

Isola Mestertekk

Laying instructions



***High quality single layer
Roofing System***

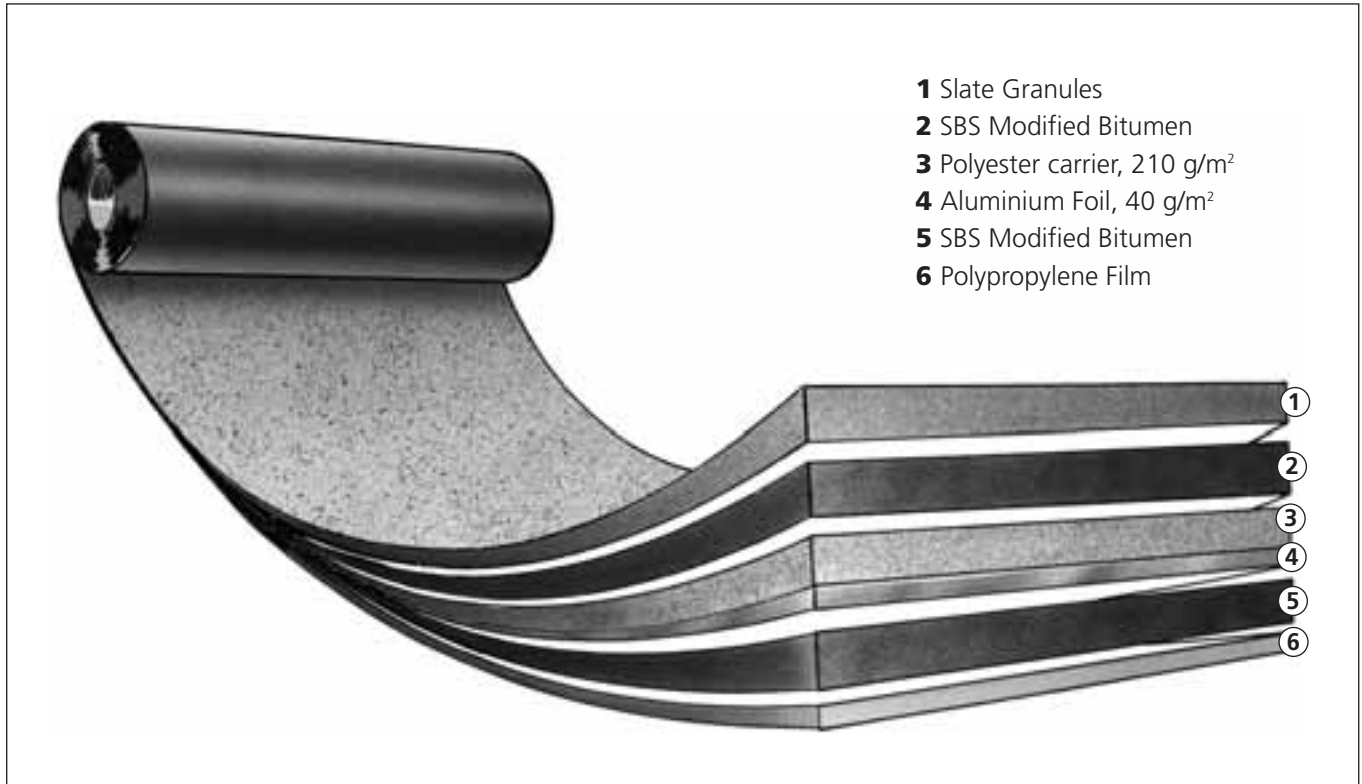


Isola Mestertekk

The product	3
Product design	3
Product specifications	3
Areas of application	4
Isola Mestertekk Roofing System	4
Preparation of surface	4
General conditions	4
Vapour barrier, air gaps	4
Planning and layout	5
Calculation of materials	5
Transport and storing of materials	5
Layout	6
Joining methods	6
Overlaps	6
End joints	6
Trimming of corners in overlaps	6
Joining methods	7
Special precautions in cold weather	7
Application details	7
Unrolling and fixing	7
Roof edge	7
Parapets and walls	7
Chimneys on sloping roofs	8
Skirtings to pipes	8
Valleys	9
Roof outlets	9
Inside corners	9
Outside corners	9
Mechanical fixings	10
Placing of fixings	10
Types of fixings and undergrounds	10
Pullout capacities of fixings	10
Roof areas	11
Tools and equipment	11
Technical data	12

Isola Mestertekk

The product



Product design

The product is designed taking full advantage of

- high elasticity of the SBS elastomeric modified bitumen
- high tensile and tear strength of a strong polyester reinforcement
- improved fire retardancy by the perforated aluminium foil
- polypropylene film underside to prevent adhesion to the roof construction /underlying insulation

Product specifications

Product Type: Single ply SBS modified bitumenous roofing felt

Nominal Dimensions and Weights:

Roll Length	10.0 m
Roll Width	1.0 m
Width of Overlap	120 mm
Thickness	3.9 mm
Roll Weight	46 kgs

Colours:	Grey Article no. 521201
	Black 521214
	Brick Red 521224
	Pine Green 521236
	Alm Brown 521242
	Saphire Blue 521241

Fire Resistance: Class Ta / NS-Licence no. 538 / appendix 4.

