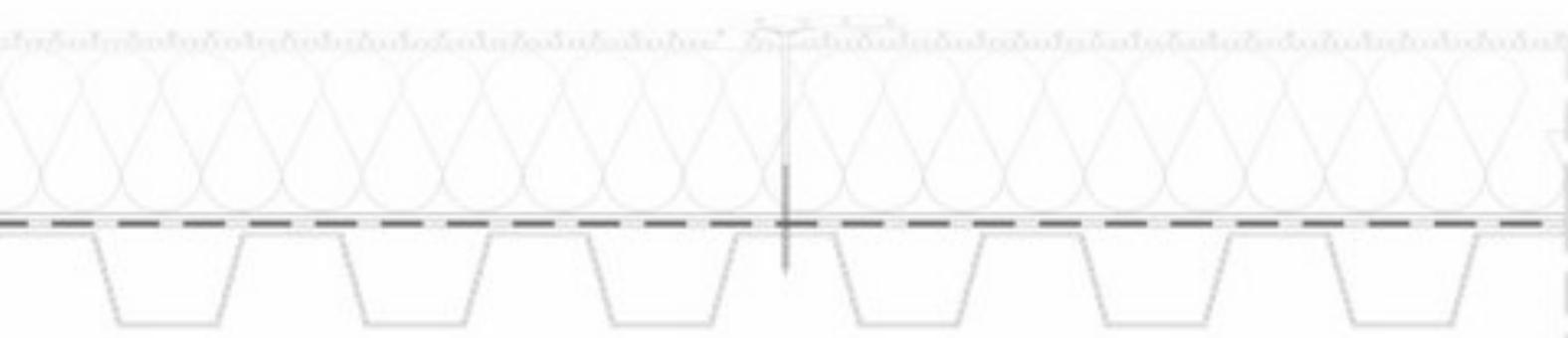




**Technical Book**  
**ROOFING SYSTEMS**  
**MAPEPLAN T TPO/FPO**






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# 1. Green Innovation



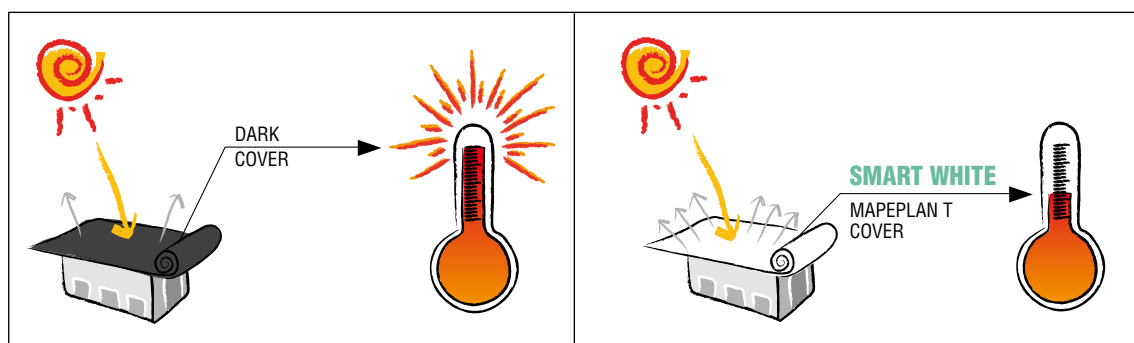
ISO 14001	Plant certificated ISO 14001
30%	30% of energy used in our plant is produced by cogeneration process
100%	100% Recycling of water in the production process
100%	100% Recycling of production wastage
	LEED certification *
70%	Reduction by 70% of packaging materials
ENVIRONMENTAL FRIENDLY	Environmental friendly production system
CO <sub>2</sub>	Reduced emission CO <sub>2</sub>

\* LEED (Leadership in Energy and Environmental Design) is an internationally recognized green building certification system. It is the International reference for design, building and management of environmental friendly, high-performance buildings.




## 2. Smart White reflectance concept

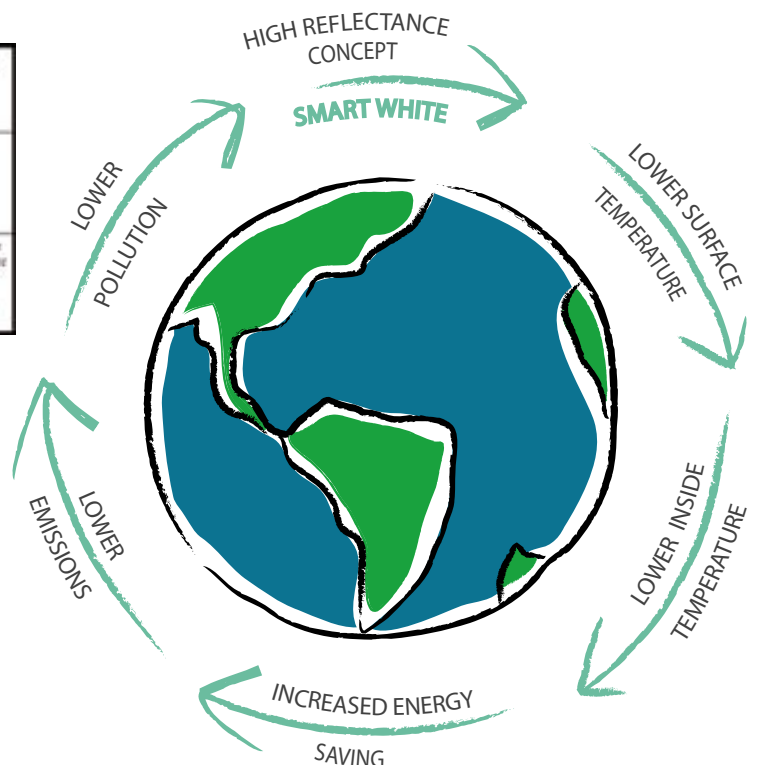
Mapeplan T **Smart White** is produced with a special white colour on the top surface which ensures an optimal solar reflectance. Mapeplan T **Smart White** reduces of over 50% the roof temperature, if compared to a dark / black roof. Mapeplan T **Smart White**, therefore, **reduces the internal temperature of the building** and keeps it constant.



## Responsability Mission

 <b>CRRG</b> COOL ROOF RATING COUNCIL		<b>Initial</b>	<b>Weathered</b>
	<b>Solar Reflectance</b>	<b>0.8</b>	<b>Pending</b>
	<b>Thermal Emittance</b>	<b>0.88</b>	<b>Pending</b>
	<b>Rated Product ID Number</b>	<b>0008</b>	
	<b>Licensed Seller ID Number</b>	<b>0616</b>	
	<b>Classification</b>		<b>Production Line</b>

Cool Roof Rating Council ratings are determined for a fixed set of conditions, and may not be appropriate for determining seasonal energy performance. The actual effect of solar reflectance and thermal emittance on building performance may vary.  
Manufacturer of product stipulates that these ratings were determined in accordance with the applicable Cool Roof Rating Council procedures.



