



# **DiaSafe<sup>®</sup> Guard**

**Safety railing system**

**DiaSafe<sup>®</sup> Guard Straight**

**DiaSafe<sup>®</sup> Guard Bent**

**DiaSafe<sup>®</sup> Guard Foldable**

## INTRODUCTION



### PRODUCT DESCRIPTION

DiaSafe® Guard is a safety railing system fixed by ballast, made of aluminium, designed for flat roofs, to ensure collective fall protection, without penetrating the water insulation, certified by **EN ISO 14122-3 and EN 13374**. Excellent for securing roofs, work areas, escape- and service routes. The ballasted technology causes no damage to the roof structure or the parapet. System installation is quick and simple.

### LEGAL REQUIREMENTS

People working at heights shall be provided a safe work environment, including fall protection. Such protection during work shall be provided by the employer and/or the owner, operator of the building. The architect shall also take this requirement into consideration during the design. All DiaSafe® systems comply with the latest relevant EU standards.

TECHNICAL DATA	DiaSafe® Guard			
	Straight EN ISO 14122-3	Straight EN 13374	Bent EN ISO 14122-3	Foldable EN ISO 14122-3
Height of railing post	118cm	110cm	110cm	110cm
Toe board	mandatory when the parapet is lower than 10cm	mandatory when the parapet is lower than 15cm	mandatory when the parapet is lower than 10cm	
Max. distance between railing posts	150cm	250cm	150cm	
Weight	ca. 20-22kg/fm	ca. 14-16kg/fm	ca. 20-22kg/fm	ca. 19-21kg/fm
Max. incline	15°	10°	15°	
Weight of counterweight	2 x 12,5kg / support leg			
Material	Aluminium			

## PLANNING



### PLANNING PRINCIPLES

The material requirements and installation plans of the DiaSafe® Guard systems are supplied by the DIADEM® planning team. The plan shall take into consideration the specifics and properties of the building and the location. Any deviation from the installation plan of a given system by the installer during implementation shall be agreed upon.

### KEY INFORMATION NEEDED IN ORDER TO PROVIDE PLANS

- Roof plan view with indication of the railing installation line
- Facade and section drawings with height measures (drawings in dwg format for the sake of faster planning; if dwg is not available, then pdf format)
- Inclination of the roof (the DiaSafe® Guard system can be installed on a roof of 15° slope – 10° according to EN 13374)
- Placement of superstructures or elements to be installed later (solar panels, air conditioners' outdoor unit etc.)
- Skylight protection (recommended protection by DiaSafe® Guard system)

## DIASAFE® GUARD STRAIGHT

DiaSafe® Guard Straight is the most minimal member of the railing system family. Its simplicity makes it ideal for those who want a quick solution to ensure the safety of people on the roof. The simplicity, however, does not limit the scope for special solutions in terms of appearance, design and combinations or roofs of a special design – the DIADEM® APP team will provide solutions for specific situations.



RAILING SYSTEMS

## DIASAFE® GUARD BENT

The DiaSafe® Guard Bent system differs from the Straight system: its railing posts are bent at 30° relative to the vertical plane. This has several advantages. The first is ergonomic: the rail is more convenient, the handrails are closer to the user. The second is aesthetic: the system is less visible from outside the building, in line with certain architectural sight requirements.



## DIASAFE® GUARD FOLDABLE

The special feature of the DiaSafe® Guard Foldable system is its foldable railing posts that can make the entire system invisible and thus suitable for many uses, including leaving the sight of the building intact or eliminating physical obstacles from roof parts that are usually closed and need to be accessible only for periods of maintenance.



SAFETY ON THE ROOF!

BENEFITS



**EASY TO STORE, TRANSPORT AND MOVE**

Due inter alia to their minimum weight, DiaSafe® Guard elements are easy to assemble and disassemble, so their transportation is trouble-free.

**MOBILITY**

Thanks to the ballasted technology, it is easy to transfer to another location after installation.

**AESTHETIC, PRACTICAL**

The Straight and Bent versions are hardly, the Foldable version in folded state is not visible at all from outside the building.

**UNIQUE NEED? NO PROBLEM!**

Unique needs can be met thanks to special accessory elements (safety gate, wall connector, corner element, toe board).



**THERMAL BRIDGE FREE**

The special design of the system prevents thermal bridges between the building structure and the DiaSafe® Guard railing system; this contributes to energy-, cost efficiency and mildew prevention.



