

# GREEN ROOFS ON INVERTED ROOF ASSEMBLIES

## INFORMATION SHEET

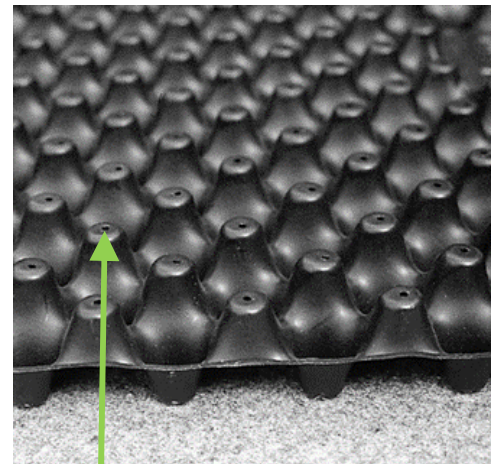


With inverted green roof assemblies the insulation is positioned on top of the waterproofing. Because the insulation is exposed to moisture, only extruded polystyrene (XPS) is approved for this type of assembly. XPS ridged foam is a closed cell product that does not absorb water in liquid form. Condensation, however, can build up in the insulation boards due to water vapour diffusion. It is therefore important to allow for air movement so the insulation layer can dry out. For this reason only diffusion permeable layers may be installed on top of the XPS boards.

Traditionally inverted roofs have been covered with gravel or paver ballast. The green roof assembly can be used as ballast to replace the gravel layer.

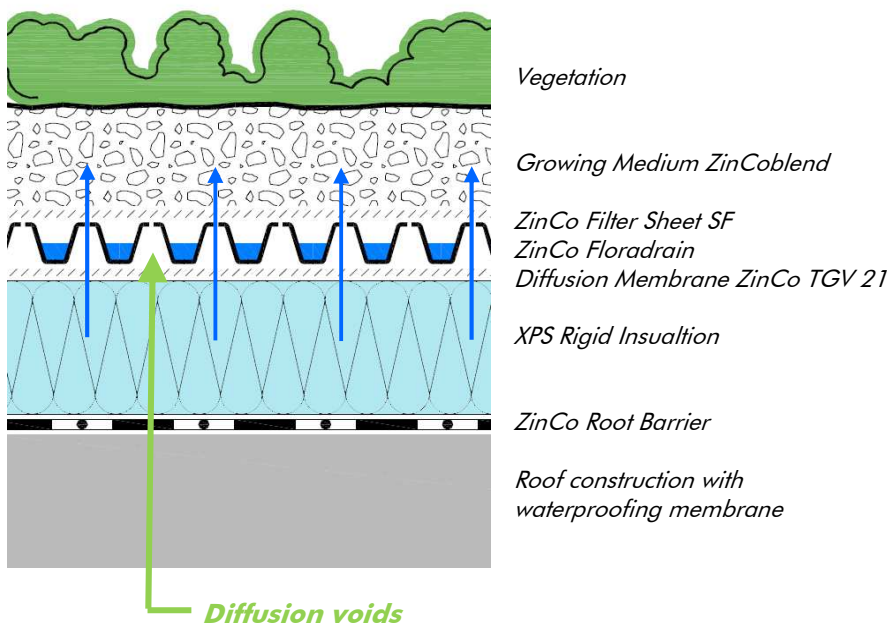
### Implications for the green roof assembly:

It is important that there is no water ponding directly on top of the thermal insulation. For that reason water-retaining mats cannot be used. Also products that act as vapour barriers need to be avoided as moisture will be trapped underneath leaving the insulation sitting in wet conditions. The ZinCo root barriers for example should be installed directly onto the waterproofing membrane underneath the thermal insulation. The XPS boards then assume the mechanical protection. We recommend using a minimum of 2% slope in the roof in combination with a drainage system above the insulation. With the ZinCo drainage elements (e.g. Floradrain, Floraset,...), the underlying voids and the openings in the drainage elements (see picture) ensure a balanced vapour pressure. At the same time, water can be retained in the troughs of the drainage layer – without affecting the diffusion permeability of the insulation. A diffusion permeable scrim sheet is installed under the drainage board to separate the insulation from the green roof assembly.



Opening for diffusion in Floradrain element

### ZinCo Inverted Green Roof Assembly



(ZinCo Diffusion Membrane TGV 21)

Subject to technical alterations and printing errors • First edition 01/2001, Revised 01/2012