



Penetration-free  
system

# SKYGARD RAILING SYSTEM

Living on the roof. Naturally. Safely.

OPTIGRÜN<sup>®</sup>  
ROOF GREENING

## Advantages at a glance

- Weighted down, without piercing the waterproofing membrane. The weight of the green-roof or terrace structure fixes the SkyGard Railing System into place
- No intrusions into the structure; no thermal bridging
- Suitable for new buildings and renovations
- Certified system, pursuant to the ETB-guideline E.1, designed and calculated for each project to ensure stability. Please make sure you comply with national norms and guidelines.
- Many design possibilities for the railing infills (size, colour, type)
- Comprehensive system with a wide range of standard railings and feet that can be tailored to your project
- Flexible positioning provides adaptability to irregular surfaces
- Advantages over other systems: delivered to fit perfectly according to our layout plan, adaptable to roof-pitches and surface irregularities, flexible positioning.
- Complete and economical solutions: Railings, terrace and green roof from a single supplier.

## Range of applications

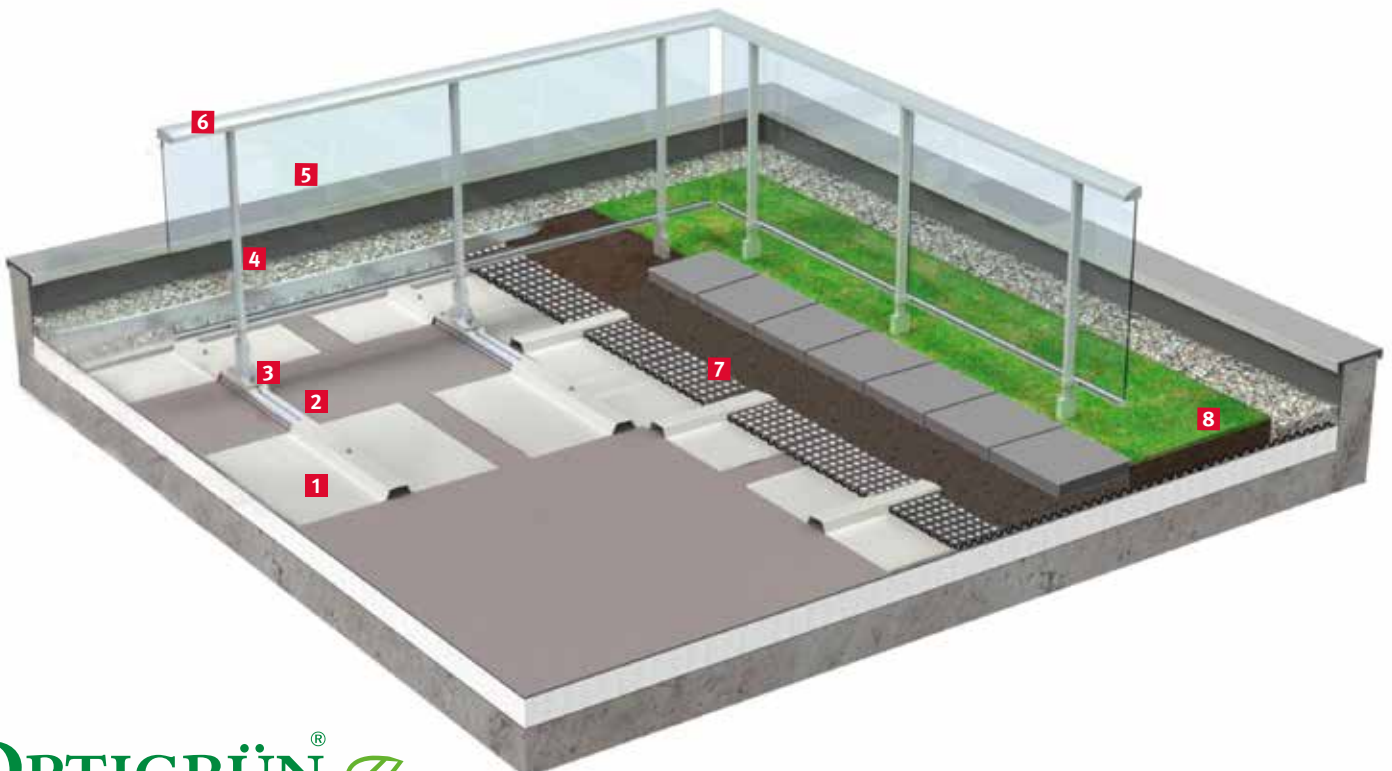
- Railing system (fall-protection) for used or unused roofs
- Security railings for maintenance and limited access roofs
- Flat roofs with a pitch between 0 – 3°
- Extensive and intensive roof-greening, terraces and gravel roofs
- Suitable for new buildings and renovations