### 3. Production Process



- Factory quality system certified according to ISO 9001/2000 standard
- **Multi-extrusion coating** production line of latest generation
- One passage production process, insertion of internal reinforcement without pre-lamination
- Environmental friendly feeding vacuum pipes system
- Constant digital control of the membrane's thickness
- Video electronic control of membrane's quality to both surfaces
- No stress membrane winding system
- Quality control tracking system
- Total quality concept: from formulation of raw materials until finished product





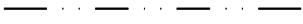

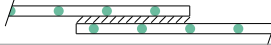
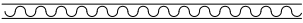
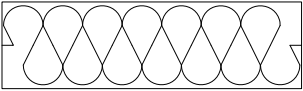
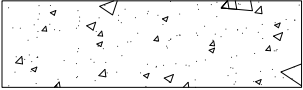


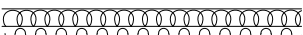
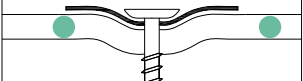
## 4. Roof application systems for TPO/FPO membranes

APPLICATION FIELDS	MECHANICAL FIXING SYSTEM	BALLASTED AND ROOF GARDEN SYSTEMS	ADHERED SYSTEM
<b>Mapeplan T M</b>	■		
<b>Mapeplan T Mf</b>	■		
<b>Mapeplan T B</b>		■	
<b>Mapeplan T Af</b>			■

Mapeplan T D unreinforced membrane for details and building particulars



## GRAPHIC LEGEND

Mapeplan T	
Mapeplan T Fleece backed	
Adhesive	
Vapour control layer	
Hot air welding	
Separation layer	
Insulation	
Concrete substrate	
Metal deck	
Ballast	
Drainage / protection layer	
Mechanical fixing	

## MECHANICALLY FIXED SYSTEMS

### *Mapeplan® T M*

Synthetic membrane in flexible polyolefin TPO/FPO with high-resistant polyester net reinforcement.

Mechanically fixed membrane system for exposed roof installations.

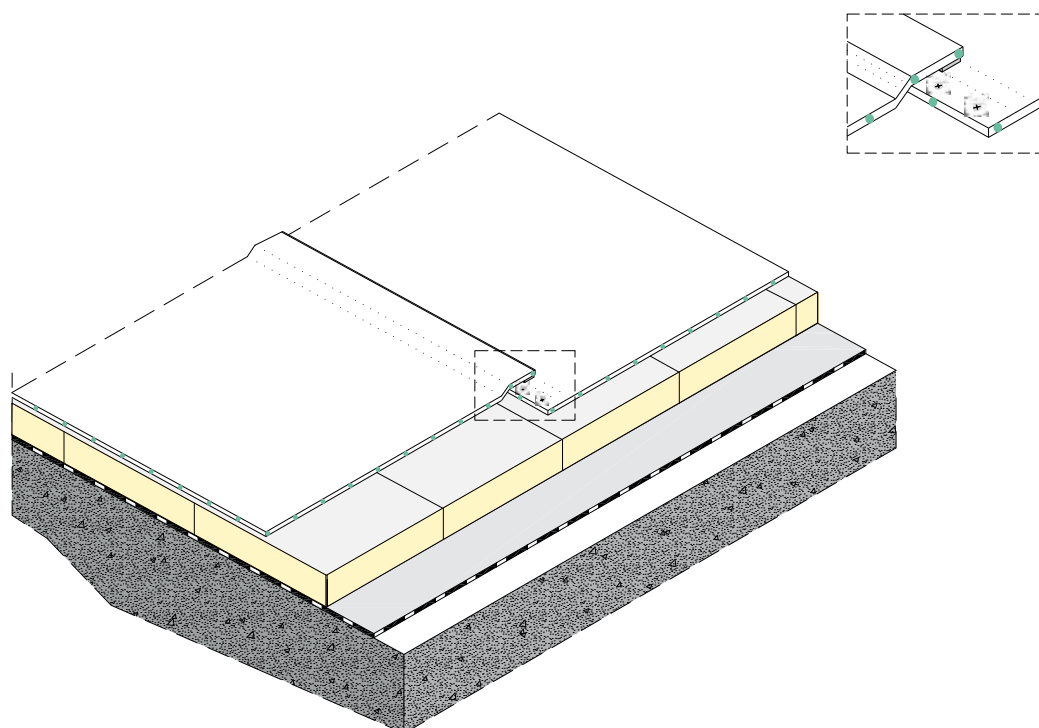
MAPEPLAN T M is produced in one multi-extrusion coating process, and insertion of internal reinforcement is without pre-lamination.

Standard colour of top layer is *Smart White*, the bottom layer is black.

Mapeplan T M is UV-resistant and may be exposed to all weather conditions.

	STANDARD THICKNESSES			
<b>Mapeplan T M</b>	<b>1,2 mm</b>	<b>1,5 mm</b>	<b>1,8 mm</b>	<b>2,0 mm</b>

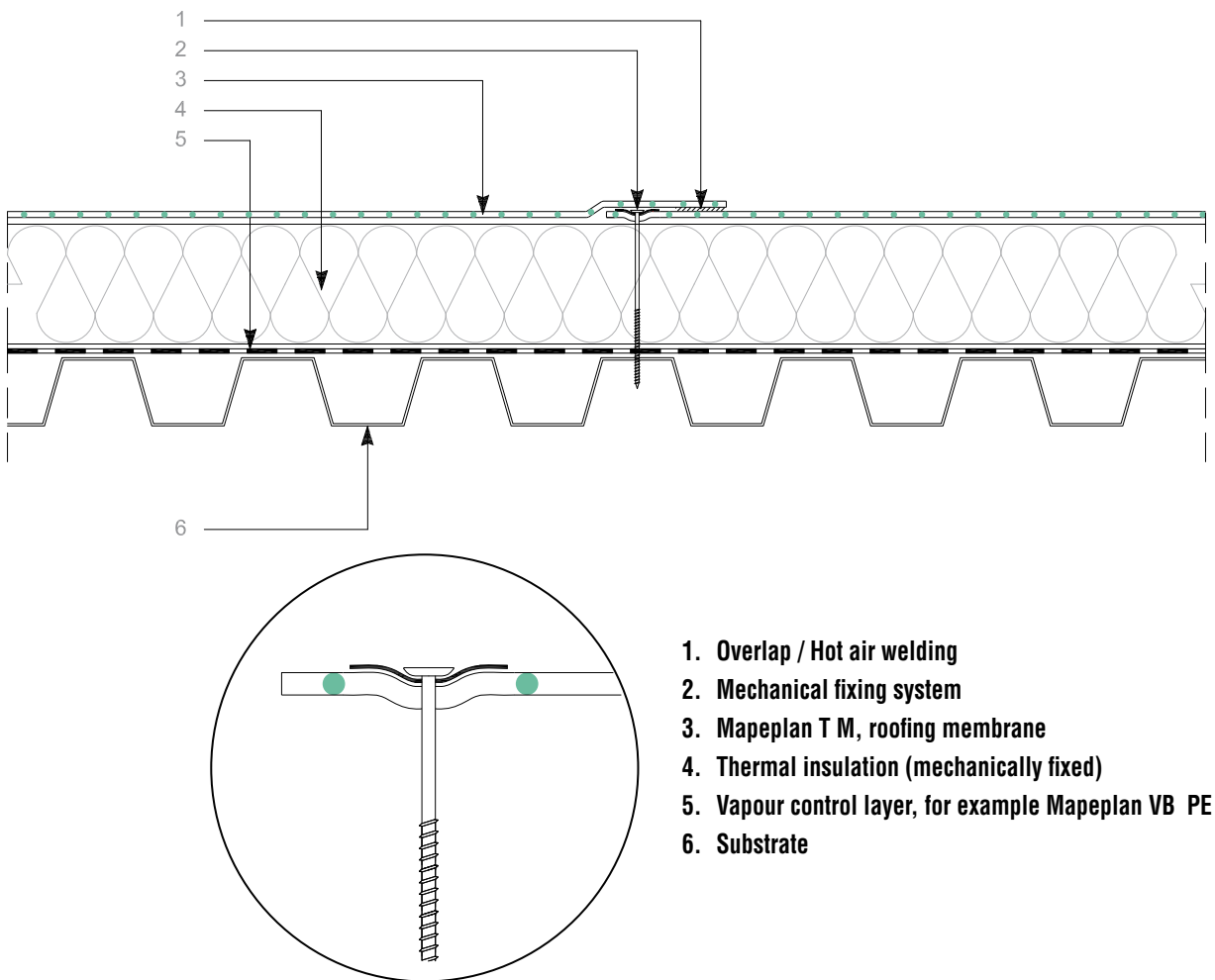
(other thicknesses are available on request)