Test: NS-INSTA 413

Approvals: Norwegian Building Research Institute -Technical Approval no. 2022/98

Isola Mestertekk Roofing System for all types of roofs

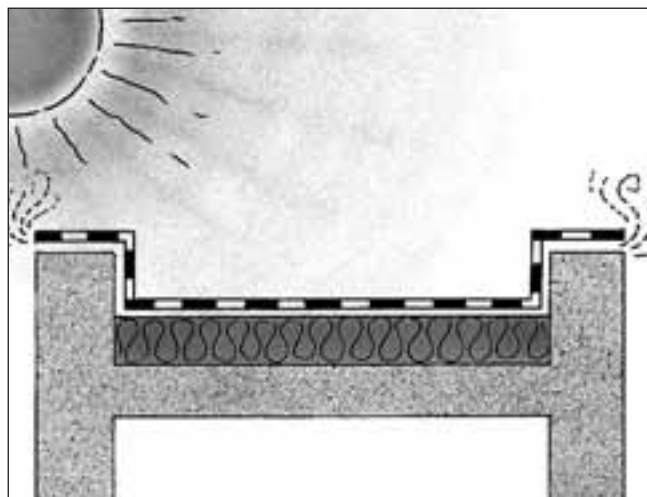
Areas of application

Isola Mestertekk can be applied to almost all types of roofs; industrial buildings, commercial and public buildings, blocks of flats and single houses.

Isola Mestertekk can be applied on both flat roofs and sloping roofs. Waterproofing of new roofs as well as renovation of old roof coverings can be effectively carried out.

The product design based on the versatile Polyester reinforcement together with the SBS-modified bitumen gives the product high strength, flexibility and elasticity. The Polypropylene film on the underside ensures that problems like cracks and blisters in the existing roofing are not transferred to the new waterproofing.

Isola Mestertekk is loose laid and mechanically fixed to the roof structure. Isola Mestertekk has a thin sacrificial film in the 120 mm wide overlap area - ensuring a fast and safe welding with gas burner or hot air equipment. Both elements designed to achieve a fast and rational waterproofing system.



The Mestertekk system is designed to dissipate water vapour pressure below the roof covering by enabling its total release at the roof perimeter. The loose laid floating roof concept helps to eliminate blistering which has always been a problem with traditional bitumen felt roofs.

Preparation of surfaces

General conditions

An inspection of the surface to be waterproofed is always to be done.

New roofs

- slope of roof should be consistent towards gutters or outlets. Local deflections should be filled up.
- smoothness of surface: Sharp stones in a concrete surface or protruding nails from a timber deck must be levelled out or removed. On rough surfaces a thin mineral wool insulation board can be used as an equalisation layer.

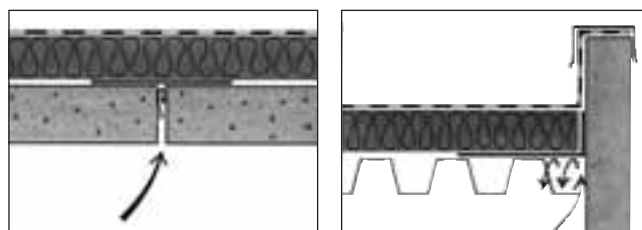
Renovation

- cleaning of surface, removing debris, leaves, nails and all loose materials
- blisters and ridges to be cut and levelled with the surface
- inspect all gutters and outlets. Generally old gutters should be replaced.
- inspect all metal flashings, carry out repair or replacement
- if leaks in the old roofing is reported find the leaking spots and examine the roof structure below the roofing felts for structural damages. Repair as needed.
- inspect for local deflections and fill up to ensure elimination of possible ponds on the roof.

Vapour barrier, air gaps

Vapour barrier should be installed on roofs over buildings with high internal temperature and/or high relative humidity. As a general rule a building with an internal temperature of 20°C or higher, and RH above 50% should always be given a vapour barrier. The vapour barrier can be omitted if the roof deck itself is damp proof, as for example 150 mm reinforced concrete without joints or cracks.

On roofs without a vapour barrier it is important that all air gaps in the roof structure shall be effectively sealed off to prevent any air stream from the interior of the building to the space immediately under the waterproofing.



Planning and layout

Calculation of materials

Roll size: 1.00 x 10.00 m
Overlap sideways: 12 cm
Overlaps end joints: 15 cm

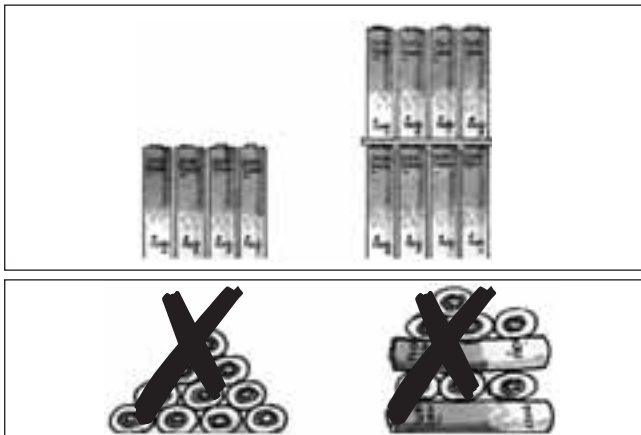
Net area covered by one roll:
 $0.88 \times 9.85 = 8.67 \text{ m}^2$

