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# ROOFING IN TPO WITH ROOF GARDEN

**Cold roof: with sealing element placed on top of the supporting element without thermal insulation**

## TOTALLY INDEPENDENT SYSTEM
## REINFORCED CONCRETE SUBSTRATE

### ■ SUPPORTING ELEMENT or SUBSTRATE

The surface must:
1. Be smooth and free from debris and irregularities that may cause damage to the layers above
2. Be stable over time
3. Be chemically compatible with the roof system components
4. Have an adequate slope. A flat or sub-horizontal roof must have a slope ranging from 1.5 and 5 %.

Important Note: structural load capacity must be considered before choosing and specifying each particular system. The structure's ability to support the additional weight (dead and live load) of a roof garden system must first be evaluated and approved by a professional engineer charged to the client.

### ■ ADJUSTMENT LAYER-COMPENSATION

**FLAG geotextile PP, felt, non-woven, polypropylene** whose weight ranges from minimum 500 g/m² depending upon the condition of the support.

### ■ SEALING ELEMENT

**FLAGON EP/PV** synthetic liner manufactured in TPO/FPO modified polyolefin, dimensionally stabilised with a layer of glass fibre (50 g/m²), resistant to weathering, ultraviolet rays and to root growth.
It has a signal layer and it is hot air welded on the sheet overlaps.
The perimeter fixing at the base of the upstand must be performed with **Flag pre-drilled bar** in galvanised sheet iron.
Insert **Flag anti-puncturing joint** at the junction between two adjacent bars and hot-weld the tear prevention curb **FLAGOFIL TPO.**
**Anti-root membrane, FLL certified.**

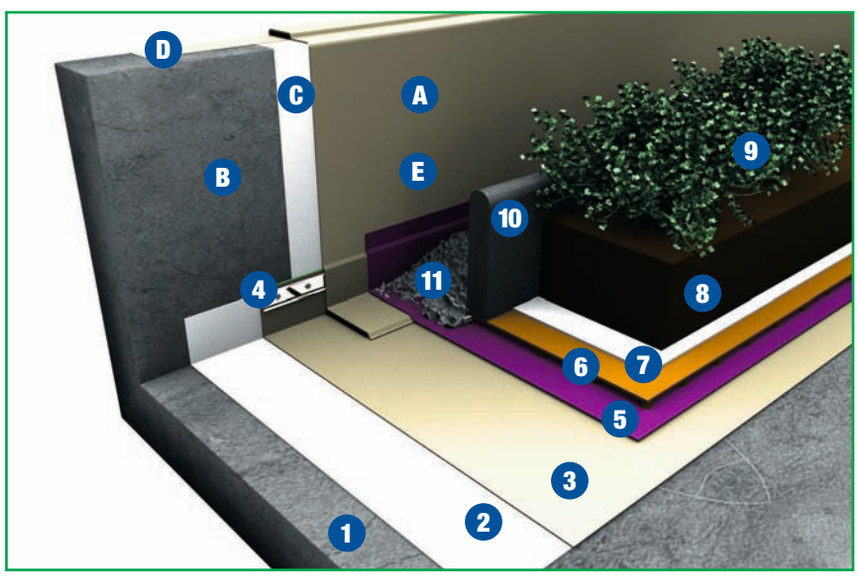
### ■ PROTECTION LAYER

**FLAGON TS** anti-puncturing liner made of a coated PVC film, 0.40 mm thick coupled to 120 g/m² non-woven felt in polyethelene. The unrolled sheets must be welded on the outside edges to provide a complete homogeneous coating.

### ■ SOPRANATURE SYSTEM

Installation of roof garden system by means of SOPRANATURE package as described below.

| | FLAGON EP/PV | | |
|---|---|---|---|
| | **STANDARD SYSTEM** | **OPTIMUM SYSTEM** | **REINFORCED SYSTEM** |
| Finishing | SOPRANATURE | SOPRANATURE | SOPRANATURE |
| Protection layer | FLAGON TS | FLAGON TS | FLAGON TS |
| Sealing element | **EP/PV - 1.8 mm** | **EP/PV - 2.0 mm** | **EP/PV - 2.4 mm** |
| Adjustement layer | Non-woven felt PP ≥ 500 g/m² | Non-woven felt PP ≥ 500 g/m² | Non-woven felt PP ≥ 500 g/m² |
| Slopes | 1.5 % ≤ P ≤ 5 % | 1.5 % ≤ P ≤ 5 % | 1.5 % ≤ P ≤ 5 % |




### Horizontal surface

1. Supporting element
2. Adjustment layer
3. **FLAGON EP/PV**
4. Perimeter fixing by pre-drilled bar
5. Protection layer
6. SOPRADRAIN
7. SOPRAFILTRE
8. Garden soil
9. Shrubs (intensive sytem)
10. Vertical separating element
11. Perimeter in gravel

### Vertical surface

A. Vertical upstands with **FLAGON EP/PV**
B. h<50 cm FLEXOCOL TPO vertical gluing layer
h>50 cm mechanical fixing
C. Separating layer in non-woven felt (non-adhered roof system)
D. Possible finishing elements:
- Flagmetal termination strip and flashing
- Flagmetal strip under cap
- Flagmetal perimeter profile

E. Provide adequate anchoring on the vertical upstands (galvanised sheet iron or equivalent)

### SOPRANATURE SYSTEM

It must be in accordance with all the technical specifications applicable to SOPRANATURE green roofing systems.
The green roofing system includes 4 components:
1. Drainage panel (**SOPRADRAIN**); 2. Filter (**SOPRAFILTRE**);
3. Growing medium; 4. Vegetation layer: semi-intensive or intensive systems.

- *It is recommended that a Soprema representative be consulted to find the right technical and financial solutions to suit the particularities of any individual project (in accordance with the selected roof system and the geographical weather conditions).*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