Spot fixing system under overlaps: the membrane is fixed along the overlaps using screws and plate-fasteners, it is suitable for common structures (metal decks, concrete, wood, etc).

#### CHARACTERISTICS OF MAPEPLAN T M:

- High solar reflectance
- Environmental friendly
- Resistant to ageing processes
- Flexible at low temperatures
- Puncture resistant
- Hail resistant
- UV-resistant
- High workability and weldability
- Formulation without plasticizers
- Vapour permeable
- Dimensionally stable
- Excellent fire behaviour



## MECHANICALLY FIXED SYSTEMS

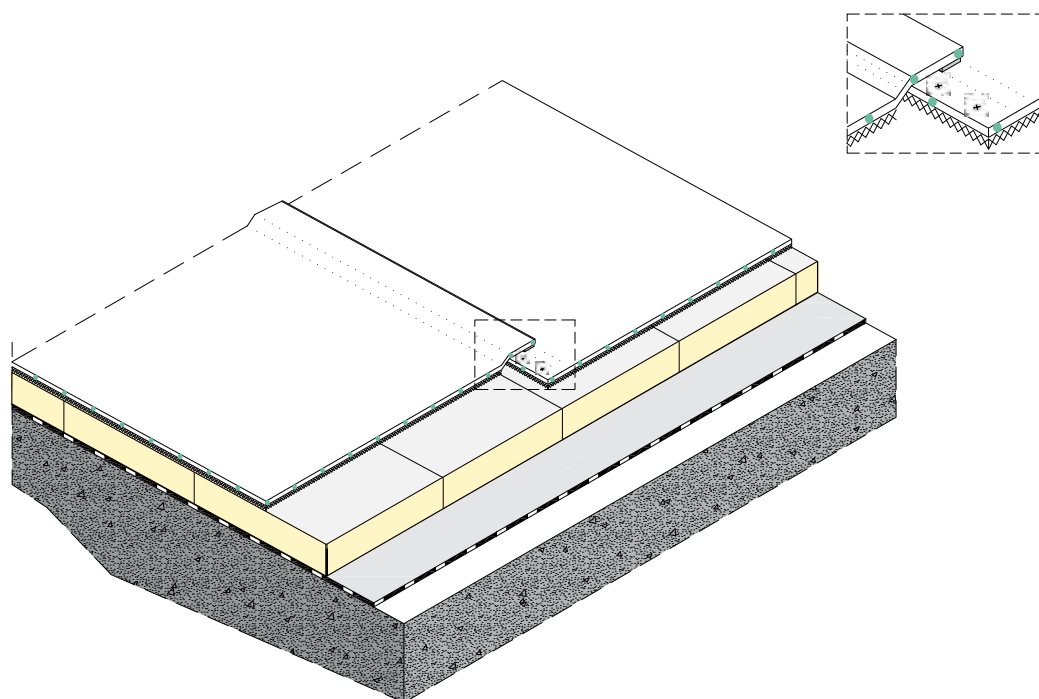
### *Mapeplan® T Mf*

Synthetic membrane in flexible polyolefin TPO/FPO with high-resistant polyester net reinforcement, fleece backed with 300gr/m<sup>2</sup> woven-non-woven polyester. Mechanically fixed membrane system for exposed roof installations. Suitable for installation on non compatible surfaces. MAPEPLAN T Mf is produced in one **multi-extrusion coating** process, and insertion of internal reinforcement is without pre-lamination. Standard colour of top layer is **Smart White**, the bottom layer is black.

Mapeplan T Mf is UV-resistant and may be exposed to all weather conditions.

	STANDARD THICKNESSES			
<b>Mapeplan T Mf</b>	<b>1,2 mm</b>	<b>1,5 mm</b>	<b>1,8 mm</b>	<b>2,0 mm</b>

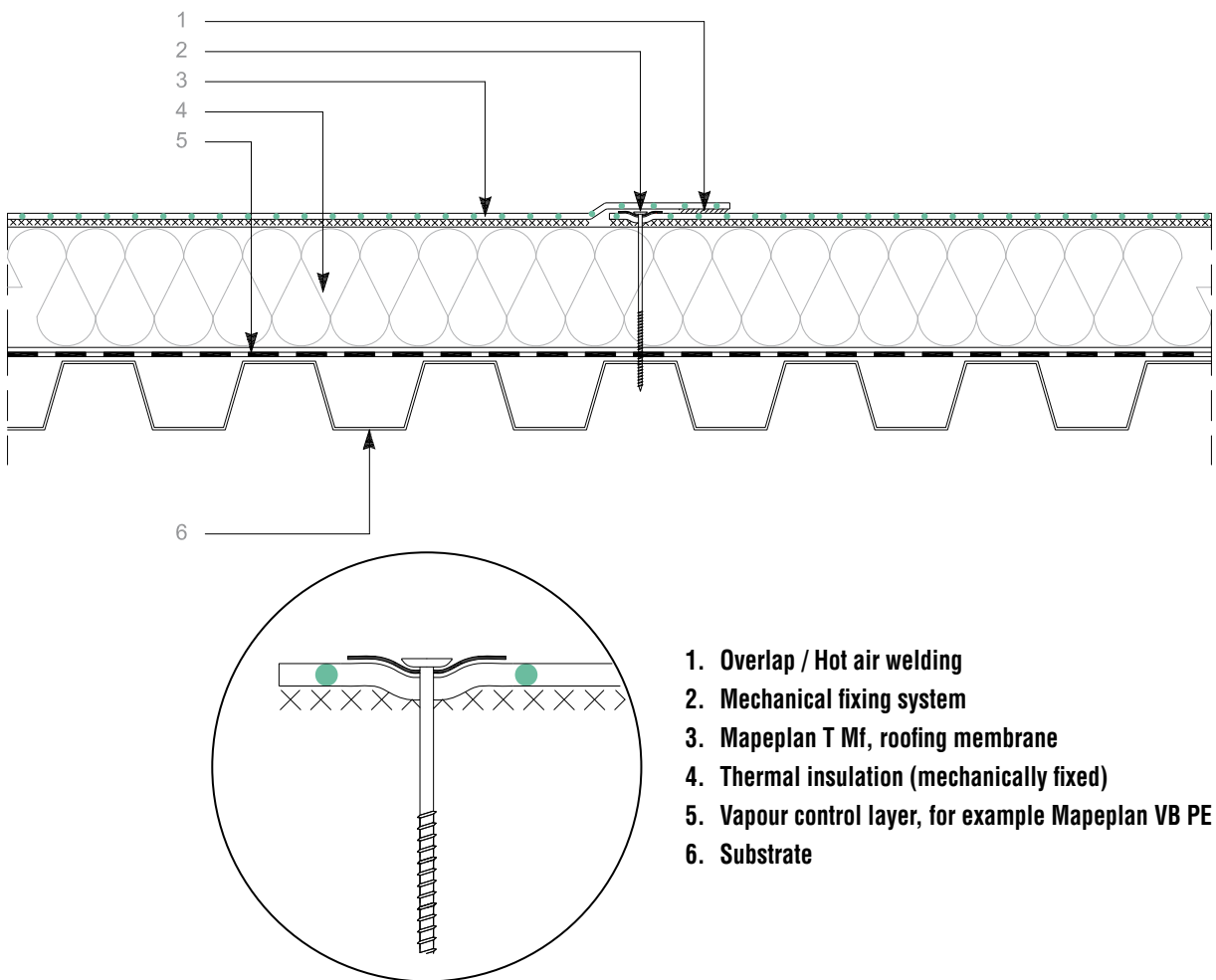
(other thicknesses are available on request)