Material requirement:
Net roof area incl. upstands divided by 8.67
= Number of rolls

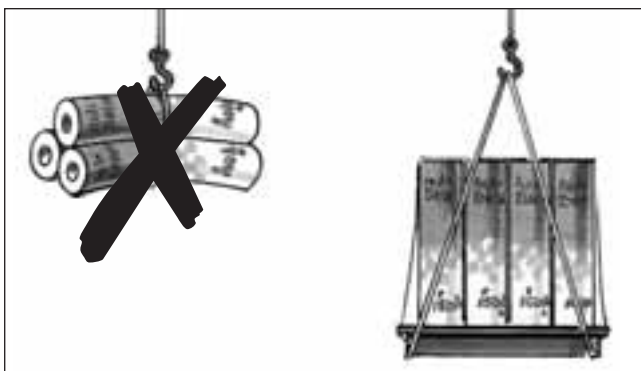
Add 2 - 5 % for cut and waste depending upon the size, shape and details on the roof.

Number of mechanical fixings is to be calculated for each roof separately.

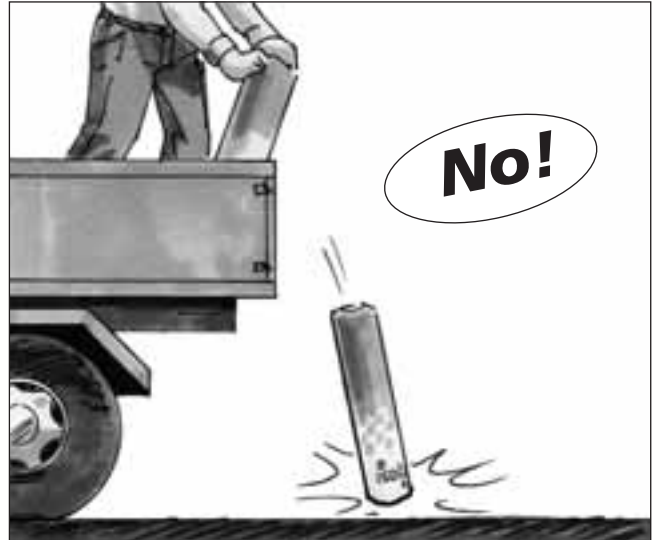
Transport and storing of materials



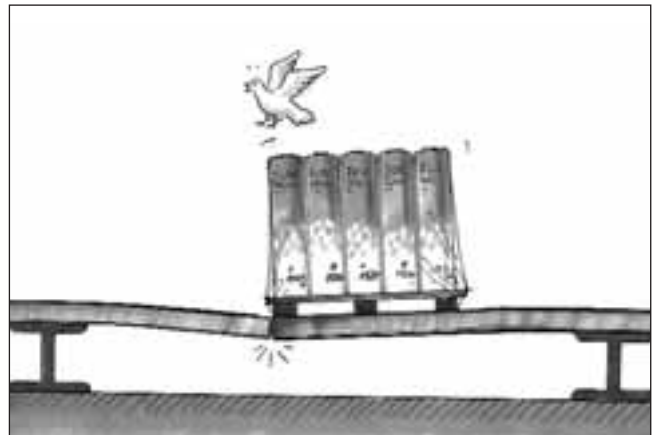
Rolls shall always be transported and stored in a vertical position. Rolls should not be stored more than two high and then a flat board should be used to support and distribute the weight.



When material is moved by a crane ensure that the rolls are placed upright on a pallet.



When unloading avoid dropping the rolls as this can cause damage to the end of the roll.

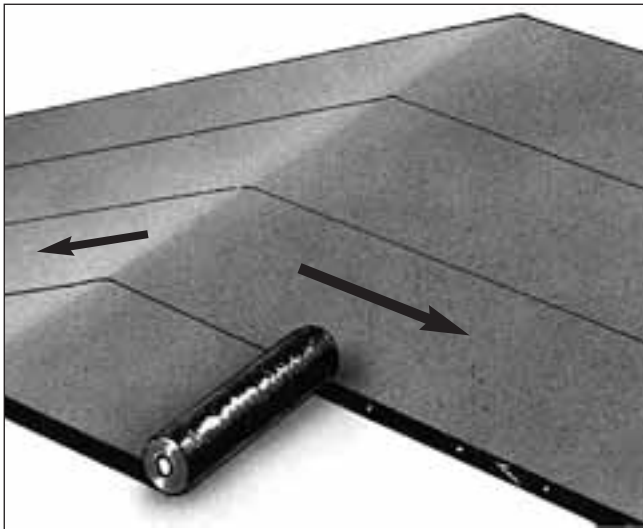


Large quantities of material should be spread evenly over the roof surface and placed over structural supports. Plan the placing of materials to minimize transport during application. When stored on the roof the rolls shall be covered.

