

ROOFING IN TPO BALLASTED BY GRAVEL

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

TOTALLY INDEPENDENT SYSTEM REINFORCED CONCRETE SUBSTRATE



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■ 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%.

■ 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 membrane manufactured in TPO modified polyolefin, dimensionally stabilised by a 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.

■ INSULATION ELEMENT

- Made from panel industrial XPS (or equivalent) suitable for inverted roof.
- Dry-laid on the separating layer.
- It must have an adequate compressive resistance (UNI EN 826).
- The insulation boards should be fully bonded in order to avoid unabsorbed water.

■ FILTRATION LAYER

FLAG geotextile PET, felt, non-woven, polyester whose weight ranges from minimum 300 g/m² 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 and to avoid the floating of the insulation board.

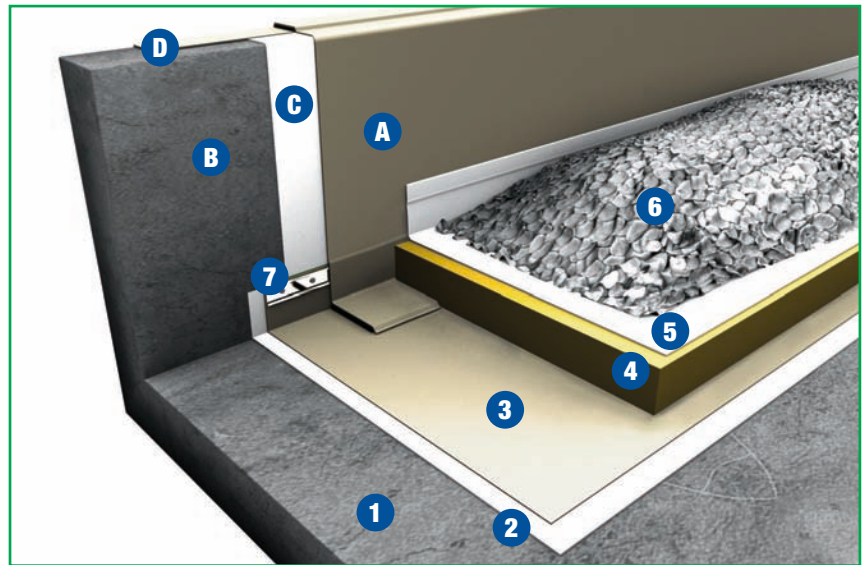
Ballast minimum values

Insulation layer thickness	Filtration layer thickness
50 mm	50 mm
from 60 to 70 mm	60 mm
80 mm	70 mm
90 mm	80 mm
100 mm	85 mm

NOTE: these values must be gauged by the engineer according to the building conditions

FLAGON EP/PV

	STANDARD SYSTEM	OPTIMUM SYSTEM	REINFORCED SYSTEM
Finishing	GRAVEL	GRAVEL	GRAVEL
Filtration layer	Non-woven felt PET ≥ 300 g/m ²	Non-woven felt PET ≥ 300 g/m ²	Non-woven felt PET ≥ 300 g/m ²
Insulation element	XPS	XPS	XPS
Sealing element	EP/PV - 1.5 mm	EP/PV - 2.0 mm	EP/PV - 2.4 mm
Adjustment layer	Non-woven felt PP ≥ 500 g/m ²	Non-woven felt PP ≥ 500 g/m ²	Non-woven felt PP ≥ 500 g/m ²
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. Insulation element
5. Filtration layer
6. Ballasting layer (Gravel)
7. Perimeter pre-drilled bar

Vertical surface

- A. **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

Flag S.p.A. - SOPREMA GROUP

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