Spot fixing system under overlaps: the membrane is fixed along the overlaps using screws and plate-fasteners, it is suitable for common structures (metal decks, concrete, wood, etc).

#### CHARACTERISTICS OF MAPEPLAN T Mf:

- High solar reflectance
- Environmental friendly
- Resistant to ageing processes
- Flexible at low temperatures
- Puncture resistant
- Hail resistant
- UV-resistant
- High workability and weldability
- Formulation without plasticizers
- Vapour permeable
- Dimensionally stable
- Excellent fire behaviour



## BALLASTED SYSTEMS

### *Mapeplan® T B*

Synthetic membrane in flexible polyolefin TPO/FPO with high dimensional stability glass mat reinforcement.

Suitable for ballasted and roof garden systems.

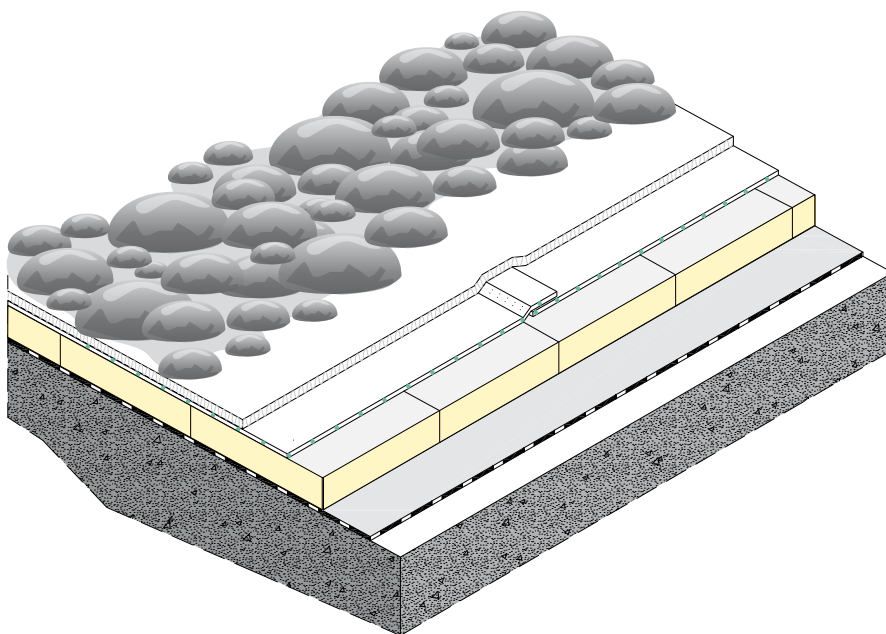
MAPEPLAN T B is produced in one **multi-extrusion coating** process, and insertion of internal reinforcement is without pre-lamination.

Standard colour of top layer is **Smart White**, the bottom layer is black.

Mapeplan T B is UV-resistant, resistant to microbiological attacks and is root-resistant.

	STANDARD THICKNESSES			
<b>Mapeplan T B</b>	<b>1,2 mm</b>	<b>1,5 mm</b>	<b>1,8 mm</b>	<b>2,0 mm</b>

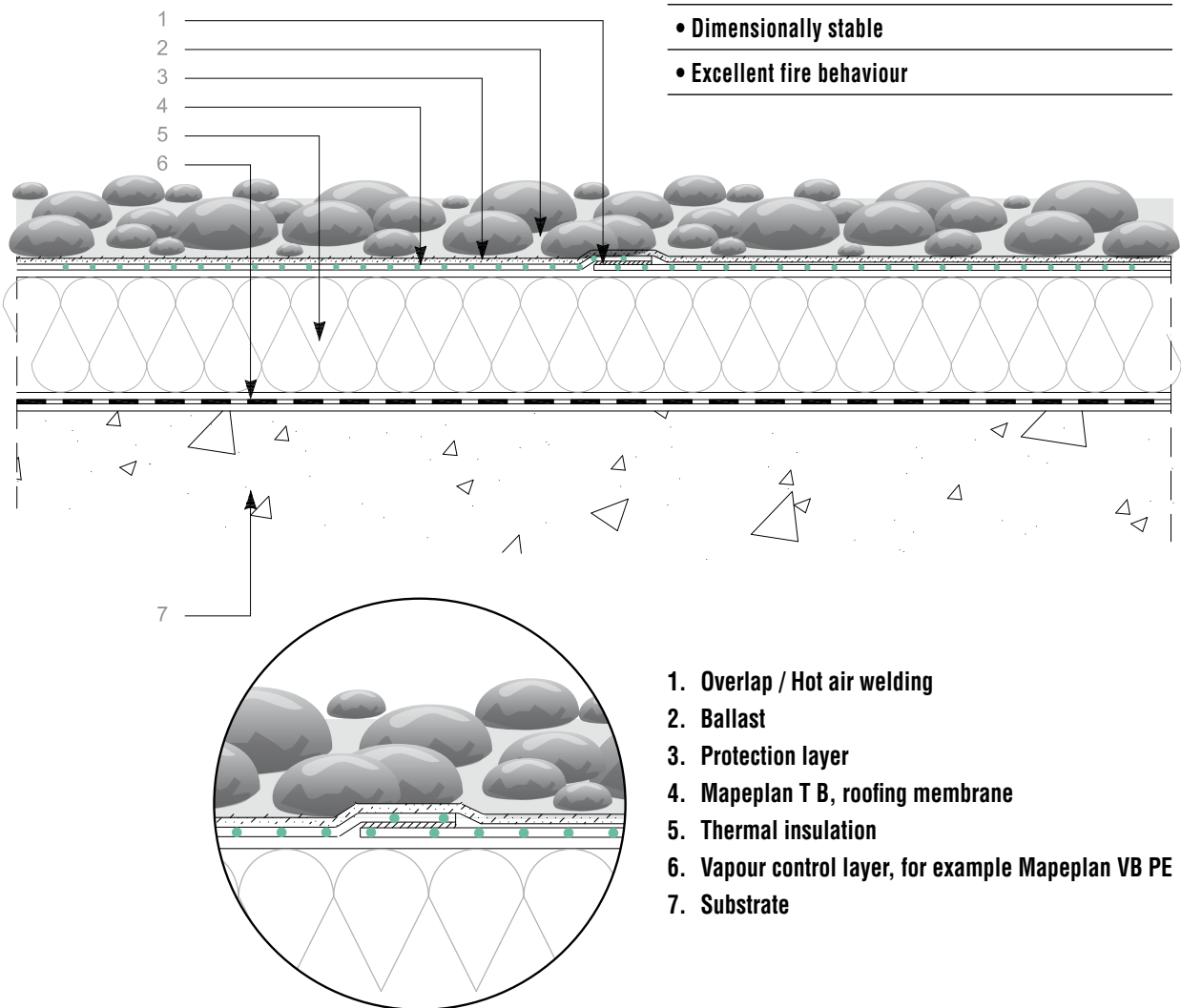
(other thicknesses are available on request)



