

# ROOFING IN TPO BALLASTED BY GRAVEL

Warm roof: with sealing element placed on top of the insulation element

**TOTALLY INDEPENDENT SYSTEM  
REINFORCED CONCRETE SUBSTRATE**

2a2



## ■ 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 roofing system components
4. Have an adequate slope. A flat or sub-horizontal roof must have a slope ranging from 1.5 and 5%.

## ■ VAPOUR BARRIER

It depends upon the hygrometry of the underlying structures. For further details please refer to the booklet "Vapour Barrier".

A vapour retarder may consist of:

- PE: **VAPOR FLAG**
- Bitumen: **ELASTOVAP**
- Bituminous polymer membrane: **SOPRAVAP 3 in 1**

## ■ INSULATION ELEMENT

- It must have an adequate compressive resistance (UNI EN 826).
- The insulation boards should be fully bonded in order to avoid unabsorbed water and allow the overlaps to be adequately hot air welded.
- Compatible with the warm roofing system.
- Laying:
  - dry laid on **VAPOR FLAG**
  - dry laid on **ELASTOVAP**
  - totally adherent by **SOPRAVAP 3 in 1**.

## ■ SEALING ELEMENT

**FLAGON EP/PV** synthetic membrane manufactured in TPO modified polyolefin, dimensionally stabilised by a glass fibre (50g/m<sup>2</sup>), 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.**

## ■ FILTRATION LAYER

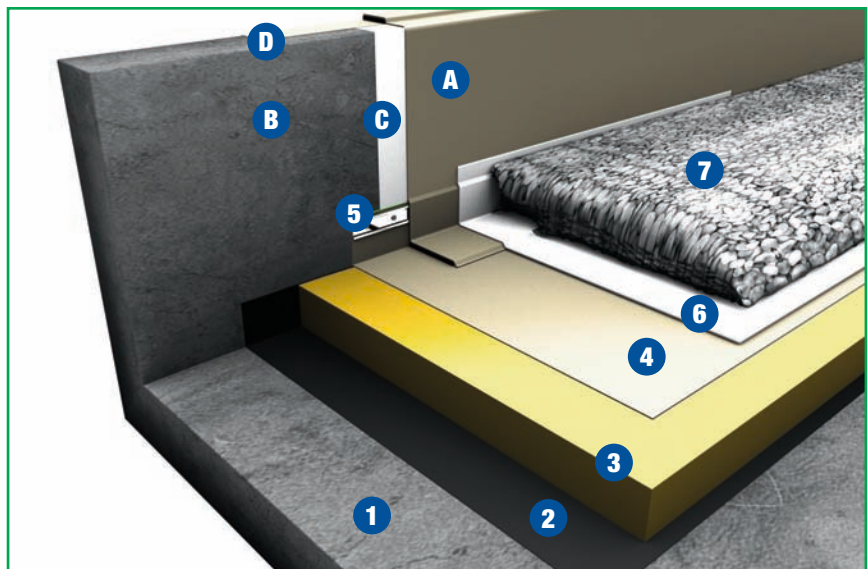
**FLAG geotextile PET**, felt, non-woven, polyester whose weight ranges from minimum 400 g/m<sup>2</sup> depending upon the condition of the support.

## ■ BALLASTING AND PROTECTION LAYER (GRAVEL)

River-washed, round gravel 12/35 mm, loose-laid to a minimum depth > 5 cm in order to prevent wind from lifting or moving the dry-laid stratification package.

## FLAGON EP/PV

	STANDARD SYSTEM	OPTIMUM SYSTEM	REINFORCED SYSTEM
Finishing	GRAVEL	GRAVEL	GRAVEL
Filtration layer	Non-woven felt PET ≥ 400 g/m <sup>2</sup>	Non-woven felt PET ≥ 400 g/m <sup>2</sup>	Non-woven felt PET ≥ 400 g/m <sup>2</sup>
Sealing element	<b>EP/PV - 1.5 mm</b>	<b>EP/PV - 2.0 mm</b>	<b>EP/PV - 2.4 mm</b>
Insulation element	YES	YES	YES
Vapour Barrier	YES	YES	YES
Slopes	1.5 % ≤ P ≤ 5 %	1.5 % ≤ P ≤ 5 %	1.5 % ≤ P ≤ 5 %



### Horizontal surface

1. Supporting element
2. Vapour Barrier
3. Insulation element
4. **FLAGON EP/PV**
5. Perimeter pre-drilled bar
6. Filtration layer
7. Ballasting layer (Gravel)

### Vertical surface

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

Flag S.p.A. - SOPREMA GROUP

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