

Sécurité



# Barrial®

...Aluminium flat roof  
safety railing system



The key to  
a safe flat roof





# Barrial® the key to a safe flat roof

## Collective and permanent safety to meet statutory requirements

When carrying out construction or fitting out works, the Building Owner is required to meet all statutory requirements relating to safe working.

On accessible flat roofs or in industrial installations, regulations clearly give priority to collective and permanent safety by the use of railings, rather than to individual or temporary safety systems (anchor points, life lines).

The Barrial safety railing system is a collective and permanent system for protection against falling from height, which meets all the technical and statutory constraints in connection with accessible flat roofs. An analysis of the statutory texts is given on page 18.

## A tested and approved system

Each model of Barrial safety railing system has been subjected to the relevant static and dynamic tests in accordance with **European standards: NF EN ISO 14122-3 and NF EN 13374 category A** (self-supporting safety railing). The tests were carried out by the **CEBTP (an independent authorised organisation)**. The test reports are available on request.

Barrial has also obtained the GS European product safety certification mark, validated by the German organisation DEKRA-EXAM. This approval requires a regular audit of dani alu's quality of manufacture and of service.



**CEBTP**  
CENTRE D'EXPERTISE DU BATIMENT ET DES TRAVAUX  
22, rue de France  
91000 SAINTES  
Tél : 03 48 50 00 00  
Fax : 03 48 50 00 01  
www.cebtp.com

**ESSAIS REALISÉS**  
N° : 0602206  
à la demande : DANI ALU  
et pour le compte de : DANI ALU

**LIEU DES ESSAIS : SAINTES COEUVRE**

**CORPS D'ÉPREUVE : Garde corps d'installation fixe**  
(privé) de : A-bellor (DANI ALU)

**NATURE DES ESSAIS :**  
Essai Statique Horizontal simple

**OBSERVATIONS :**  
Les caractéristiques des éléments soumis ont été vérifiées.

**M. GOZZEL**  
Chargé d'Essais du Département  
Pathologie - Structure - Interieurs

DATE : 06/02/06  
DOSSIER : RL.Y3.6.0201  
N°REF : RL.Y0.6.418

**EXAM**  
EXAM BDO Prüf- und Zertifizier GmbH  
Zertifizierungsstelle

**Bescheinigung Nr. ZB 06/057**  
über die Baumusterprüfung nach der DIN EN 13374

**1. Auftraggeber**  
DANI ALU  
BP 32 Lussat Chapelle  
91200 SAINTES COEUVRE  
France

**2. Erzeugnis**  
Balkenschutzsystem nach DIN EN 13374, Klasse A  
(siehe Anlage)

**Typ:** Barrial  
**Hersteller:** DANI ALU, BP 32 Lussat Chapelle, 91200 SAINTES COEUVRE, France

**3. Prüfung**  
Baumuster des o.g. Erzeugnisses wurden unter der Prüf-Nr. 060574 in dem von der Zuständige der Länder für Sicherheitstechnik (ZL) akkreditierten EXAM-Prüflaboratorium für Bauteilsicherheit, Selbstkontrolle geprüft.

**4. Beurteilung**  
Die geprüften Baumuster erfüllen die Anforderungen der DIN EN 13374, Ausgabe September 2004.

**5. Kennzeichnung**  
Der Auftraggeber ist berechtigt, das Prüfzeichen an den mit den geprüften Baumustern übereinstimmenden Erzeugnissen gemäß dem beigefügten Muster anzubringen.

EXAM BDO Prüf- und Zertifizier GmbH  
J. Becken  
D. Hoff

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# Barrial® Thousands of references

Since 1999, very many private building owners (housing, hotels, shopping centres, factories, airports, sports halls, hospitals, water towers, theme parks, etc.) or public building owners (regional authorities, universities, teacher training centres, technology training centres, nursery schools, secondary schools, technical colleges, media centres, museums, hospitals, town halls, police stations, gyms, sewage treatment stations, etc.) have already chosen Barrial.

These include numerous prestigious references, such as:

Immobilière 3F, AXA, Carrefour, Leclerc, Crédit Agricole, France Telecom, Renault, BMW Munich, RATP, CRAM, La Poste, Bouygues, Novotel, HEC, SANOFI, EDF, Air France, Aéroports de Paris, Frankfurt Airport, FNAC, Disneyland Paris, etc.

Their selection criteria have been the modular nature of the system, the quality of the materials used and, especially, the commitment of a manufacturer renowned for its service and its creativity.





# Barrial®... A modular system that can be adapted to all circumstances

Whether in its posts, its rails or its fixing shoes, the system is perfectly adjustable at all points and is thus easy to install, making it much appreciated on site.

The different models of safety railings (fixed, angled, curved or folding) all form part of the same system.

The combination of the different methods of fixing (inside, on top of or outside parapet wall; to roof slab; self-supporting) enable it to be adapted to the most complex sites.

The finish (untreated aluminium or Danilac powder coating) of Barrial will suit the appearance of your buildings. Our powder coating and surface treatment unit allows us to give a quick response to all your requirements in relation to finishes.

Barrial	Fixing	Fixed post			Folding post	Couvernet option	Skirting option
		straight	curved	angled 15°/30°			
<b>fixed</b>	<b>inside parapet wall</b>						
	Shoe A	●	●	●		●	
	Shoe Ae	●	●	●		●	
	Shoe A10	●	●	●			
	<b>outside of wall</b>						
	Shoe A	●	●	●		●	●
	Shoe Ae	●	●	●		●	●
	Shoe A10	●	●	●			●
	<b>on parapet wall</b>						
	Shoe Z	●	●	●		●	●
	Shoe F	●	●	●			
	Shoe M	●	●	●			
Shoe M+	●	●	●			●	
<b>on roof slab</b>							
Shoe D	●	●	●		●	●	
<b>self-supporting</b>	<b>on roof slab</b>						
	Shoe E	●	●	●		●	●
<b>folding</b>	<b>inside parapet wall</b>						
	Shoe Ar				●	●	
	Shoe Aer				●	●	
	Shoe A10r				●		
	<b>on parapet wall</b>						
	Shoe Zr				●	●	
	<b>on roof slab</b>						
	Shoe Dr	●	●	●	●	●	●



Barrial – folding

Barrial – fixed on roof slab

# Barrial®... Complete assistance from preliminary design to installation

dani alu will provide you with complete assistance in all the phases of your project.