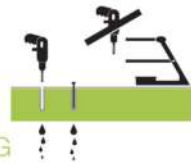
**EASY AND QUICK INSTALLATION**

The system comprises few components; its installation is easy and quick. With appropriate skills, installation takes little time.



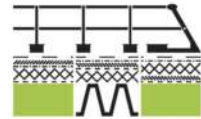
**INTACT WATERPROOFING LAYER**

The DiaSafe® systems do not require any mechanical attachment to the roof structure, so the waterproofing and insulation remains intact.



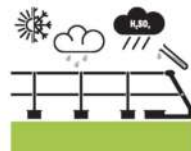
**SUITABLE FOR MOST TYPES OF FLAT ROOFS**

DiaSafe® Guard railing systems can be installed on warm or inverted flat roofs, made out of any structural material (concrete, steel, wood, etc.) and covered with any water insulation membrane (bituminous, PVC, EPDM, etc.).



**INDUSTRIAL AND COASTAL REGIONS**

With appropriate surface treatment (e.g. powder-spray), the DiaSafe® Guard railing systems can be installed in acidic industrial environments and also coastal regions.



**FROST PROOF**

The system can be safely used even in frosty weather conditions.



SAFETY ON THE ROOF!

### DIASAFE® GUARD COUNTERWEIGHT

The counterweight developed specially for this purpose is ergonomic and easy to move, so its manual handling is easy on the spine.



### RAILING POST

The basis of the DiaSafe® Guard systems is the massive support element - the railing post. Providing the entire system high-level stability.



### SAFETY GATE\*

The self-closing safety gate according to the EN ISO 14122-3 and the EN 13374 standard provides for passing through the railing.



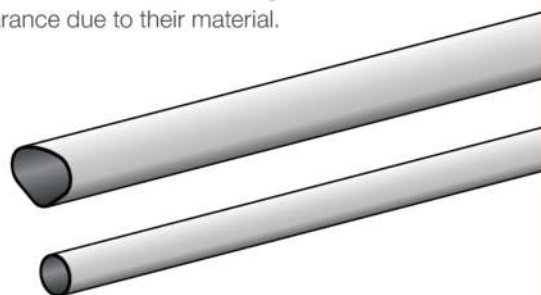
### WALL CONNECTORS\*

The element connected to the handrail and the knee rail is meant to enhance the stability of the system and eliminate the gap between the wall structure that is perpendicular to the system and the railing, to ensure continuous, uninterrupted, protection for people on the roof.



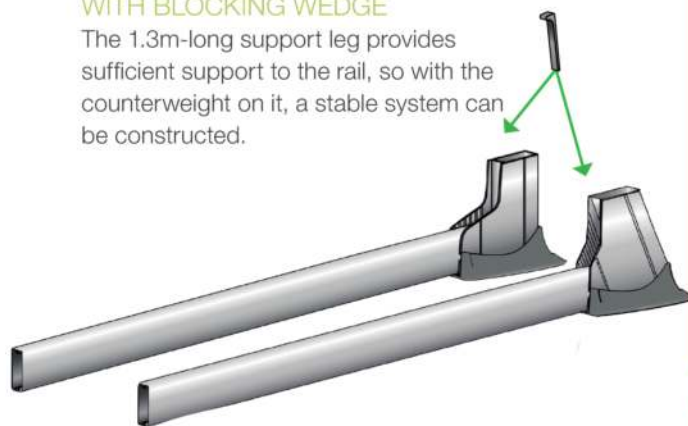
### HANDRAIL AND KNEE RAIL

The advantage of the 3m-long aluminium handrail and knee rail is its minimum weight and modern appearance due to their material.



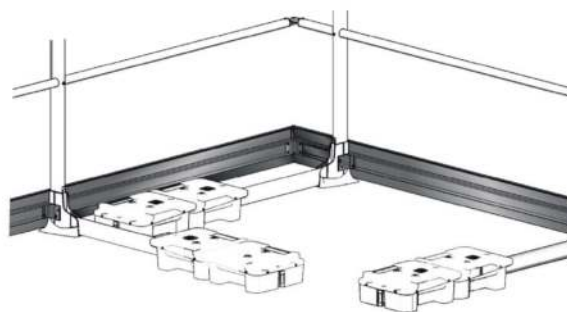
### WELDED SUPPORT LEG WITH BLOCKING WEDGE

The 1.3m-long support leg provides sufficient support to the rail, so with the counterweight on it, a stable system can be constructed.