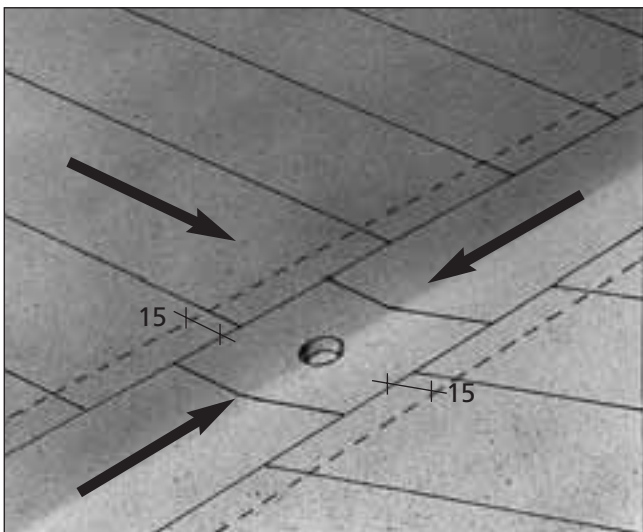
In hot weather conditions avoid storing for a long time in direct sunshine.

Laying instructions

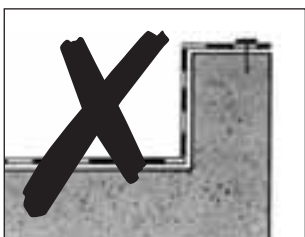
Layout



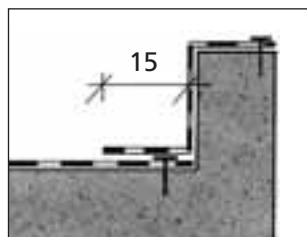
Generally the Isola Mestertekk is laid with roll - direction from top to bottom of the roof slope.



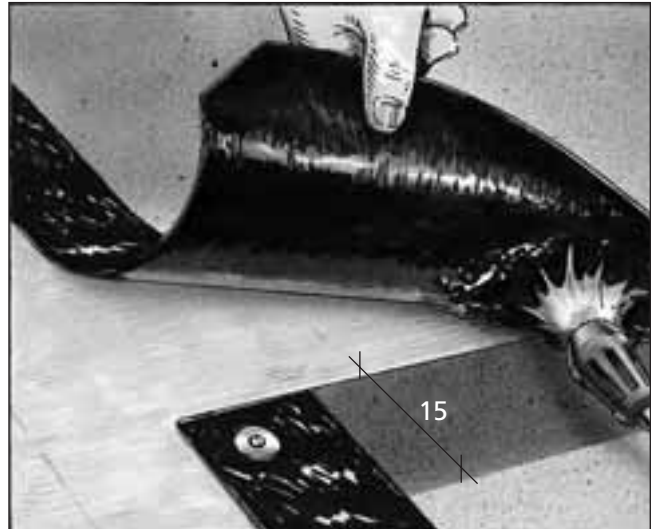
In valleys the Isola Mestertekk shall generally be laid along the valley leading to the gulleys. (If the slope of the roof is less than 5° the felt can be laid directly across the valley, see page 9 "Valleys").



The length of the roll shall never be laid continuously from the roof and up at an upstand.



Joining methods



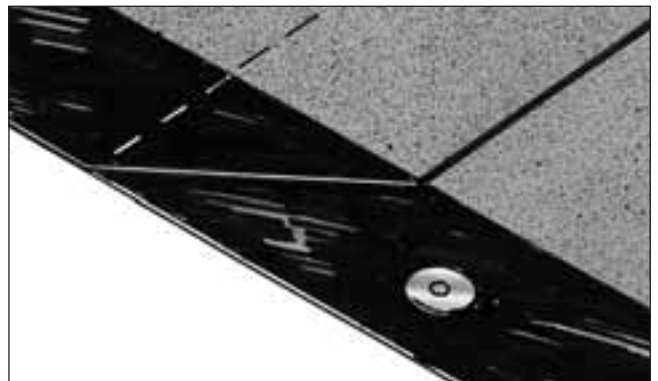
Overlaps

The 120 mm wide overlap area is covered with a thin sacrificial film. This film will melt away as soon as a gas burner is applied. The welding procedure shall ensure that the bitumen on both the joining felts is melted.

It is important that the complete width of the overlap is welded properly together.

End joints

Overlap at the end of the roll shall be 150 mm wide. The upper side of the underlaying felt shall be heated in the overlap area so that the slate granules sink into the bitumen. Then the joining of the two felts can take place.



Trimming of corners in overlaps

The corner of the upper felt in an end overlap shall be cut away before the welding as shown in the illustration. This is done to eliminate the risk of leakage in the joint and to give a better appearance of the finished roof.

Joining methods



Method A: Unroll the full length of the felt, stretch and put in correct position, reroll the felt on a hard core. Weld with a gas burner in front of the roll while unrolling. Use the foot to press the roll down and forward.



Method B: Unroll the full length of the felt, stretch and place in correct position. Complete the mechanical fixing of the felt. Join the overlap by inserting a gas burner between the two sheets. Direct and move the burner backwards and follow immediately with a roller pressing the overlap together. Ensure that the full 12 cm width of overlap is torched.

Special precautions in cold weather

When Isola Mestertekk is applied in cold weather, i.e. when the temperature of the roll is below +5 °C, the rolls shall be lightly prewarmed by gas burner and stretched when unrolled and put in position. This procedure shall take place before fixing and welding.