- Risk analysis
- Technical diagnosis
- Specification of suitable solutions
- Taking of dimensions
- Detailed setting out drawings using Danisoft-Barrial
- Off-site manufacture to site dimensions
- Technical assistance with installation
- After-sales service

Barrial – fixed inside parapet wall



Barrial – fixed on outside of wall



Barrial – fixed on parapet wall



Barrial – self-supporting





# Barrial®

## Fixing inside parapet wall Fixing on outside of wall

### Shoe A

Shoe A is fixed to the inside of a parapet wall. It can also be used on the outside of the wall. It is compatible with the use of a Couvernet aluminium coping.

Shoe A is the simplest and most economical method of fixing, if the parapet wall is high enough.

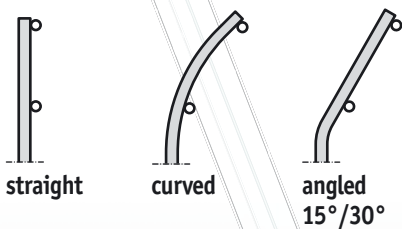
### Shoe Ae

If the parapet wall is not high, and has a coping, the cut-out in shoe Ae enables it to be fixed at an acceptable height by sliding it under the coping.

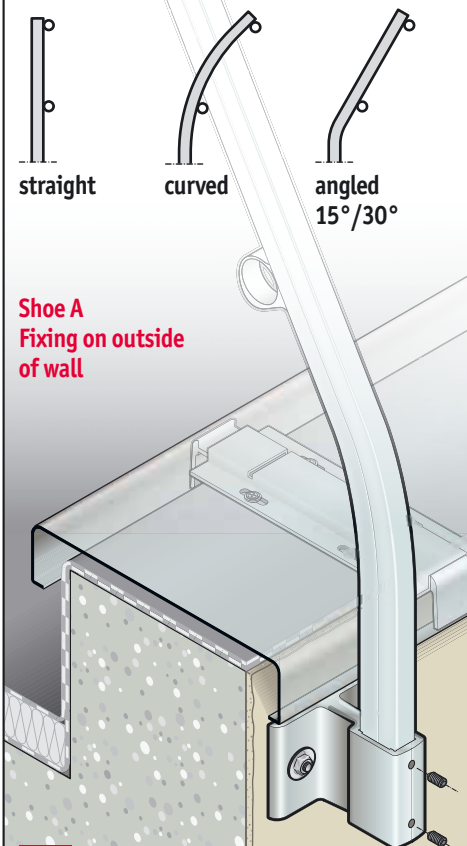
### Shoe A10

Shoe A10 is a good solution when the parapet wall does not have a coping.

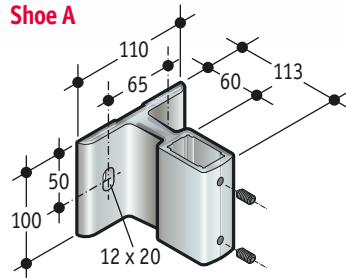
### Compatible with fixed post...



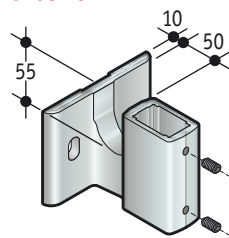
### Shoe A Fixing on outside of wall



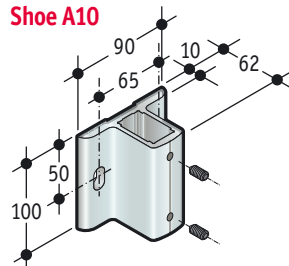
### Shoe A



### Shoe Ae

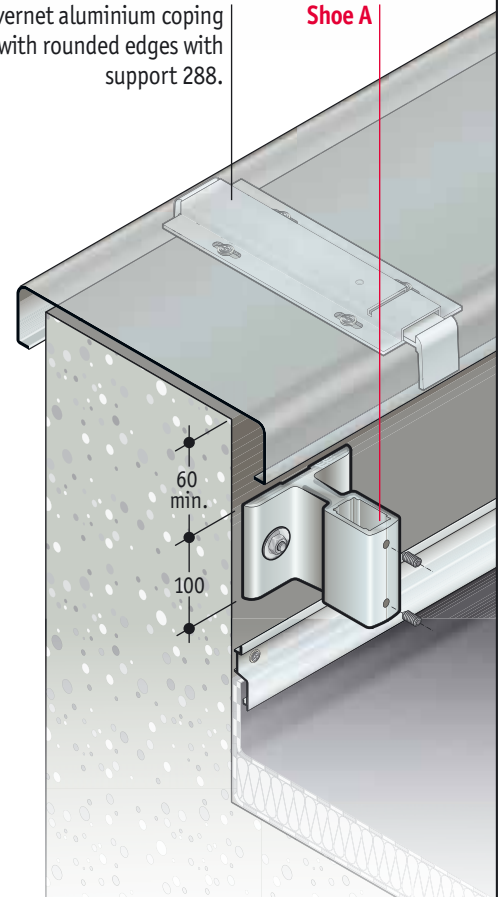


### Shoe A10



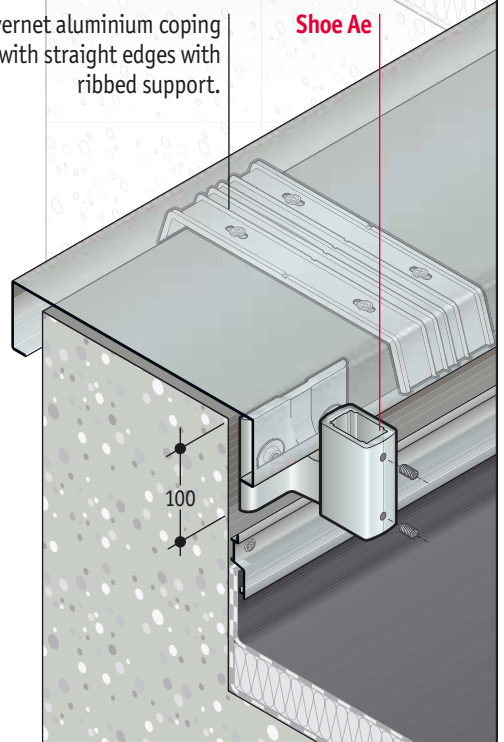
Couvernet aluminium coping with rounded edges with support 288.