### TOE BOARD\*

According to EN ISO 14122-3, toe boards are required if the height of the parapet is lower than 10cm (EN 13374: 15cm). That prevents any materials and tools from falling off the roof.



### PLASTIC END- AND CORNER PLUGS\*

End- and corner plugs are provided for both the handrails and the knee rails to ensure aesthetic closure and connection.





INSTALLATION

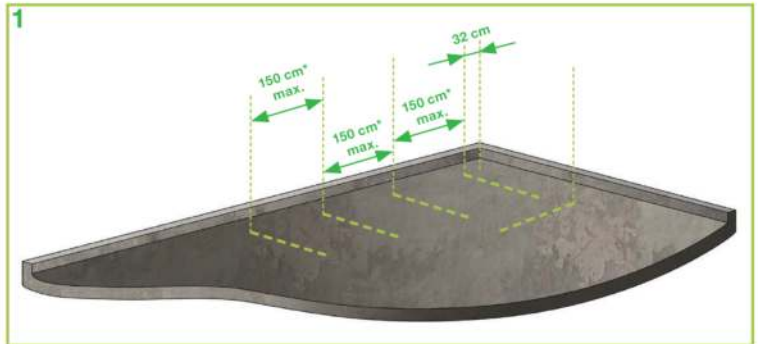


SIMPLICITY WITHOUT LIMITS

The key advantage of the DiaSafe® Guard system is its quick and simple installation. Given the minimum weight of its elements, installing requires no special equipment.

**MIN.**

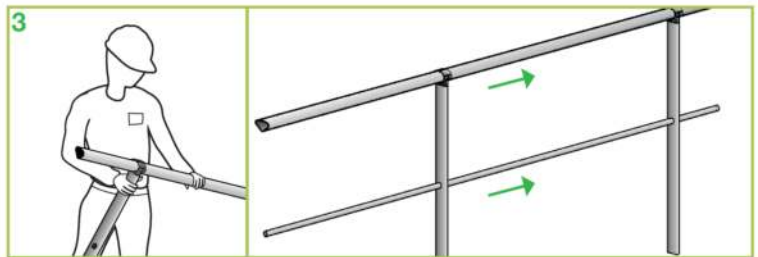
The system is easy to install, and the assembly instructions supplied with the delivered systems further facilitate quick and efficient work.



Mark the roof at 150cm intervals (\*EN 13374: 250cm) to be able to place the railing posts accurately. Then remove any debris or gravel to make the system stable.



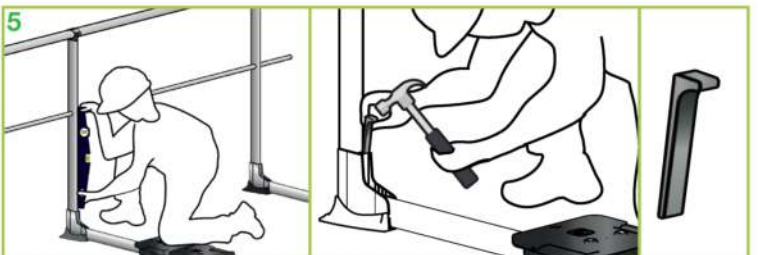
Put the weights on the support leg and make sure it's flush with the weights.



Insert the hand- and knee rail in the railing posts.



Insert the rail section in the support leg.



Set the installed system appropriately, to make it vertical. Then insert the blocking wedge between the support leg and the railing post.



### PERMITTED INCLINATION

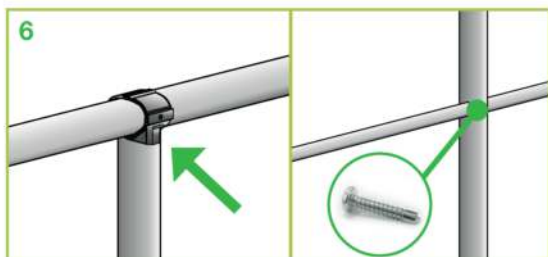
The DiaSafe® Guard system can be installed on a roof with an inclination of 15° according to EN ISO 14122-3 and 10° according to EN 13374.

### BALLASTING WEIGHT

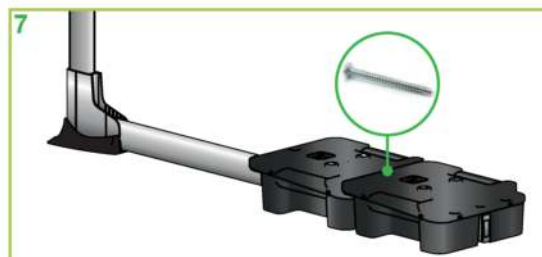
The stability of the DiaSafe® Guard system is ensured by two 12.5kg counterweights per railing post.