Application details

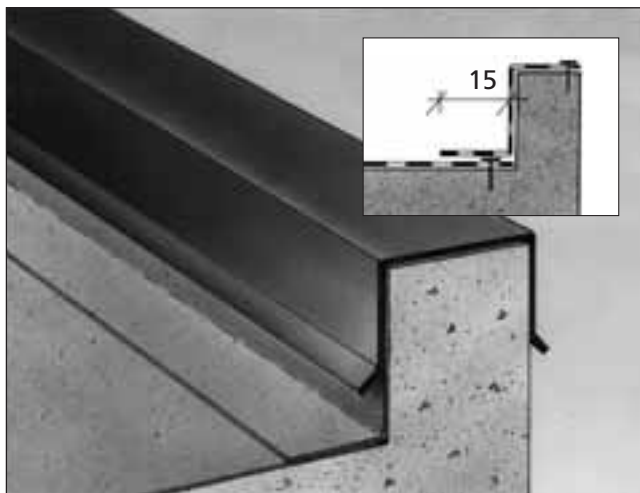
Unrolling and fixing

Unroll the Mestertekk, stretch and place in correct position, fix to the underground. The fixings to be placed with centre 5 cm from the edge, along the marked line in the overlap edge. Fixings and fixing plates to be selected according to underground, see page 10 for Mechanical fixing.



Roof edge

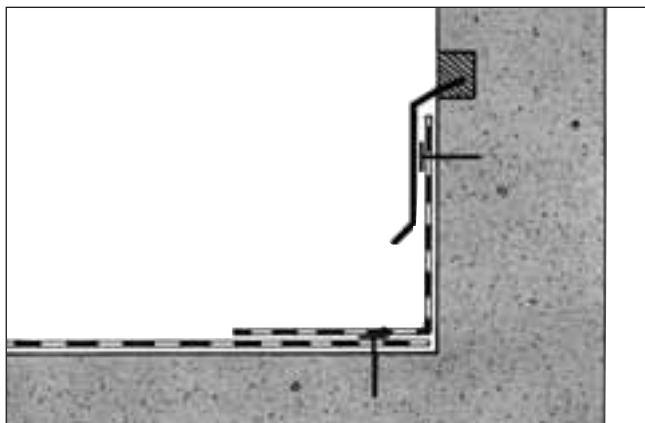
Weld the Mestertekk directly to the metal flashing by gas burner or hot air blower. Prior to the application the metal flashing shall be cleaned of old roofing felts or of any grease if new.



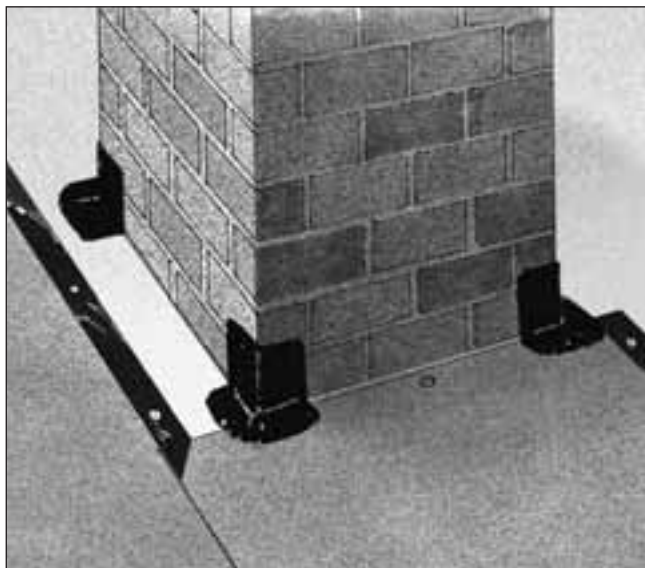
Parapets and walls

Install the Mestertekk of the roof surface up to the parapet and fix along the parapet. Form and fix Mestertekk lengthwise along the parapet, 15 cm overlap on the roof surface. The vertical part can

be spot welded to the parapet, the felt to be fixed on top of the parapet. Observe that the slate granules on the underlaying part shall be heated before the two parts are welded together.



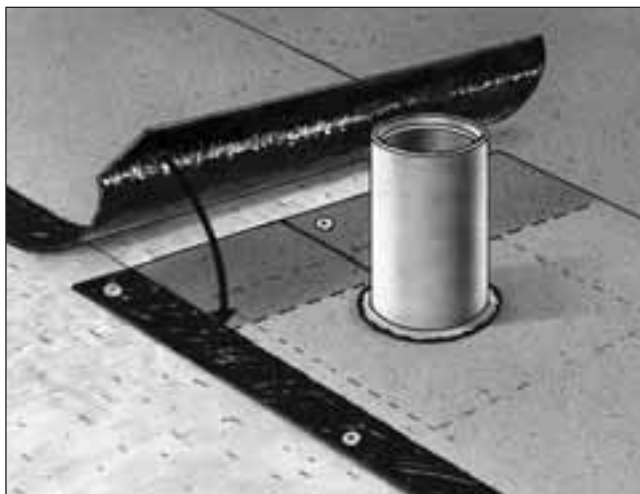
When fixing Mestertekk against an upstanding wall observe a minimum height of 15 cm. The Mestertekk shall always be fixed mechanically to the wall structure and the edge covered by a metal cover flashing.