### Shoe A



Couvernet aluminium coping with straight edges with ribbed support.

### Shoe Ae



# Barrial®

## Fixing to top of parapet wall

### Shoe Z

Shoe Z meets the needs of most flat roofs, where the heights of the parapet walls are generally insufficient for a face fixing.

It provides a fixing to the top of the parapet wall, thus avoiding the need to pierce the roofing upstand or flashing.

Mini. width of the concrete support: 120 mm.  
Maximum slope of the support: 5°.

If your parapet wall is narrower or has a steeper fall, please ask for our advice!

Shoe Z is compatible with the use of a Couvert aluminium coping with raised supports. The use of a Couvert coping avoids the risk of water infiltration at the fixings and protects the external wall from water staining.

### Shoe F

Contemporary shoe in cast aluminium, supplied with the posts pre-fixed in the factory.  
Mini. width of the concrete support: 160 mm.

### Shoe M

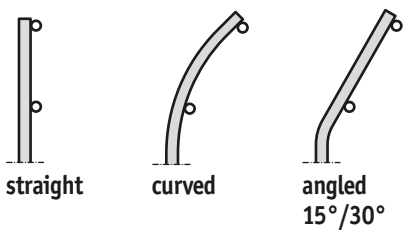
With its two fixings parallel to the plane of the balustrade, shoe M can be used on the narrowest parapet walls.

Mini. width of the concrete support: 120 mm.

### Shoe M+

Shoe M+ is the raised version of shoe M. It enables the fixing of a skirting at the base of the safety railing.

Compatible with fixed post...



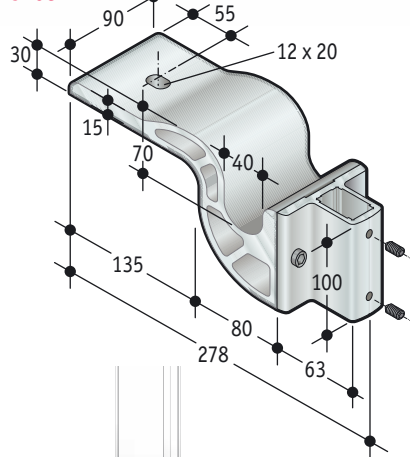
### Skirting

If there is no perimeter parapet wall, or if the height of the existing parapet wall is less than 150 mm, a skirting will have to be provided at the base of the safety railing (see page 18).

The system is supplied made-to-measure, with all its fixings, jointing elements and internal and external angle fittings.

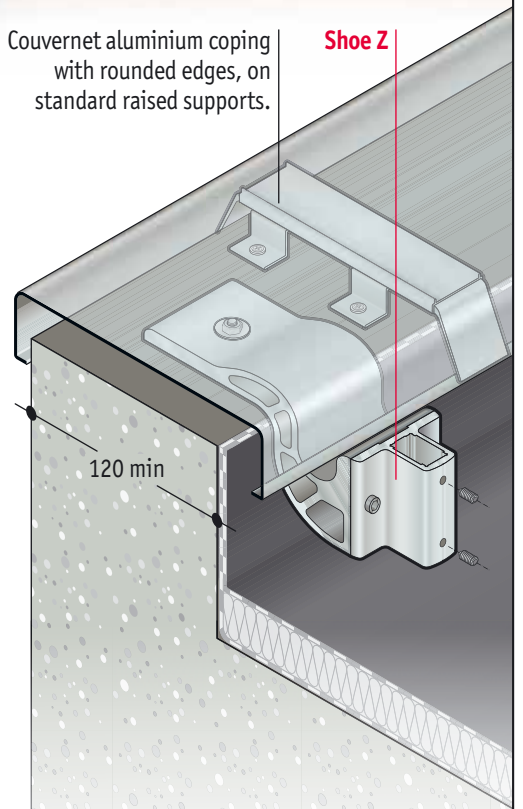


### Shoe Z

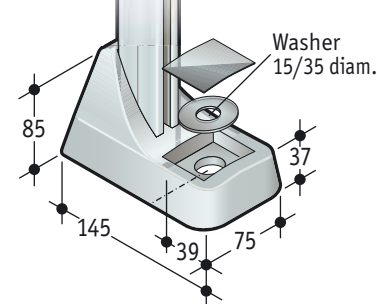


Couvert aluminium coping with rounded edges, on standard raised supports.

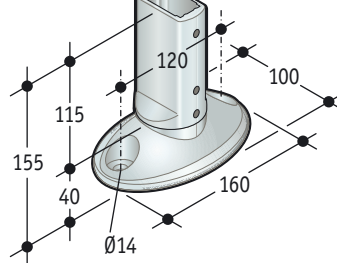
### Shoe Z



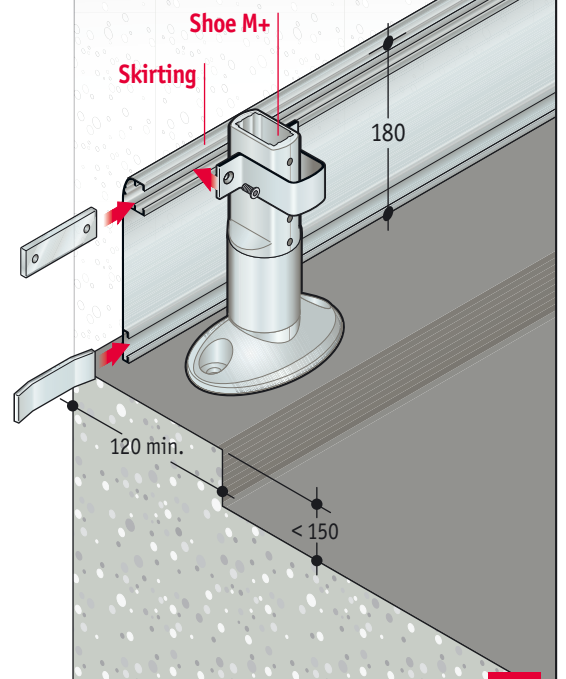
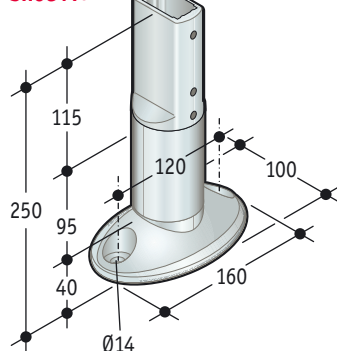
### Shoe F



### Shoe M



### Shoe M+





# Barrial®

## Fixing on roof slab

### Shoe D

If it is not possible to fix to a parapet wall, shoe D provides a fixing to the roof slab through roof finishes up to 150 mm thick. For thicker finishes, please ask for our advice!