## How it works

The Optigrün SkyGard Railing System derives its proven stability from the weight of the terrace or green roof structure. There is no need to pierce the roof membrane or insulation. The stability is calculated and a layout plan is drawn up for every project, according to the intended use and type of railing.

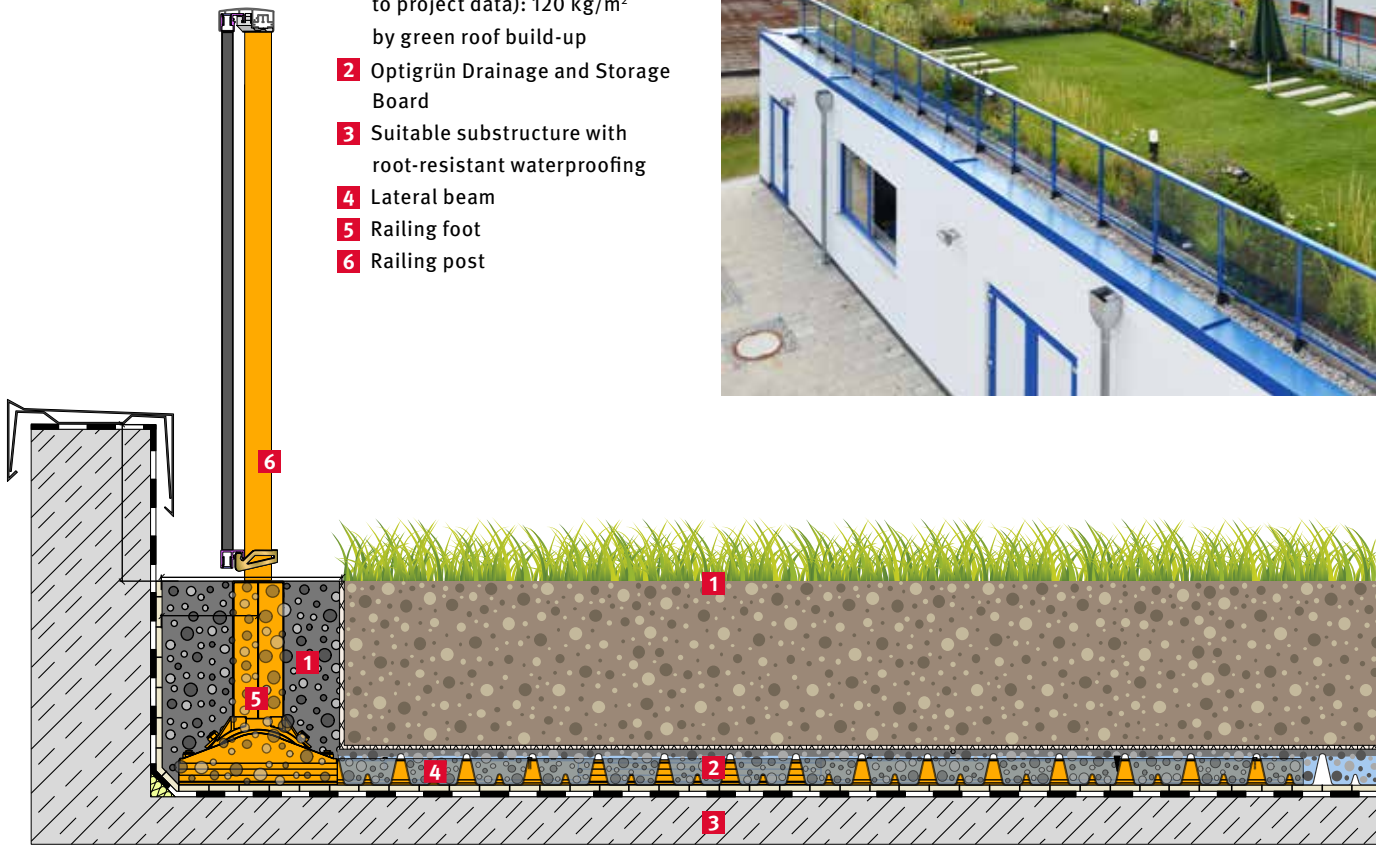
Components of the system are made to measure, so that on-site cutting and sawing is no longer required. SkyGard is installed in a few steps, according to the layout plan and mounting instructions. The area around the foot is weighted down by the terrace surface or the green roof, with a lateral beam and load-bearing plate.