Chimneys on sloping roofs

Install and fix Mestertekk up to the lower part of the chimney. Use one piece 20 x 20 cm of Isola Flexobit on each corner of the chimney. Warm lightly, shape the piece around the corner and torch it to the chimney. Complete the installation with Mestertekk pulling it up 20 cm on all sides of the chimney.

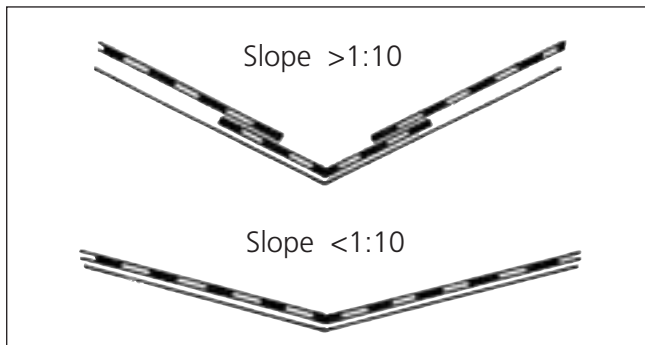
On brick chimneys Mestertekk shall be pulled up at least 15 cm high and mechanically fixed at the top. A metal cover flashing shall be installed to protect the upper edge of the Mestertekk.



Skirtings to pipes

Pipes provided with a metal pipe sleeve:
Fix the pipe sleeve to the roof structure. Pull the Mestertekk 15 cm past the pipe, make a spilt in the end and cut out for the pipe. Weld the Mestertekk to the horizontal part of the sleeve. Install the following felt of Mestertekk and weld the overlap as described under item "End joints", page 6.

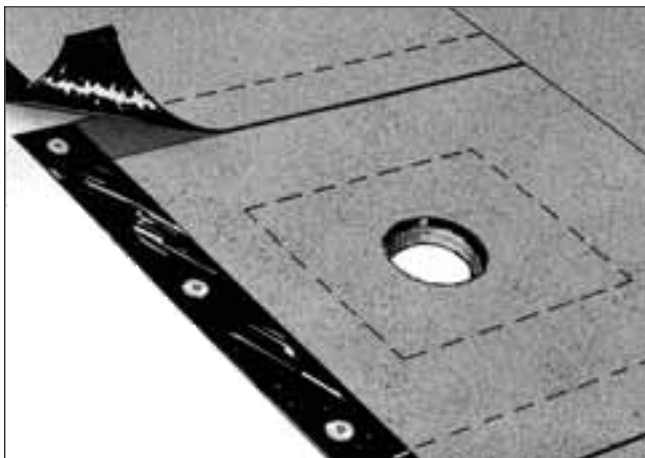
Pipes without a sleeve:
Cut a square piece of Flexobit with sides like the diameter of the pipe plus 30 cm. Make a small opening in the centre and warm slightly. Form a collar and pull it down over the pipe. Weld the Mestertekk to the collar.



Valleys

When the slope of the roof is above 5° (more than 1:10), the Mestertekk shall be installed along the valley. The joining felts from both sides shall then be given an overlap of 15 cm onto the longitudinal part in the valley.

With a slope less than 5° the Mestertekk can also be installed across the valley.



Roof outlets

All outlets shall prior to application of new roofing be thoroughly cleaned and all old roofing material removed down to the metal surface.

When the outlet is set down from the general surface or the metal parts are liable to develop leaks, the following shall be done:

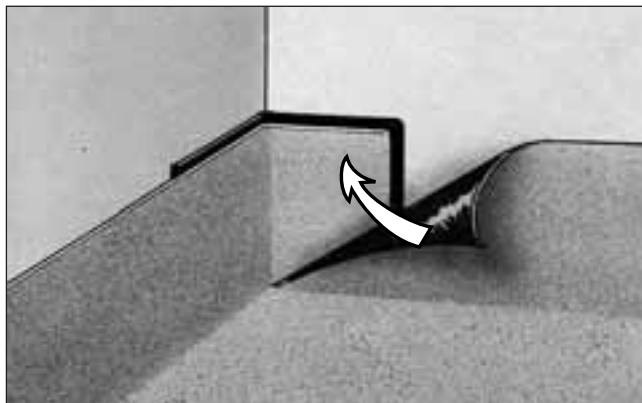
Make a collar of Flexobit, shape it to the outlet and weld it onto the metal surface of the outlet.

Cut a piece of 1 m length of Mestertekk and place in position, then weld it to the Isobit. Carefully cut out the proper opening.

For outlets with a build-in flange of bitumenous material the Flexobit-collar is not needed.