The various aluminium base plates, pre-coated with bituminous primer, allow the making good of the roof finish in accordance with good practice.

The **150 top base plate** is used to make good a self-finished roof finish on insulation.

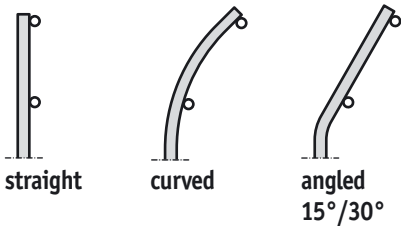
The **200 top base plate** is used if the roof finish is protected with chippings.

The **200 bottom base plate** is used to make good a vapour barrier or a roof finish without insulation.

### Collar

At its top, the base plate is protected by a thermoplastic collar that precisely fits the diameter of the tube and has a groove to take a strip of polyurethane mastic.

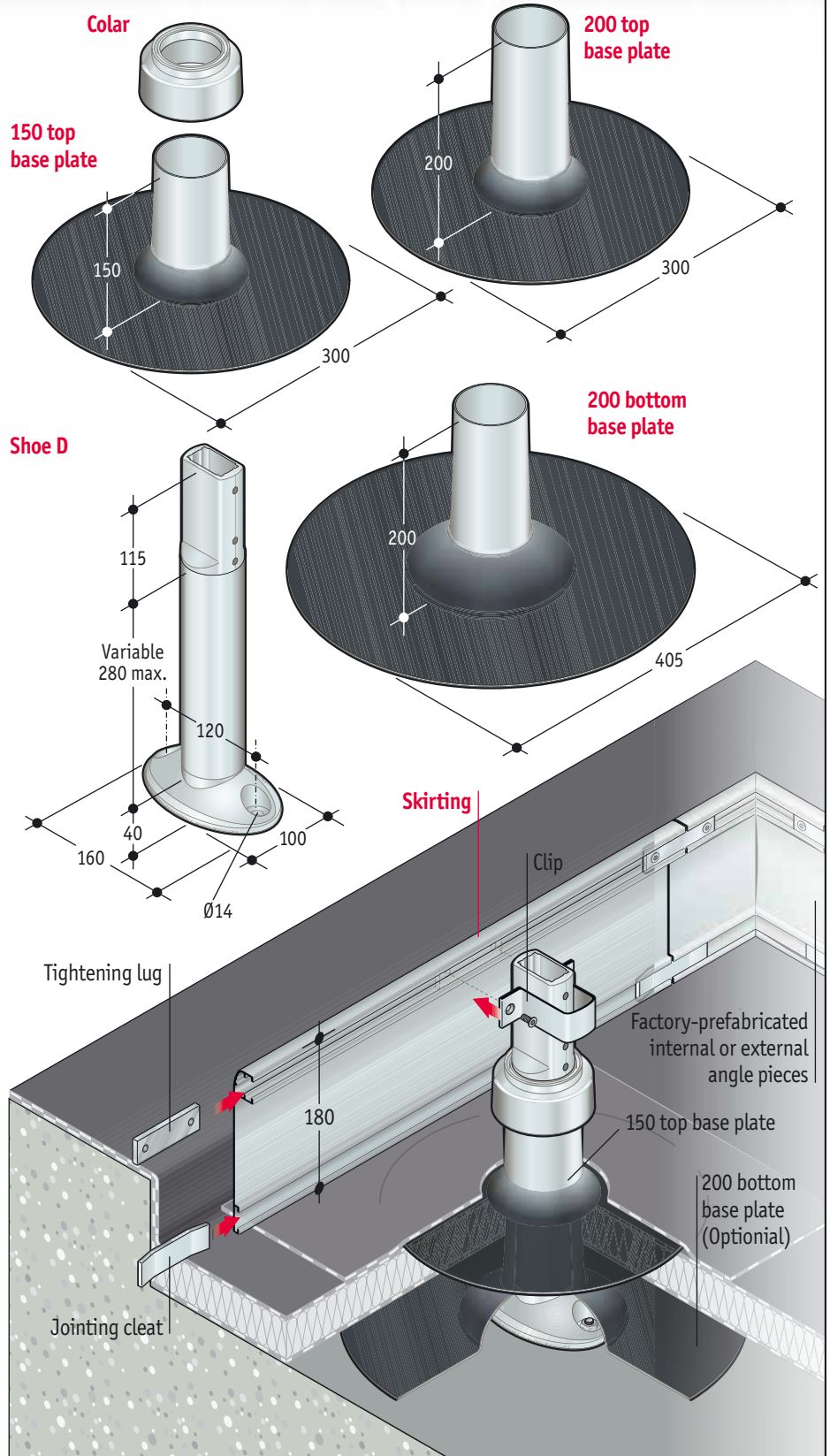
### Compatible with fixed post...



### Skirting

If there is no perimeter parapet wall, or if the height of the existing parapet wall is less than 150 mm, a skirting will have to be provided at the base of the safety railing (see page 18).

The system is supplied made-to-measure, with all its fixings, jointing elements and internal and external angle fittings.





# Barrial® self-supporting

## Shoe E (with parapet wall)

Shoe E (self-supporting base) is the solution when it is not possible to provide a fixing to either a parapet wall or the roof slab. It enables rapid installation, without piercing the roof finish.

It also allows an access path to be delineated, forms an escape corridor, or forms a barrier around a rooftop, roof access, etc.

## Counterweight

The concrete counterweights of shoe E are enclosed within a high-density polyethylene casing with rounded edges, which:

- protect the counterweight from the risk of breaking or cracking;
- prevent any damage to the roof covering, as the HDPE casing acts as a resilient material;
- makes them easy to handle, using the recesses provided;
- avoids injury when handling.

The counterweights are screw-fixed to the rails. On request, a security screw can be provided to prevent malicious removal of the counterweight.

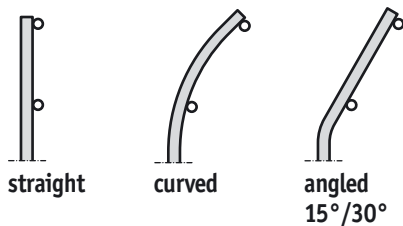
## Pads

The protective pads at the fronts of the rails protect against puncturing the roof finish.

