

1) Domestic specifications

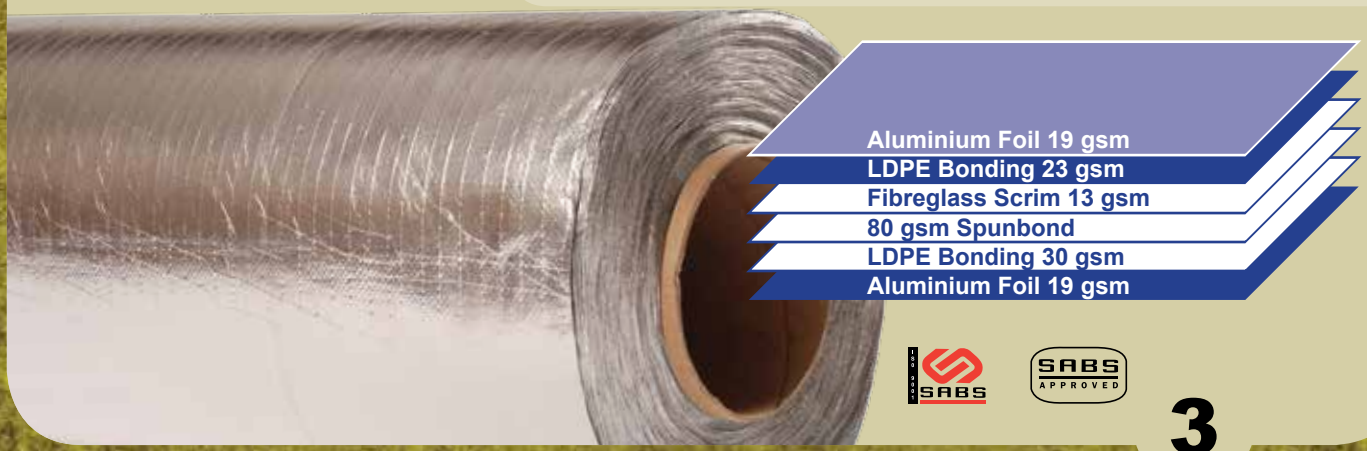
One layer of Durafoil Heavy Industrial over rafters and under battens. Lay Durafoil longitudinally over the rafters working from the eaves to the ridge and lapped 100mm at joints.

2) Industrial specifications

Fix strainer wires from ridge to eave purlins at 300 to 600mm centres depending on the application. The wires must run on top of the purlins. Lay Durafoil Heavy Industrial over the strainer wires from the ridge to the eave. Secure Durafoil to leg face of top purlin, pull taut down to the eave and fix to bottom purlin, pull taut down to the eave and fix to bottom purlin in similar manner. The Durafoil should be overlapped 150mm at each point to ensure that the strainer wires support each lap.

Special precautions

The foil layer has a poor resistance to acids and alkalis and must not be used in contact with wet concrete or be exposed to a corrosive environment. Unless special precautions are taken, the atmosphere in the roof space can cause corrosion of the foil layer that will directly effect its emissivity and therefore its thermal insulation properties.



SABS
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Gundle PLASTICS GROUP

DURAFOIL ULTRA DOUBLE FOIL®

SANS 1381-4:2013 Class C

POLYPROP NON-WOVEN MEMBRANE WITH FOIL LAMINATES

DURAFOIL ULTRA DOUBLE FOIL

Durafoil Ultra Double Foil is a 5 layer laminate which carries the SANS 1381-4 mark Class C. It has been used extensively as an insulation membrane under tiled and metal roofs. The aluminium foil layers provide insulation, the top layer through reflectivity and the bottom layer through its low emmisivity. There must be an air space of at least 50mm for the reflective surfaces to function efficiently. The product does not need to be scrim reinforced as the spunbond layer provides adequate strength and stability.

The product will also act as a dustproof layer when used under roof tiles and has excellent vapour resistance.