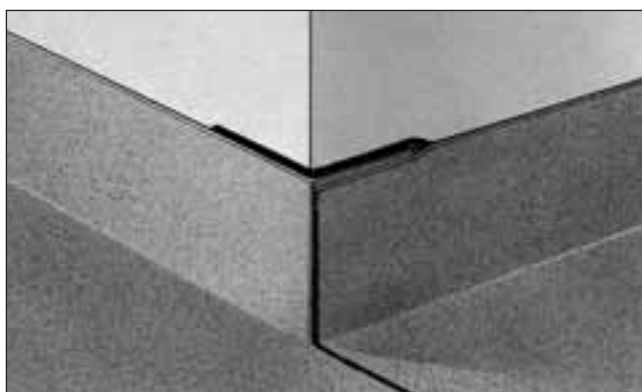
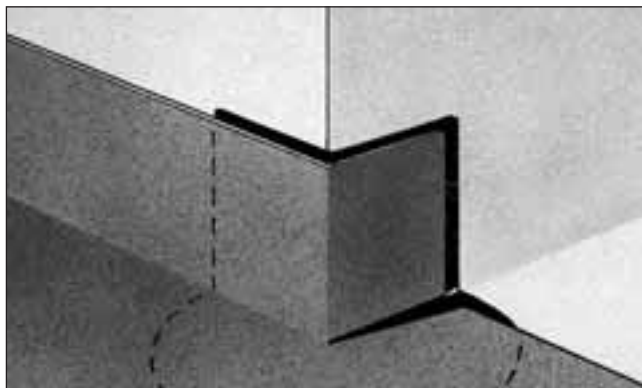
For outlets with an internal clamping ring, the Mestertekk is formed into the outlet, welded to the outlet and the clamping ring screwed tight.

Corners



Inside corners

Cut a piece of 20 x 20 cm of Flexobit, warm it slightly and dress it into the corner, torching it onto the structure. Fold and cut the Mestertekk as shown, weld it onto the Flexobit.



Outside corners

Cut a piece of 20 x 20 cm of Isobit, warm it slightly and dress it onto the corner, torching it onto the structure. Cut and fold the Mestertekk as shown in the illustrations.

Mechanical fixings

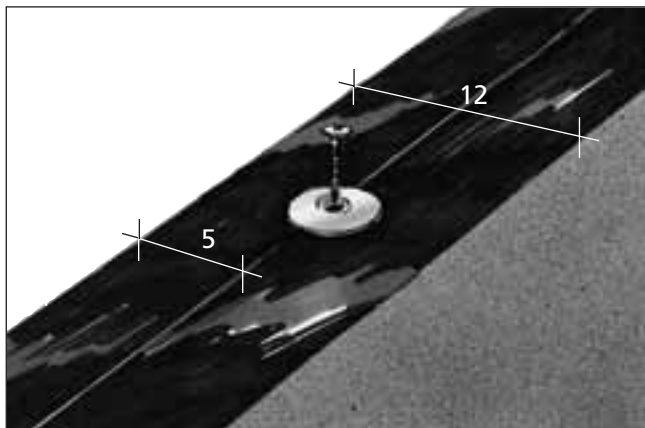
Placing of fixings

The mechanical fixings and plates shall be placed with their centre in the marked line in the overlap area, 5 cm from the edge of the felt.

Fixing and fixing plate to be chosen according to type of underground.

The number of fixings per m² and the distance between each fixing shall be calculated specifically for each roof. A general requirement is that there shall be minimum 2 fixings per m². This will give a maximum distance between each fixing of 57 cm, considering the spacing of 88 cm between the fixing rows.

Types of fixings and undergrounds



Underground concrete:

Fixing directly on the concrete and when an old hard surface is directly under the new covering:

Fixing plate: Isola 40 (round metal plate Ø 40 mm)

Fixing: SFS-Spike 6.3 or 4.8 mm

Installation: Drill a hole with drillbit 6.3 or 4.8 mm (available from supplier of fixings), insert the Spike through the plate and hammer the Spike down. Minimum depth of hole 42 mm, minimum installation depth 32 mm.

Fixing when there is a thick layer of thermal insulation/-mineral wool above the concrete:

Fixing plate: ECOTEK Casing or SFS Teleskop Ø 42

Fixing: ECOTEK Concrete Nail or SFS Teleskop Concrete Nail

Installation: Drill a hole with drillbit 5.0 mm, insert the Concrete Nail in the Casing and hammer it down with special punch. Minimum depth of hole 30 mm, minimum installation depth 20 mm.

Underground thin concrete elements:

Fixing plate: SFS IE-C 82x40 mm

Fixing: SFS IE 6,3

Installation: Drill a hole Ø 6.3 mm, hammer fixing carefully down till it stops, screw the fixing tight.

Underground metal decking:

Fixing on old roofing or with a thin hard insulation:

Fixing plate: Isola 40 (round metal plate Ø 40 mm)

Fixing: ECOTEK Isoscrew 4.8 mm or SFS IT2-C-4,8

Fixing when there is a thick layer of insulation/-mineral wool above the metal decking:

Fixing plate: ECOTEK Casing or SFS Teleskop Ø 42

Fixing: ECOTEK Isoscrew 4.8 mm or SFS IT2-C-4,8

The length of the screws shall be calculated to allow approx. 20 mm through the metal decking.

Underground timber/wooden deck:

Fixing directly on the structure:

Fixing plate: Isola 40 (round metal plate Ø 40 mm)

Fixing: ECOTEK Screws for wood 4.8 mm

Fixing directly on timber/wood can also be made with roofing nails 2.8x25 mm with head diameter min. 9 mm.

Underground aerated concrete:

Fixing plate: SFS IGR8-C 82x40 mm

Fixing: SFS IGR-T-8 (screw type)

Installation: To be screwed directly into the aerated concrete.