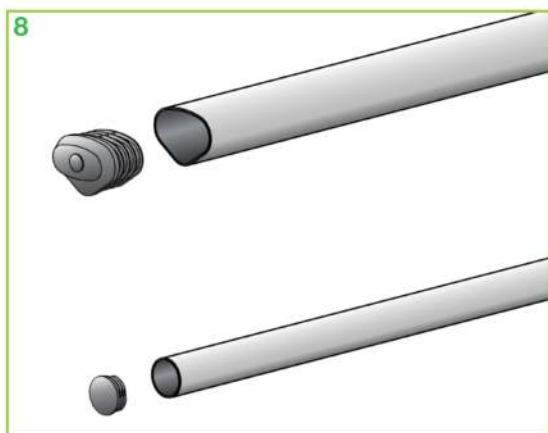
INSTALLATION



Tighten the screws on the handrail and install the self-drilling screws (4.8x25mm) to fix the knee rail.



After the installation of the complete railing system, tighten the self-drilling screws also on the counterweights.



If no wall connectors are provided, place the plastic end plugs on the hand- and knee rails.



If the railing line is not completely straight, put the plastic corner angles on the ends of the hand- and knee rails. You can fix it with a pan headed self drilling screw (4.8x25mm). The angle can be fixed with the screw in the corner angle.

SAFETY ON THE ROOF!

### DiaSafe® Guard Straight

Self-supporting safety railing system installed without penetrating the water insulation, made of aluminium, as a collective protection system against fall on flat roofs, certified according to standards: EN ISO 14122-3 and EN 13374, with handrail, knee rail and toe board, straight railing posts (EN ISO 14122-3: H=118cm, EN 13374: H=110cm), blocking wedge, welded support legs, two 12.5kg counterweights per support leg and with stainless steel self drilling screws, ready for immediate professional installation according to the approved implementation plan and laid using guidelines provided by the manufacturer. Accessories: Plug KIT, Corner KIT, Wall connector KIT, Safety gate KIT, Toe board corner KIT, Toe board termination KIT (mandatory if the parapet is lower than 15cm according to EN 13374 and lower than 10cm according to EN ISO 14122-3).

Product: DiaSafe® Guard Straight  
Manufacturer's certificate: APP Kft.  
Website: www.diadem.com

### DiaSafe® Guard Bent

Self-supporting safety railing system installed without penetrating the water insulation, made of aluminium, as a collective protection system against fall on flat roofs, certified according to standard EN ISO 14122-3, with handrail, knee rail, straight railing posts, blocking wedge, welded and bent support legs, two 12.5kg counterweights per support leg and with stainless steel self drilling screws, ready for immediate professional installation according to the approved implementation plan and laid using guidelines provided by the manufacturer. Accessories: Plug KIT, Corner KIT, Wall connector KIT, Safety gate KIT, Toe board (mandatory if the parapet is lower than 10cm)

Product: DiaSafe® Guard Bent  
Manufacturer's certificate: APP Kft.  
Website: www.diadem.com

### DiaSafe® Guard Foldable

Self-supporting safety railing system installed without penetrating the water insulation, made of aluminium, as a collective protection system against fall on flat roofs, certified according to standard EN ISO 14122-3, with handrail, knee rail, foldable railing posts, blocking wedge, welded straight and Z bent support legs, two 12.5kg counterweights per support leg and with stainless steel self drilling screws, ready for immediate professional installation according to the approved implementation plan and laid using guidelines provided by the manufacturer. Accessories: Plug KIT, Toe board (mandatory if the parapet is lower than 10cm)

Product: DiaSafe® Guard Foldable  
Manufacturer's certificate: APP Kft.  
Website: www.diadem.com

### DOWNLOADS

You will find the latest technical documentation, the relevant technical literature and installation guides of DiaSafe® products on the DIADEM® website. Check the installation guide before the installation of the DiaSafe® Guard system. The manufacturer/designer shall have no liability in case of any deviation from the installation plan during implementation.

[www.diadem.com](http://www.diadem.com)



OUR EXPERTS ARE HAPPY TO ANSWER ANY QUESTIONS



Need help with DiaSafe® planning?  
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