DURAFOIL ULTRA DOUBLE FOIL®
SABS 1381-4: Class A

DATA	UNIT	LIMITS
Class	–	C
Form	–	Roll
Length	mm	40 000
Width	mm	1250 ± 5
Mass per unit area	g/m2	208 ± 10
Resistance to delamination		
a) Dry at elevated ambient temperatures	–	No delamination
b) Wet at elevated ambient temperatures	–	No delamination
c) Resistance to corrosion	–	No corrosion
Shrinkage:		
a) Machine direction	%	< 1.5
b) Cross machine direction	%	< 1.5
Emissivity	–	< 0.05
Water vapour permeance:	g/(s.MN)	< 0.002
Reflective surface fire index	Class	1
Tensile breaking strength		
a) Machine direction	kN/m	> 3.5
b) Cross machine direction	kN/m	> 3.4
Bursting strength	kPa	> 490
Puncture resistance	mJ	> 1500
Edge tear resistance		
a) Machine direction	N	> 70
b) Cross machine direction	N	> 50
System thermal resistance:		
Reflective surface faciung hot surface	(m2.K)/W	> 1.2

INSTALLATION INSTRUCTIONS

1) Domestic specifications

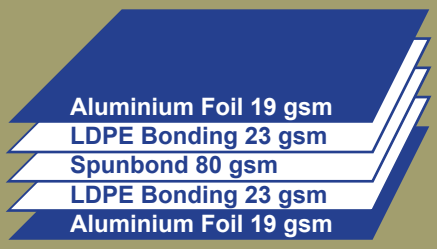
One layer of Durafoil Ultra over rafters and under battens. Lay Durafoil longitudinally over the rafters working from the eaves to the ridge and lapped 150mm at joints.

2) Industrial specifications

Fix strainer wires from ridge to eave purlins at 300 to 600mm centres depending on the application. The wires must run on top of the purlins. Lay Durafoil Ultra over the strainer wires from the ridge to the eave. Secure Durafoil to leg face of top purlin, pull taut down to the eave and fix to bottom purlin. The Durafoil should be overlapped 150mm at each point to ensure that the strainer wires support each lap.

Special precautions

The foil layer has a poor resistance to acids and alkalis and must not be used in contact with wet concrete or be exposed to a corrosive environment. Unless special precautions are taken, the atmosphere in the roof space can cause corrosion of the foil layer that will directly effect its emissivity and therefore its thermal insulation properties.



SABS APPROVED

DURAFOIL ULTRA® (SINGLE FOIL)

SANS 1381-4:2013 Class D

DURAFOIL ULTRA SINGLE FOIL

Durafoil Ultra Single Foil has been developed specifically for use under roof tiles and is certified under SANS 1381-4 Class D. The aluminium foil layer will not radiate or emit heat downwards and the product is applied with the aluminium surface facing down towards the interior of the building. The spunbond membrane gives the product substantial strength and stability.

Durafoil Ultra Single foil does not have foil on the section of the membrane which acts as the overlap, this reduces the cost of the membrane as the section where the membrane overlaps the layer underneath makes the foil surface ineffective as it needs an airspace to function as an insulator.

Other than insulate the roofspace the membrane will reduce draughts and dust penetration into the roof area. The membrane is also designed to prevent moisture from damp air from condensing on the ceiling boards and other vulnerable points in the building fabric.

Most home loan institutions insist on the use of an under-tile membrane where the roof pitch is less than 26 degrees or more than 45 degrees and also in exposed coastal areas as the membrane will prevent strong winds from ripping off roof tiles.