Underground unknown:

When the material or thickness of underground is unknown there shall always be carried out pullout tests on the actual roof before the final selection of fixing is made.

Pullout capacities of fixings

Each fixing has got a specific pullout capacity depending upon the quality of the underground. The capacities are given by the supplier and confirmed in a Technical Approval.

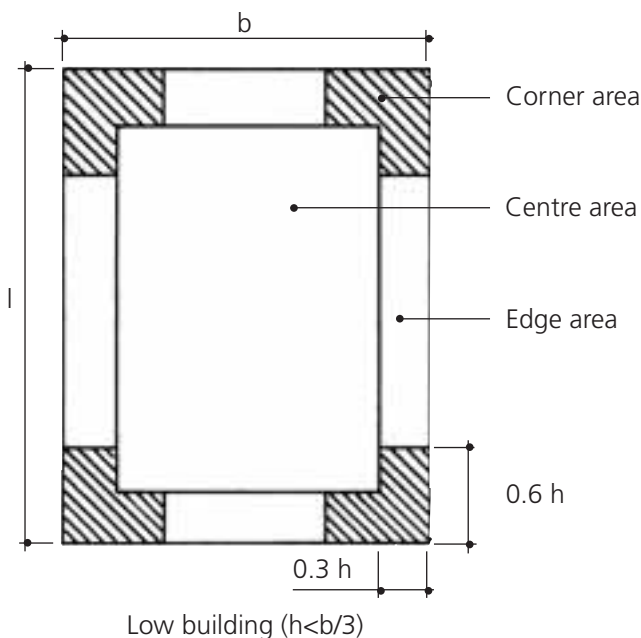
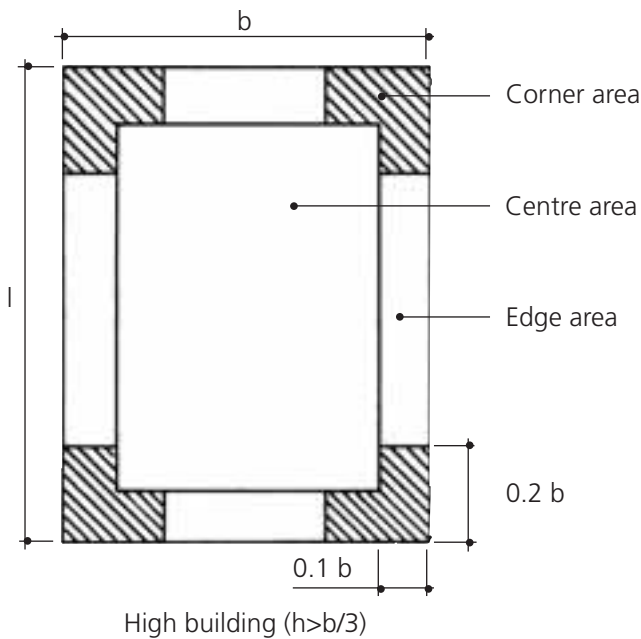
For Isola Mestertekk all design capacities shall be approved by Isola. The given capacity shall be the basis for the design of the fixing pattern.

Roof areas

The effect of wind uplift forces on the roof will differ from the corner, the edge and the centre part of the structure. To allow for the differences in the wind design loads on these three sections the roof is generally divided in:

Corner area - Edge area - Centre area

The width of the edge/corner area differs from a high to a low building and can be calculated as shown in the following illustrations.



The wind uplift will be higher in the corners than in the edge areas and the centre area. Consequently the number of fixings per m^2 will be higher in corner and edge areas than in the centre area.

Tools and equipment

Tools and equipment needed to install Isola Mestertekk:

- Gas burner, 45-50 mm, with regulator and approx. 10 m hose
- Small gas burner for details
- Roller special made for Isola Mestertekk (optional)
- Chalk line and measuring tape
- Hammer
- Roofers knife
- Hammer drill or screw drill with appropriate drillbits, according to underground
- Protective gloves
- Fire extinguisher

Isola Mestertekk

Technical Data			
	Unit	Requirement NS 3530	Typical value*
Tensile Strength	N/50mm		
Longitudinal		min. 600	890
Transverse		min. 600	720
Elongation at Break	%		
Longitudinal		min. 30	55
Transverse		min. 30	55
Tear Strength	N		
Longitudinal		min. 50	80
Transverse		min. 50	95
Puncture Resistance, Ø19 mm, Increasing Load	N	min. 700	930
Puncture Resistance Dynamic	Ø mm	max. 15	10
Flexibility at low temperature, Ø 10 mm	°C	- 10	- 20
Dimensional Stability	%	+/- 0,6	
Longitudinal			- 0,20
Transverse		+ 0,15	



* Typical value is the average of one year test results.

Technical Data Flexobit

Weight:	5,0 kg/m ²
Length of roll:	5,0 m
Width of roll:	1,0 m
Thickness:	5 mm
Supplied also in pieces	20 x 20 cm
Elongation:	min. 750%
Flexibility at low temperature:	< -15°C
Dimensional stability:	max. 0,25%



Isola as
 N-3945 Porsgrunn, Norway
 Tel.: +47 35 57 57 00
 Fax: +47 35 55 48 44
 Web: www.isola.com

isola[®]
 Dry and healthy buildings