Ballasted roof system: the membrane is ballasted with gravel, pavings, concrete slabs or roof garden.

#### CHARACTERISTICS OF MAPEPLAN T B:

- High solar reflectance
- Environmental friendly
- Resistant to ageing processes
- Root-resistant
- Resistant to microbiological attacks
- Flexible at low temperatures
- Puncture resistant
- UV-resistant
- High workability and weldability
- Vapour permeable
- Formulation without plasticizers
- Dimensionally stable
- Excellent fire behaviour



1. Overlap / Hot air welding
2. Ballast
3. Protection layer
4. Mapeplan T B, roofing membrane
5. Thermal insulation
6. Vapour control layer, for example Mapeplan VB PE
7. Substrate

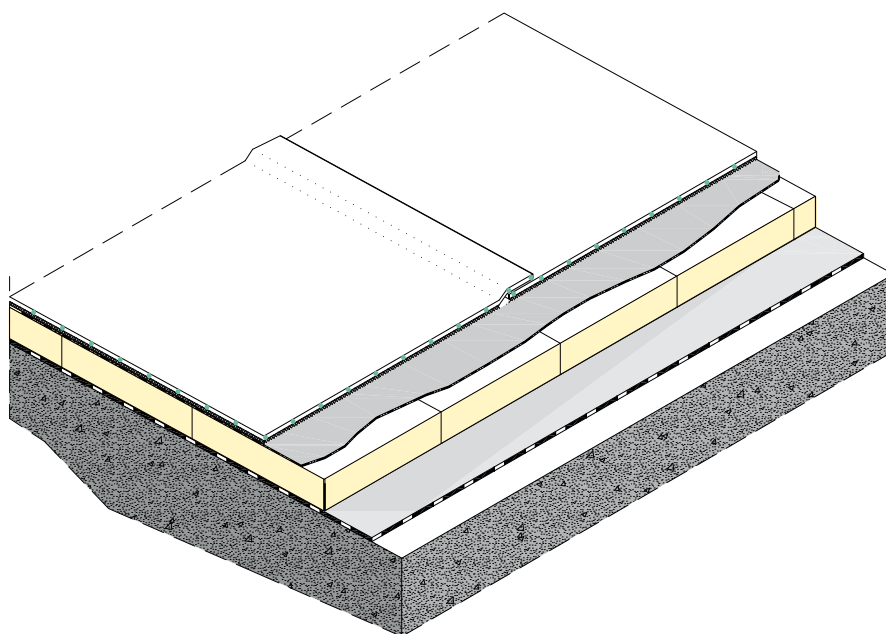
## ADHERED SYSTEMS

### *Mapeplan® T Af*

Synthetic membrane in flexible polyolefin TPO/FPO with high dimensional stability glass mat reinforcement, fleece backed with 300gr/m<sup>2</sup> woven-non-woven polyester. Adhered system for exposed roof installations with specific Mapei Mapeplan® ADS 100 adhesives. Suitable for installation on non compatible surfaces. MAPEPLAN T Af is produced in one **multi-extrusion coating** process, and insertion of internal reinforcement is without pre-lamination. Standard colour of top layer is **Smart White**, the bottom layer is black. Mapeplan T Af is UV-resistant and may be exposed to all weather conditions.

	STANDARD THICKNESSES			
<b>Mapeplan T Af</b>	<b>1,2 mm</b>	<b>1,5 mm</b>	<b>1,8 mm</b>	<b>2,0 mm</b>

(other thicknesses are available on request).

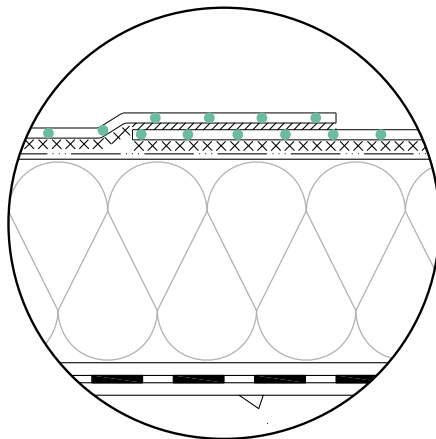
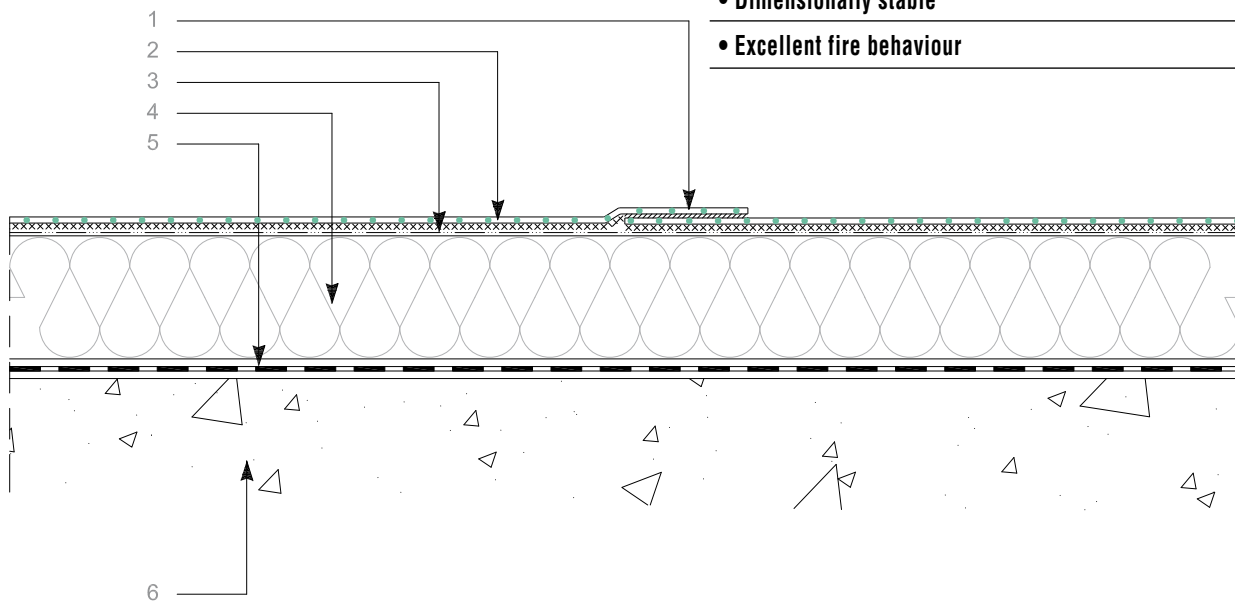


Bonded system: membrane is adhered with Mapeplan® ADS 100 adhesive.



