



## ZinCo Press Release

Solutions for railings, fall protection systems  
and solar energy systems on a roof.

### No roof penetration is top priority

Sustainability is a real buzzword in the construction sector but things are only truly sustainable if they work properly in the long term and this often depends on structural details. For example, if a fall protection system required by law is planned for a flat roof or a solar energy system or if railings have to be fitted around the sparkling new roof garden, unfortunately, the roof is often penetrated in order to secure these elements. However, in certain circumstances this can create cold or thermal bridges and weak points in the roof waterproof membrane. This is now no longer necessary as ZinCo provides tried and tested solutions that do not require the roof membrane to be penetrated, thereby extending the life of the roof considerably. These solutions all work on the ballast principle.

#### Anchor device for fall protection system

In practice, anchor devices are frequently planned for fall protection systems near the edge of the roof. This allows a single person to attach him/herself to it using personal protection equipment. Whether it is a fixed device or one that moves horizontally along a track, all ZinCo Fallnet® solutions have the anchor point integrated into a special rigid base (2.67 m x 2.00 m) made of plastic grid elements and held in place by the overlying ballast consisting of green roof substrate or a layer of gravel.



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Even 9 cm of green roof substrate or 6 cm of gravel will provide the 110 kg/m<sup>2</sup> of dry weight required (for roofs with a pitch of up to 2°). The system is easily adapted to suit the geometry of the roof (skylight domes, drains etc.) thanks to the individual grid elements.

Given its compact size, Fallnet® is also suitable for retro-fitting on an existing roof because comparatively little gravel or substrate has to be cleared away. All Fallnet® systems are type approved and comply with DIN EN 795, Type E.

### Railing solutions

The Guard Railing Base (GB) is used for securing all types of railing. This 1 m × 2 m specially designed ABS plastic base with underlying reinforcement profile, has a screw connection for holding the upright, allowing the railing to be installed with a mating flange. The Guard Railing Base is either integrated into the green roof build-up or is held in place beneath the terrace covering or the layer of gravel by the ballast. This allows for the extensive distribution of the ballast which also has a positive impact structurally. The versatile base can be used for all possible combinations, for example, for railings and the above-mentioned Fallnet® fall protection system or for any other supports such as for wind turbines or for anchoring a solar energy system, as described in the section below. And, the base plate continues to fulfil its basic stormwater storage and drainage functions within the green roof build-up. The Guard Railing Base is tested to DIN 1055, Part 3 standard for horizontal forces up to 1 kN/m.



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### Securing solar energy systems

The Solar Base SB which is suitable for use on a green roof is one such 1 m x 2 m rigid plastic base with underlying counter and reinforcement profiles made of aluminium and is used for the installation of the Solar Base Frames SGR. Combining solar energy systems with a green roof helps to achieve substantial synergy effects as early as the installation phase as the green roof build-up acts as the ballast that is required as a safeguard against wind suction with the solar energy devices. The required ballast should be determined for each individual roof as part of a building-specific wind suction calculation based on wind zone, building height, module height, proximity to roof edge etc. The fact that the Solar Base plate allows for an extensive ballast distribution, therefore avoiding high point loads, as would be the case if heavy concrete blocks were used for anchoring, is ideal from an engineering point of view. The Solar Base can of course be retro-fitted in existing green roofs.

The combination of solar and green will result in an increase in yield of about 4 %, as has been proven by ZinCo in research carried out over a number of years. Compared with a bare roof or one covered with gravel, a green roof provides for a lower ambient temperature and therefore improves the efficiency of the solar energy system, as it is dependent on the operating temperature of the solar modules.



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In line with the top priority of "no roof penetration", planners will find at ZinCo the widest variety of solutions for fall protection, railings and solar energy systems. Suitable for new and renovated buildings and for retrofitting – the intelligent engineering solutions from ZinCo ensure permanent reliability and consequently true sustainability.

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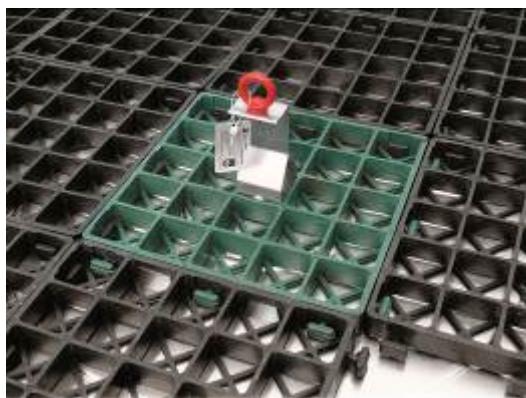
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### Photos

Please quote the relevant source when publishing.



File name: Fallnet\_SK\_2016.jpg

Caption:

There is no need for roof penetration with the Fallnet® SR system with a fixed single anchor point.



File name: DSC\_5071.jpg

Caption:

ZinCo solutions for securing railings also work on the ballast principle.



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File name: Solarbasis.jpg

Caption:

Extensive ballast distribution achieved with the ZinCo Solar Base SB with Solar Base Frame for installing the solar modules.



File name: DSC\_4981\_A.jpg

Caption:

The combination of solar energy system and green roof achieves clear synergy effects.



File name: 30072012\_Neubau(3).jpg

Caption:

Thanks to the Guard Railing Base GB, the railing can be integrated into the green roof build-up without penetrating the roof membrane.