## Shoe E (without parapet wall)

If there is no perimeter parapet wall, an adapted version of shoe E will be needed. Please seek our advice.

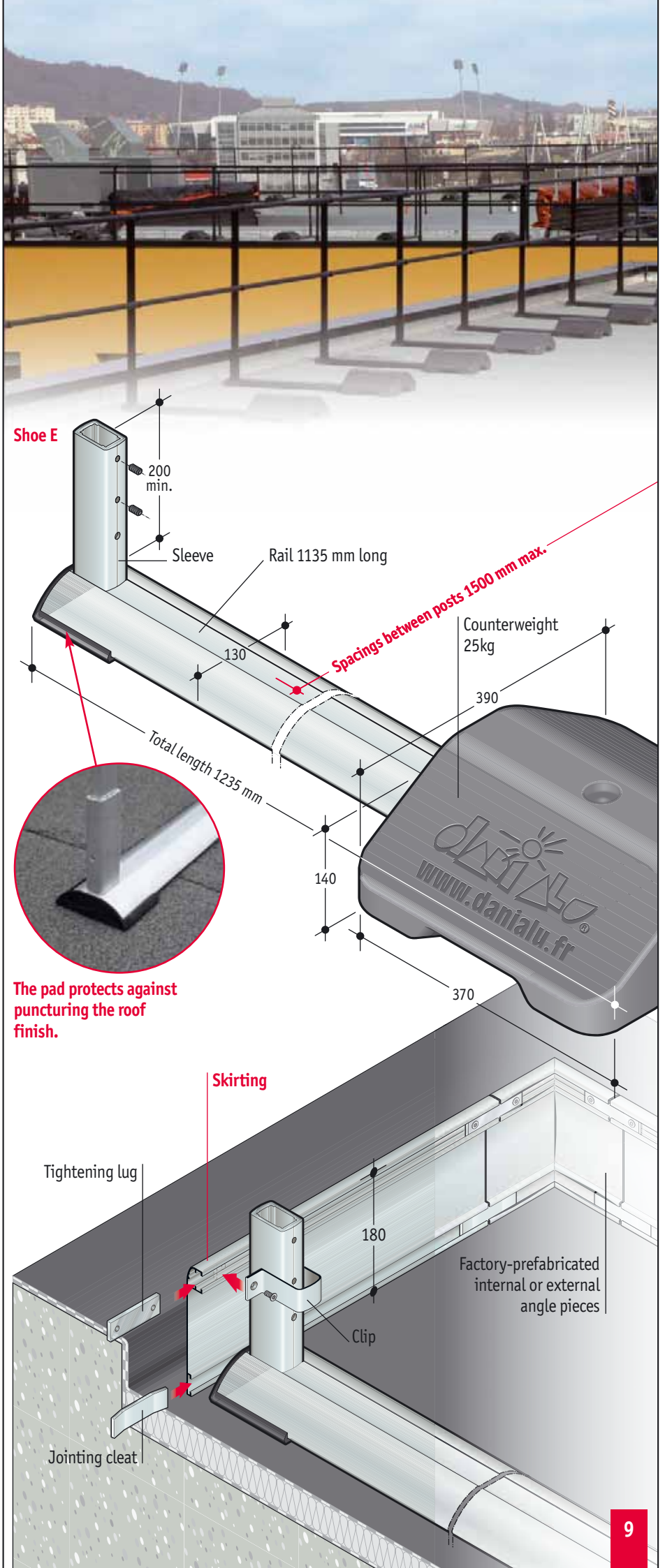
## Compatible with fixed post...



## Skirting

If there is no perimeter parapet wall, or if the height of the existing parapet wall is less than 150 mm, a skirting will have to be provided at the base of the safety railing (see page 18).

The system is supplied made-to-measure, with all its fixings, jointing elements and internal and external angle fittings.





# Barrial® folding

## Shoes for fixing inside parapet wall:

### Shoe Ar

Shoe Ar is the simplest and most economical method of fixing, if the parapet wall is high enough to provide a fixing on the inside.

### Shoe Aer

If the parapet wall is not high, and has a coping, the cut-out in shoe Aer enables it to be fixed at an acceptable height by sliding it under the coping.

### Shoe A10r

Shoe A10r is a good solution if the parapet wall does not have a coping.

## Shoes for fixing to top of parapet wall:

### Shoe Zr

Shoe Zr meets the needs of most flat roofs, where the heights of the parapet walls are generally insufficient for a fixing inside the parapet wall.

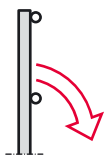
It provides a fixing to the top of the parapet wall, thus avoiding the need to pierce the roofing upstand or flashing.

Mini. width of the concrete support: 120 mm.  
Maximum slope of the support: 5°.

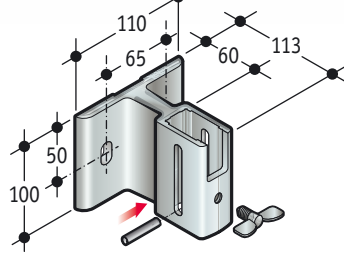
If your parapet wall is narrower or has a steeper fall, please ask for our advice!

Shoe Zr is compatible with the use of a Couvernet aluminium coping with raised supports. The use of a Couvernet coping avoids the risk of water infiltration at the fixings and protects the external wall from water staining.

### Compatible with folding post



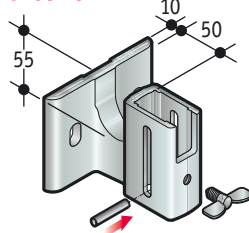
### Shoe Ar



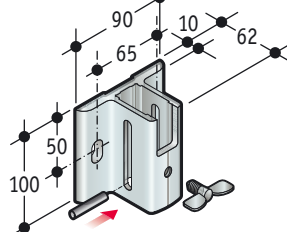
Couvernet aluminium coping with rounded edges with support 288.