#### CHARACTERISTICS OF MAPEPLAN T Af:

- High solar reflectance
- Environmental friendly
- Resistant to ageing processes
- Flexible at low temperatures
- Puncture resistant
- Hail resistant
- UV-resistant
- High workability and weldability
- Formulation without plasticizers
- Vapour permeable
- Dimensionally stable
- Excellent fire behaviour



1. Overlap / Hot air welding
2. Mapeplan T Af fleece backed roofing membrane
3. Mapeplan ADS 100 adhesive
4. Fully bonded thermal insulation
5. Fully bonded vapour control layer,  
for example Polyvap SA bi-adhesive
6. Substrate

## 5. Accessories



### **MAPEPLAN T WALKWAY**

Protection synthetic membrane in TPO/FPO with non-slip textured surface.

Mapeplan T WALKWAY is UV-resistant and may be exposed to all weather conditions.

Standard thickness: 1,8 mm.

Colour: grey.

### **MAPEPLAN T D**

Unreinforced synthetic membrane in TPO/FPO,

suitable for details and building particulars.

Mapeplan T D is UV-resistant and may be exposed to all weather conditions.

Standard thickness: 1,5 mm.

Colour: top layer **Smart White**, bottom layer black.

### **MAPEPLAN VB PE**

Polyethylene vapour control layer.

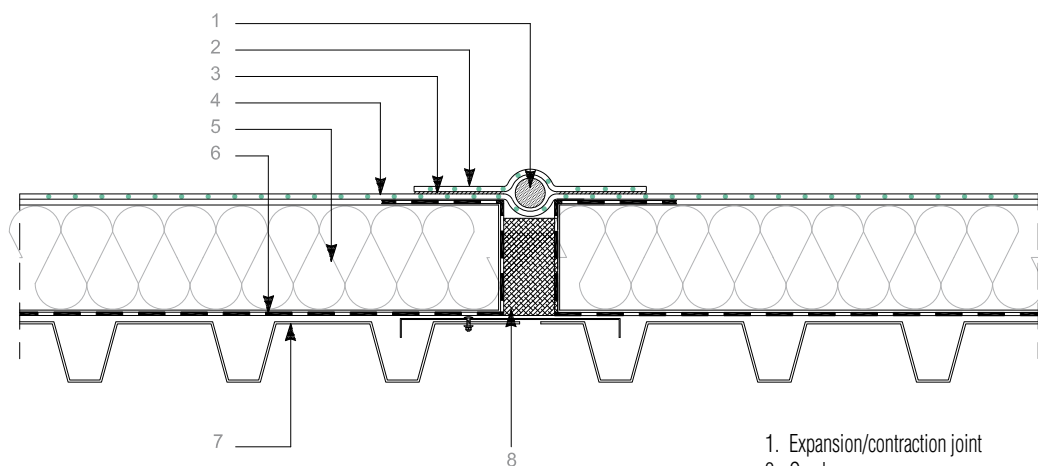
### **POLYDREN**

Separation and protection layers in woven-non-woven polyester or polypropylene.

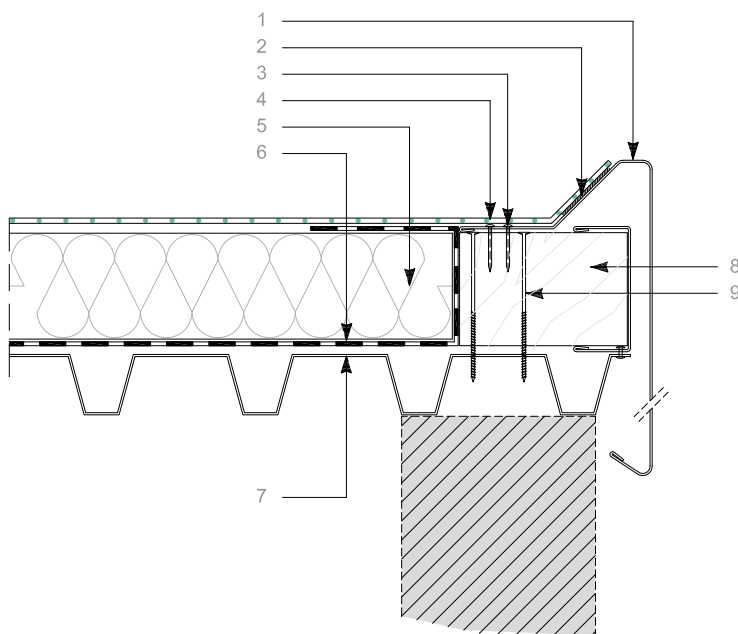
**The delivery program is complete with all accessories to perform the Mapeplan T roofing system.**