- 1 Load-bearing plate
- 2 Lateral beam
- 3 Railing foot
- 4 Railing post
- 5 Infill
- 6 Handrail
- 7 Optigrün Drainage and Storage Board FKD
- 8 Optigrün System Solution (e.g. Nature Roof, Public Roof)



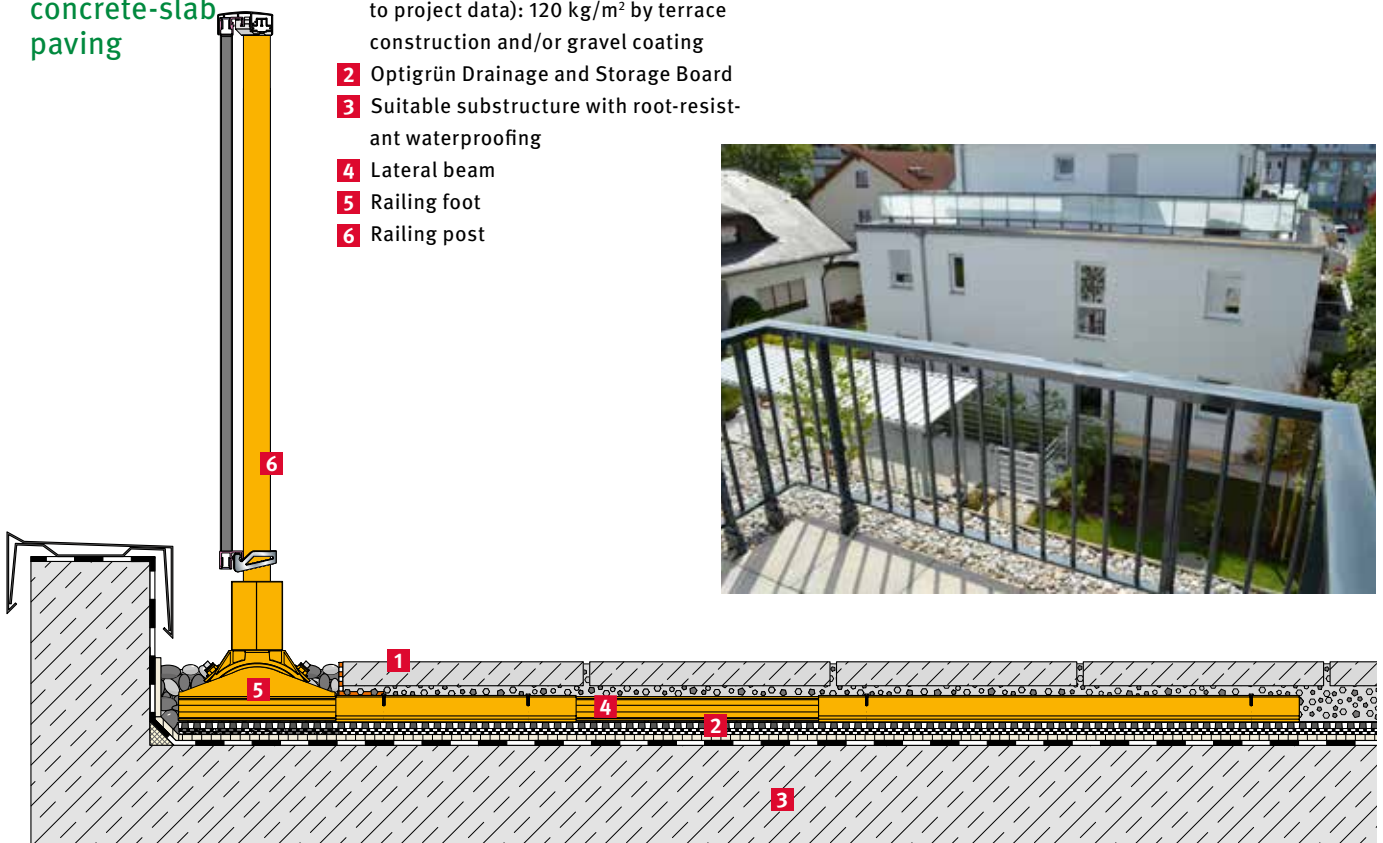
## Greened Terrace

- 1** Minimum greening load (subject to project data): 120 kg/m<sup>2</sup> by green roof build-up
- 2** Optigrün Drainage and Storage Board
- 3** Suitable substructure with root-resistant waterproofing
- 4** Lateral beam
- 5** Railing foot
- 6** Railing post



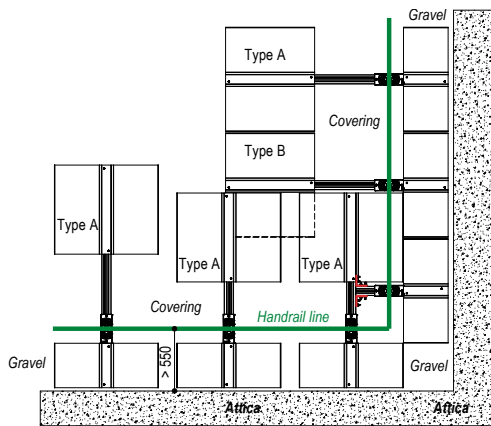
## Terrace with concrete-slab paving

- 1** Minimum greening load (subject to project data): 120 kg/m<sup>2</sup> by terrace construction and/or gravel coating
- 2** Optigrün Drainage and Storage Board
- 3** Suitable substructure with root-resistant waterproofing
- 4** Lateral beam
- 5** Railing foot
- 6** Railing post