### Shoe Ar

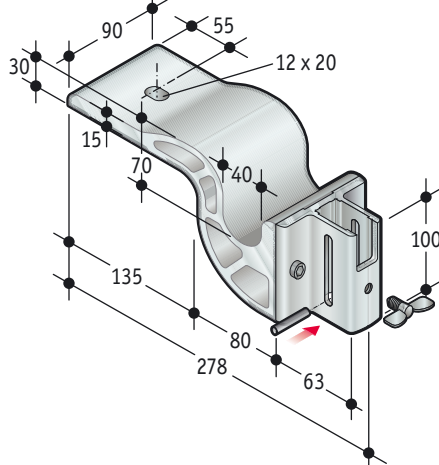
### Shoe Aer



### Shoe A10r

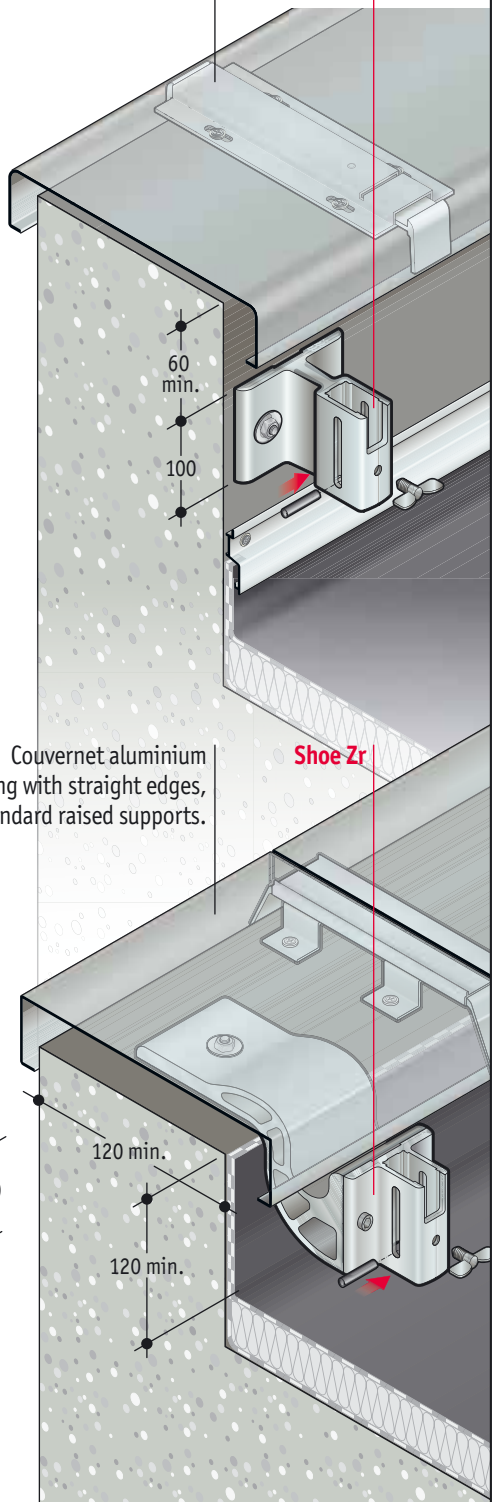


### Shoe Zr



Couvernet aluminium coping with straight edges, on standard raised supports.

### Shoe Zr



# Barrial® folding

## Fixing on roof slab

### Shoe Dr

If it is not possible to fix to a parapet wall, shoe D provides a fixing to the roof slab through roof finishes up to 150 mm thick. For thicker finishes, please ask for our advice!

The various aluminium base plates, pre-coated with bituminous primer, allow the making good of the roof finish in accordance with good practice.

The **150 top base plate** is used to make good a self-finished roof finish on insulation.

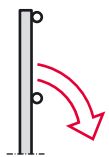
The **200 top base plate** is used if the roof finish is protected with chippings.

The **200 bottom base plate** is used to make good a vapour barrier or a roof finish without insulation.

### Collar

At its top, the base plate is protected by a thermoplastic collar that precisely fits the diameter of the tube and has a groove to take a strip of polyurethane mastic.

### Compatible with folding post



### Skirting

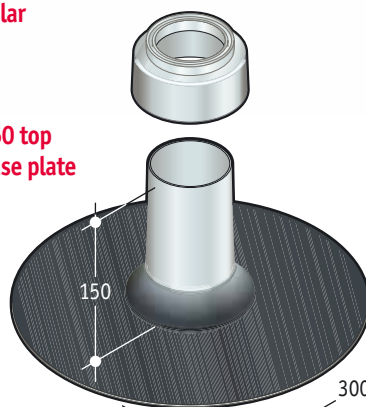
If there is no perimeter parapet wall, or if the height of the existing parapet wall is less than 150 mm, a skirting will have to be provided at the base of the safety railing (see page 18).

The system is supplied made-to-measure, with all its fixings, jointing elements and internal and external angle fittings.