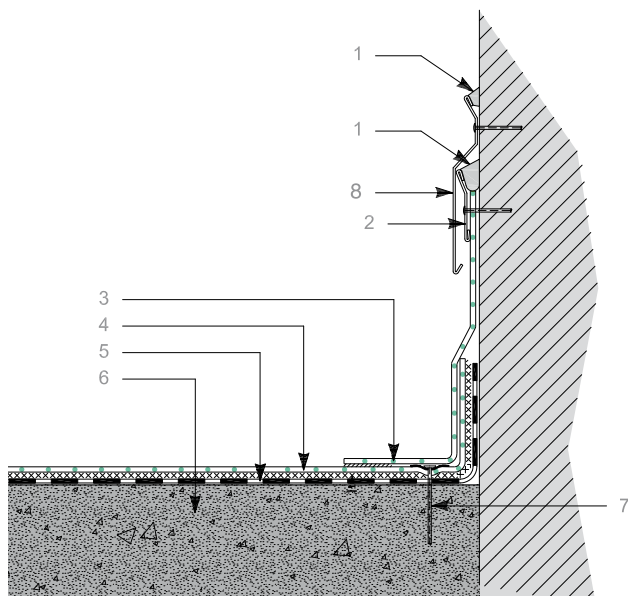
## 6. Technical drawings



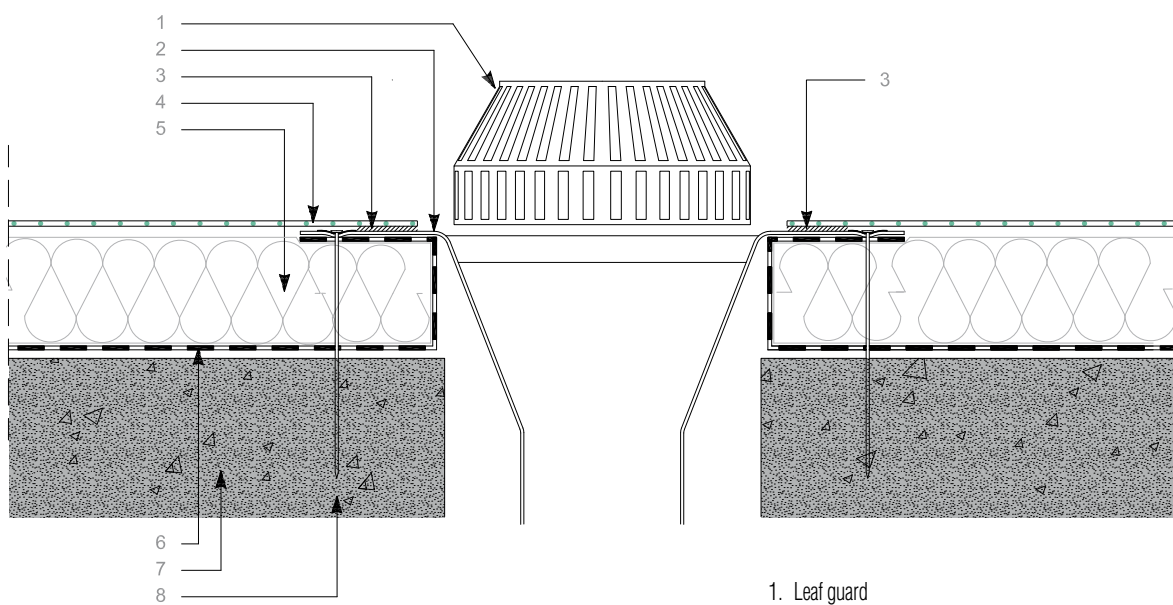
1. Expansion/contraction joint
2. Overlap
3. Hot air welding
4. Mapeplan T
5. Thermal insulation
6. Vapour control layer
7. Substrate
8. Compressible thermal insulation



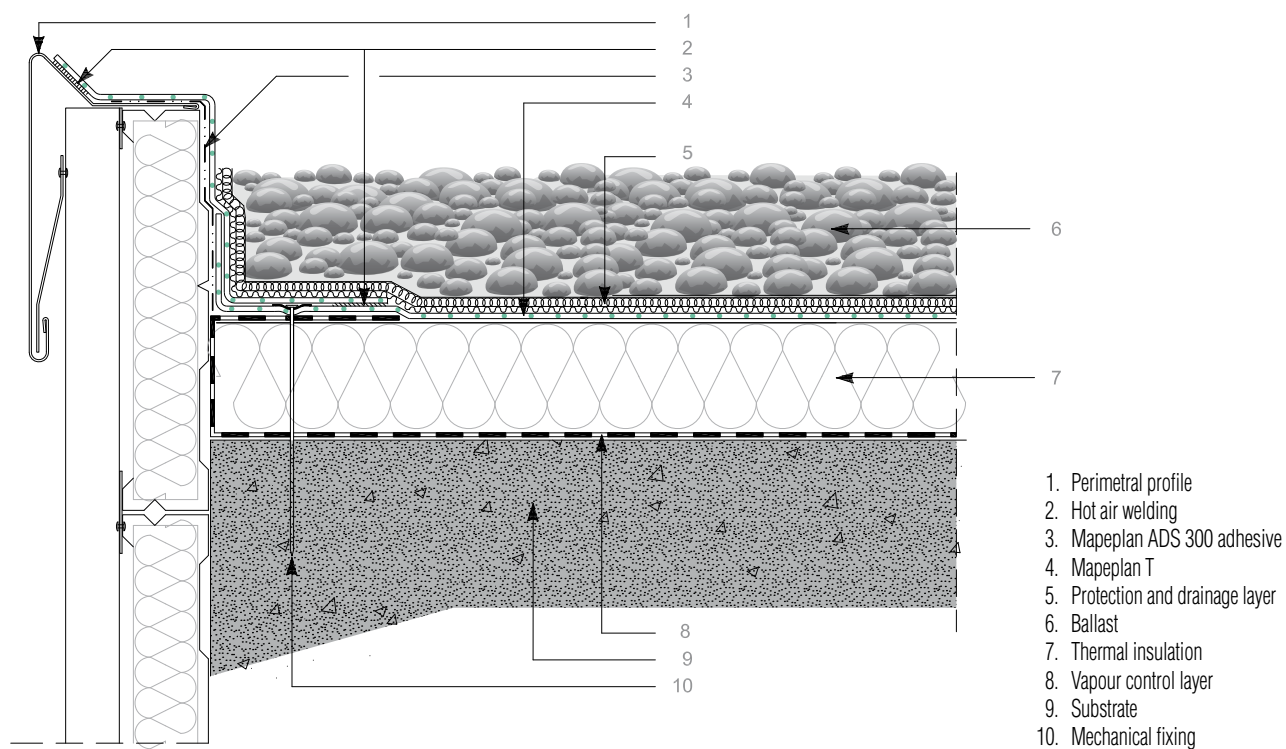
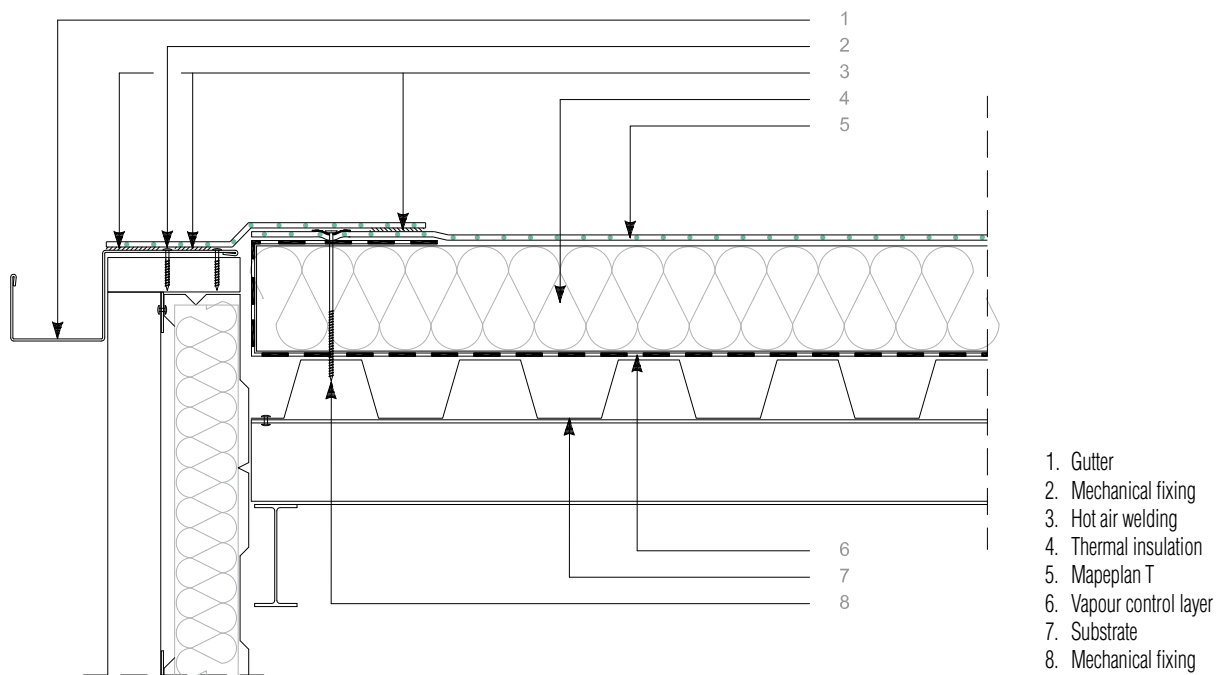
1. Perimetral profile
2. Hot air welding
3. Mechanical fixing
4. Mapeplan T
5. Thermal insulation
6. Vapour control layer
7. Substrate
8. Support
9. Mechanical fixing