DURAFOIL ULTRA® (FOIL ONE SIDE)
SABS 1381-4: Class D

DATA	UNIT	UNIT
Class	–	D
Form	–	Roll
Length	mm	40 000
Width	mm	1250 ± 5%
Mass per unit area	g/m²	130 ± 5%
Resistance to delamination		
a) Dry at elevated ambient temperatures	–	No delamination
b) Wet at elevated ambient temperatures	–	No delamination
Shrinkage:		
a) Machine direction	%	< 1.5%
b) Cross machine direction	%	< 1.5%
Emissivity	–	–
Water vapour permeance:	g/(s.MN)	< 0,002
Reflective surface fire index	Class	1
Tensile breaking strength		
a) Machine direction	kN/m	> 3.5
b) Cross machine direction	kN/m	> 3.4
Bursting strength	kPa	430
Puncture resistance	mJ	> 1320
Edge tear resistance		
a) Machine direction	N	> 70
b) Cross machine direction	N	> 50
System thermal resistance:		0.9

INSTALLATION INSTRUCTIONS

1) Domestic specifications

One layer of Durafoil Ultra or Durafoil Ultra Double Foil over rafters and under battens. Lay Durafoil longitudinally over the rafters working from the eaves to the ridge and lapped 150mm at joints.

2) Special precautions

The foil layer has a poor resistance to acids and alkalis and must not be used in contact with wet concrete or be exposed to a corrosive environment. Unless special precautions are taken, the atmosphere in the roof space can cause corrosion of the foil layer that will directly effect its emissivity and therefore its thermal insulation properties.

UT WOVEN®

Agrement Certificate 2007/332

UT WOVEN UNDER-TILE MEMBRANE

UT Woven® is a new woven polypropylene membrane that has been specially formulated for use under roof tiles. It is 350 (micrometer) in thickness and made in rolls of 1,5 x 30m. UT Woven® is dimensionally stable, light in weight and weatherproof; handling and installation are easy, and will seal around nails. It is used for the prevention of draughts and dust penetration into roof spaces through tiles, and prevents damage to ceilings, rotting of timbers and corrosion of plumbing. Dust has also been known to penetrate between cornices and walls, initiating or aggravating allergies in susceptible people. The membrane is also designed to prevent moisture from warm damp air reaching and condensing on the ceiling boards and other vulnerable points in the building fabric. UT Woven® also prevents strong wind from lifting and ripping off roof tiles. Most home loan institutions insist on the use of under-tile membrane where the roof pitch is less than 26 degrees or more than 45 degrees and in exposed coastal areas.

UT WOVEN SPECIFICATIONS

One layer of UT Woven® weatherproof sheeting, installed over common rafters and under battens to receive tiles. Allow a minimum overlap of 100 mm.

CLOSED SOFFIT DETAIL

Boarding to be used at the open eaves to carry the UT Woven® to the gutter. The boarding gives added security to the structure because it prevents wind-lift of the tiles from the underside of the open soffit.

OPEN SOFFIT DETAIL

Turn down the UT Woven® over the fascia board at the eaves and seal into the gutter.

UT WOVEN®
SANS 952-1985 TYPE E

PROPERTY	REQUIREMENT*
Thickness, Um, min.	350
Mass per unit area, min, g/m2	100
Tensile properties	
a) Breaking strength, N/mm of width, min.	2,16 min
b) Elongation at break, %, min	50
Puncture resistance, N/mm of thickness, min	29,0
(Optional test, see 4.5.3)	
Tear Strength, N/mm of thickness, min.	65,0
Resistance to accelerated aging, % property	
Retention, min	
a) Breaking strength	90
b) Elongation at break	90
Resistance to accelerated weathering, % property	
Retention, min	
a) Breaking strength	80
b) Elongation at break	80
Water vapour transmission rate, $g/m^2.24$ h,max	12.2

BENEFITS

- The material equalises the pressure and complements the function of the roof tiles.
- It is flexible and easily handled.
- It is used for the prevention of draughts and dust penetration into the roof spaces through tiles, and prevents damage to ceilings, rotting of timbers and corrosion of plumbing.
- The membrane is also designed to prevent moisture from warm damp air reaching and condensing on ceiling boards and other vulnerable points in the building fabric.

LDPE Bonding 23 gsm
80 gsm Spunbond

SPRINGS:	**(T)**	(011)	813 2180	**(F)** (011) 813 2189
DURBAN:	**(T)**	(031)	577 4771	**(F)** (031) 577 4790
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