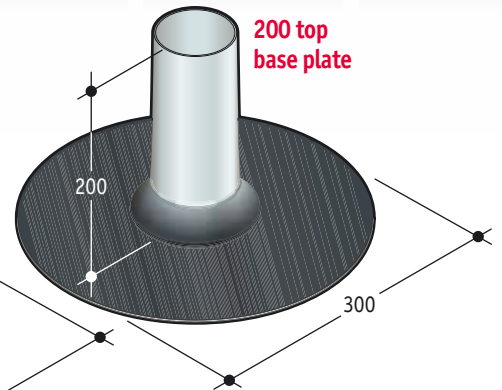


### Collar

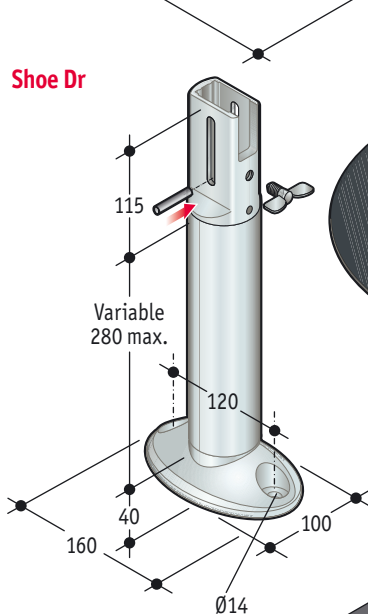
### 150 top base plate



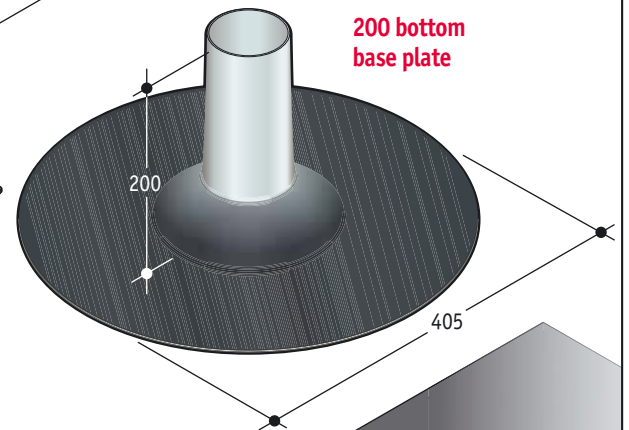
### 200 top base plate



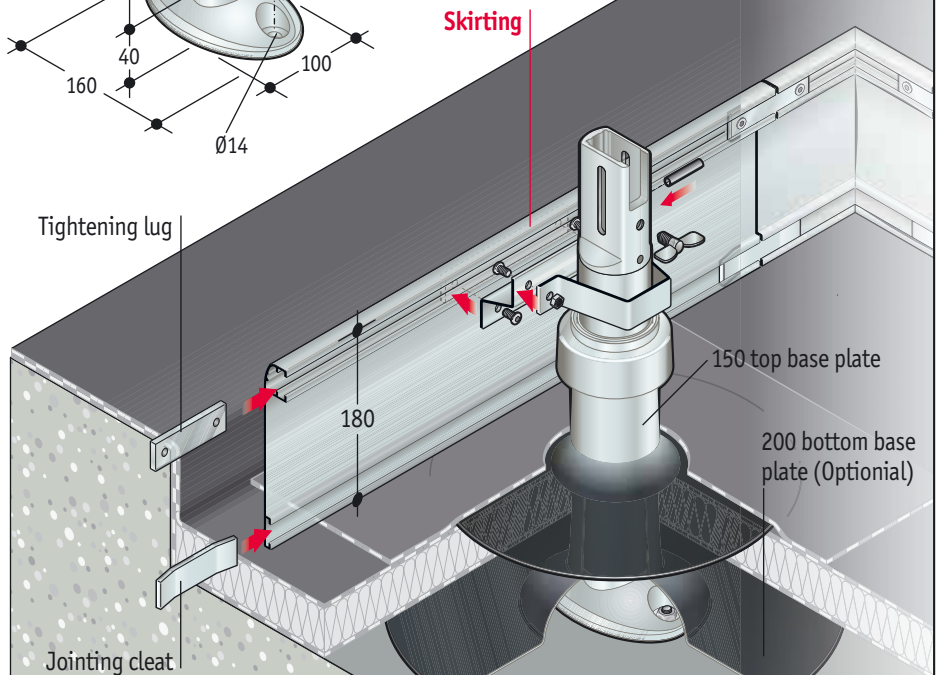
### Shoe Dr



### 200 bottom base plate



### Skirting





# Barrial® Posts

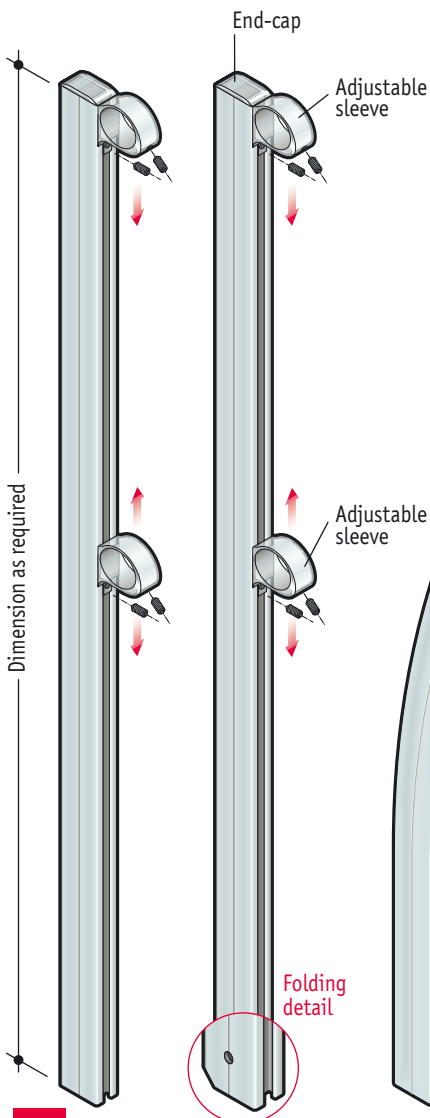
## Straight fixed post

The straight fixed post will be suitable in most cases.

## Folding post

In cases where aesthetic or environmental requirements (classified sites, etc.) are opposed to the presence of visible fixed safety railings, this model provides a compromise between architectural preferences and safety obligations.

## Straight fixed post    Folding post



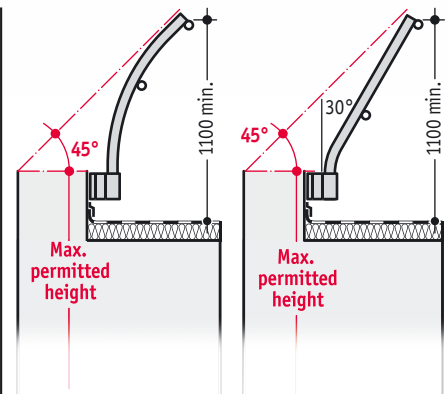
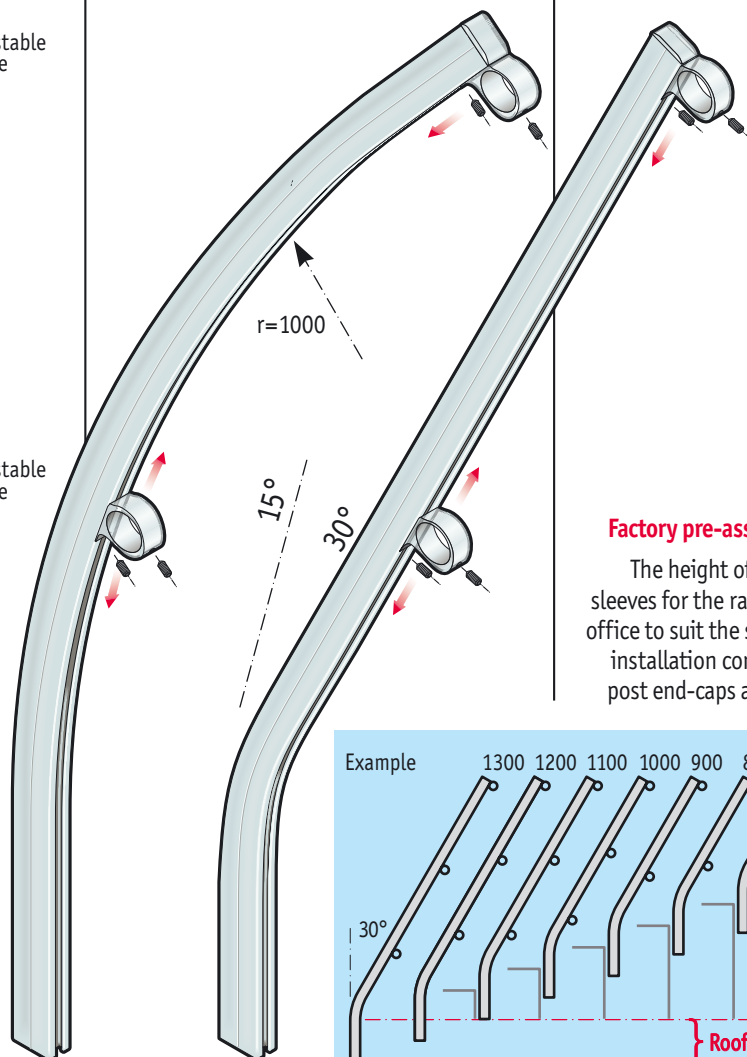
## Curved fixed post or angled fixed post