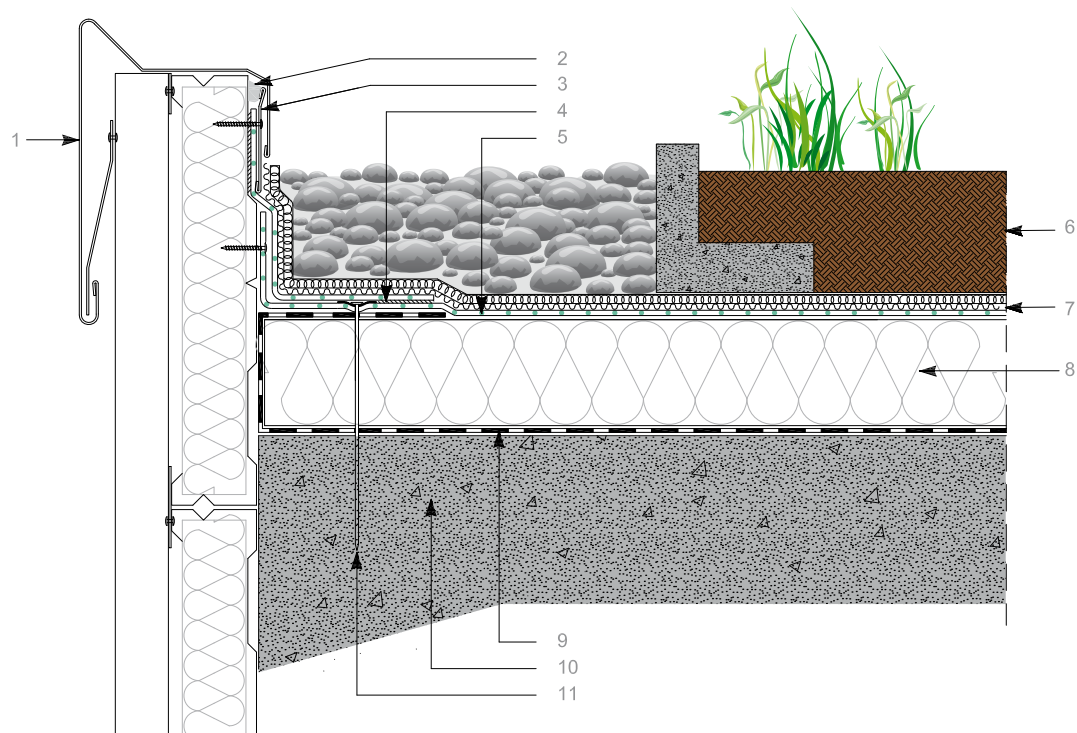


1. Sealing
2. Terminal profile
3. Overlap / hot air welding
4. Mapeplan T
5. Existing waterproofing job
6. Substrate
7. Mechanical fixing
8. Finishing profile

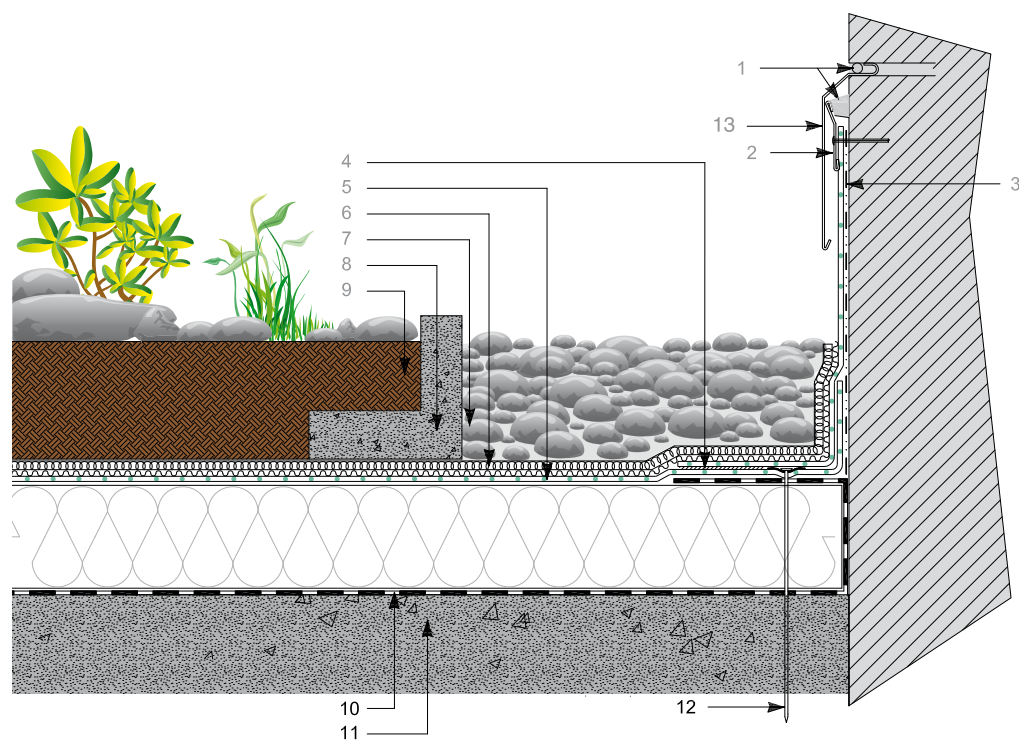


1. Leaf guard
2. Outlet
3. Hot air welding
4. Mapeplan T
5. Thermal insulation
6. Vapour control layer
7. Substrate
8. Mechanical fixing





1. Perimetral profile
2. Sealing
3. Terminal profile
4. Hot air welding
5. Mapeplan T
6. Roof garden soil
7. Protection and drainage layer
8. Thermal insulation
9. Vapour control layer
10. Substrate
11. Mechanical fixing



1. Sealing
2. Terminal profile
3. Mapeplan ADS 300 adhesive
4. Hot air welding
5. Mapeplan T
6. Protection and drainage layer
7. Gravel
8. Kerb
9. Roof garden soil
10. Vapour control layer
11. Substrate
12. Mechanical fixing
13. Finishing profile

# Technical Book

## ROOFING SYSTEMS

### MAPEPLAN T TPO/FPO

We reserve the right to change at any time, without prior notice, all items necessary to improve the products.



MAPEPLAN range is produced by:



Registered Office - Viale Jenner, 4 - 20159 MILANO

Head Office - Via dell'Artigianato, 34 - 31047 Ponte di Piave (TV) - Italy  
Tel. +39 04227547 - Fax +39 0422854118 - [www.polyglass.com](http://www.polyglass.com) - [info@polyglass.it](mailto:info@polyglass.it)

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