# Easy installation. Flexibility is superior!

## Installation according to layout plan



Object dimensioned laying plan



Step 1: Install lateral beams



Step 2: Install load-bearing plates and railing feet



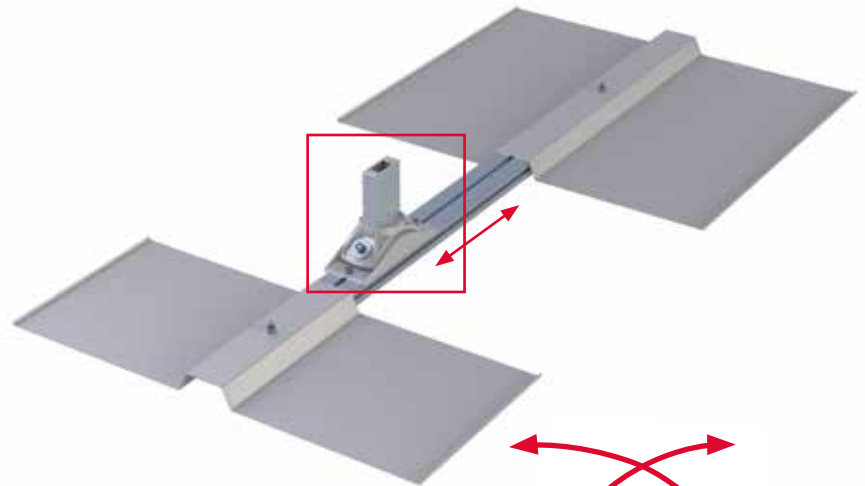
Step 3: Install railing posts



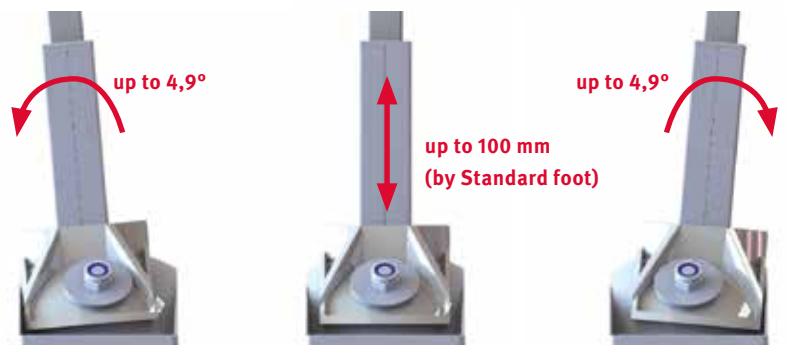
Step 4: Mount the railing infills

The Optigrün SkyGard Railing System is installed in a few steps, according to the Optigrün bespoke layout plan. Firstly, you install the lateral beams, the railing feet and the load-bearing plates, then the railings. SkyGard adapts perfectly to differences in height and surface irregularities, thanks to its variable foot positions.

Then you can install the railing infills or the terrace / green roof build-up.



**SkyGard – Railing foot – superior flexibility - 360° movement**  
 - Can be adjusted and fixed in every direction  
 - Flexible and sturdy spherical- foot joint.  
 - Height adjustable



The all around flexible and height-adjustable SkyGard Railing Foot permits fast, uncomplicated adaptation to roof conditions during installation. No cutting or sawing required. Pitches, recesses and height-differences of up to 40 mm can be easily compensated. Thus a professional, fast and precise installation is made possible.

## Numerous Design Options

The Optigrün SkyGard System offers many design possibilities for the railing balustrades. Optigrün has a range of standard finishes for the balustrades and perforated metal or glass infill panels which are customised in our workshop to suit your project requirements. All standard infill designs are compatible with the SkyGard railings and feet and can be quickly installed. They are made of aluminium and

All RAL colours available

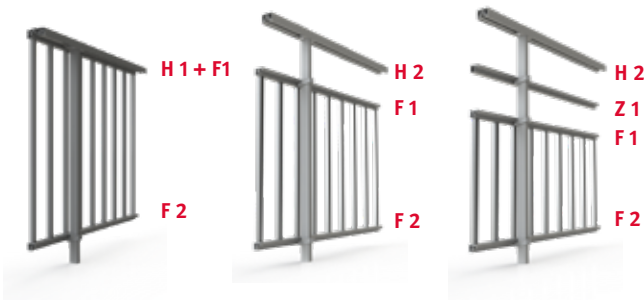


can be supplied in any RAL colour. A highlight of the range is our Opaque Silver finish which resembles anodized aluminium. In addition to this we can provide bespoke solutions. For this reason we can provide the dimensions and details of the SkyGard base so that you can combine other rail systems with it.

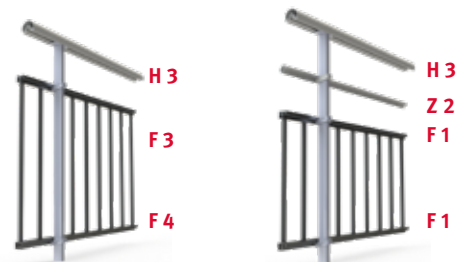
## Railing Infills

→ Railing Infill „Rod“. Aluminium. Rods optionally in round or angular.

### SQUARE

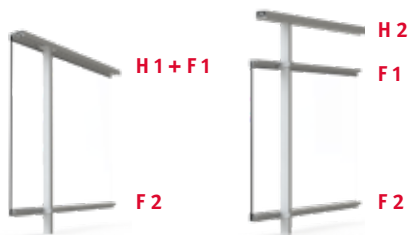


### ROUND

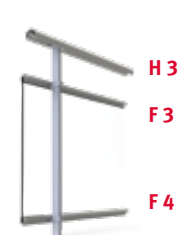


→ Railing Infill „Glas“. Securityglas.

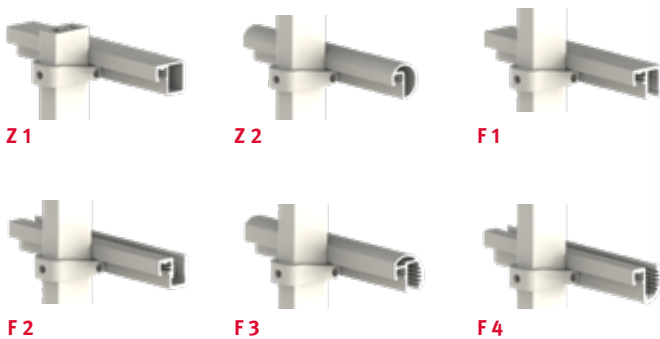
### SQUARE



### ROUND



## Intermediate and filling spars



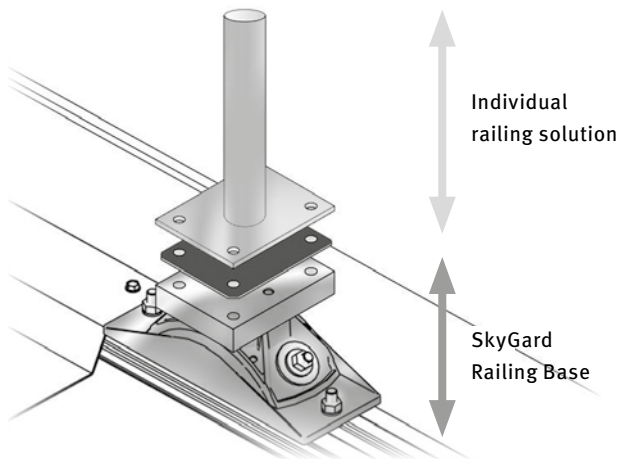
## Handrails



# Individual Railing System Solutions. Specification and Planning.

During the design stage for accessible roofs and terraces you must take into account the requirements of local Building Regulations and the standard norms which deal with live loads as well as the height of the railing, applications and the distance between supports.

We can provide full technical support at the design and specification stage and at tender stage. We can produce a design and layout for each individual project and include stability calculations. To help us do this we have a checklist which can be requested from [technical@optigreen.co.uk](mailto:technical@optigreen.co.uk)



## Legal requirements

The Optigrün SkyGuard Railing System has been certified according to the German ETB- E.1 standard. The railing infills comply with German regional construction codes.

Static proof for a project's stability is done according to EN 1991-1-1/NA:2010-12 (Eurocode 1, German appendix). Conformity of SkyGuard products to standards and rules in other countries is not guaranteed by Optigrün. For this reason and before using SkyGuard products, you should consult the pertinent authorities and obtain the necessary permits.

## Brief Description

Load-supported railing system made from aluminium for installation on private or public flat roofs at a pitch of up to 3°, with a patented spherically jointed foot system for precise adjustment of posts, to suit variations in roof gradients.

- > ... lm total rail length
- > ... mm height of handrail above finished roof level
- > ... kN/m live load
- > ... no. of posts
- > ... kg/m<sup>2</sup> minimum load necessary
- > ... RAL colour

Model with bars (choose one):

- covering the entire surface
- with allowance for separate handrail
- with one intermediate horizontal support

**OPTIGRÜN**<sup>®</sup>  
ROOF GREENING

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