Curving (1.00 m radius) or bending (to 15°, 30° or other angle on request) improves the unobtrusiveness and appearance of safety railings on external walls.

It also serves to keep users further away from the edge of the roof.

If the edge of the roof is at the maximum permitted development height, the curved or angled model may remain within the permitted overall size of the building.

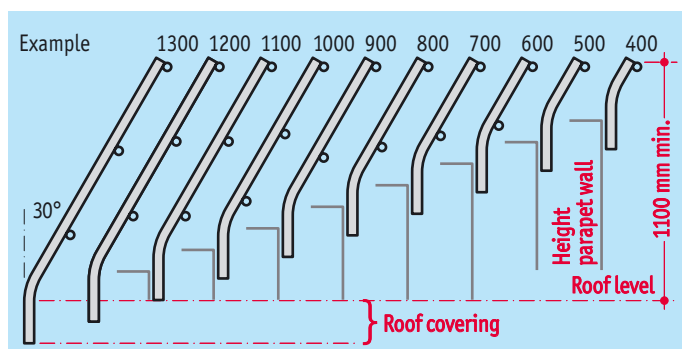
## Curved fixed post



## Angled fixed post (15° or 30°)

## Factory pre-assembly and pre-adjustment

The height of the post and the number of sleeves for the rails are defined by our design office to suit the site dimensions taken by the installation contractor. The sleeves and the post end-caps are assembled in the factory.



# Barrial®

## Rails and accessories

The rails are discreet, all identical and facing towards the interior of the roof.

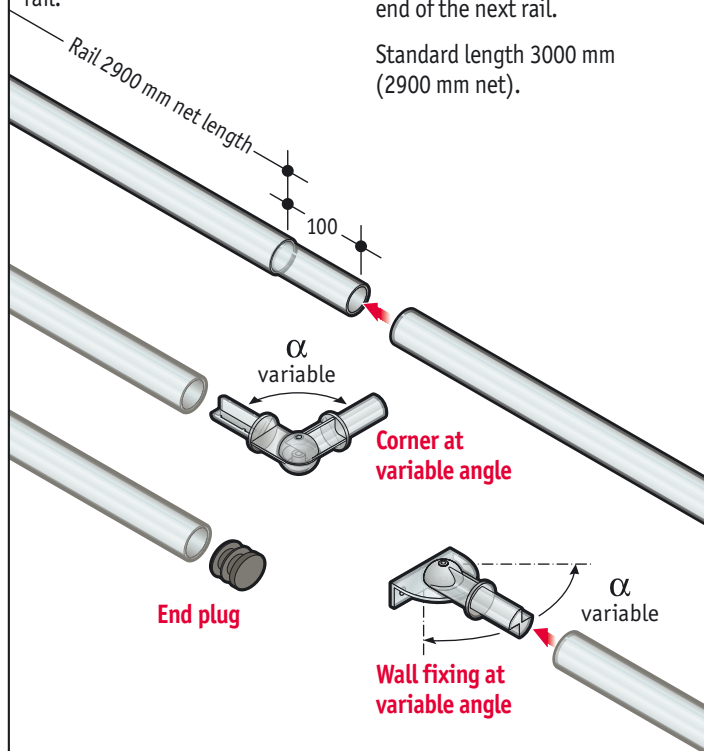
They are used either as a handrail, a bottom rail or an intermediate rail.

There are two versions of rail:

### Rail for fixed post (straight, curved or angled)

One end of each length of rail forms a spigot that slots into the end of the next rail.

Standard length 3000 mm (2900 mm net).

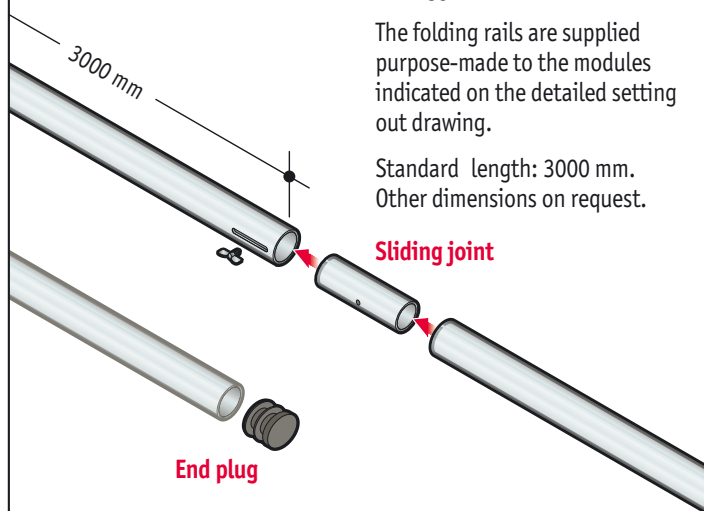


### Rail for folding post

This is fitted with an internal sliding joint.

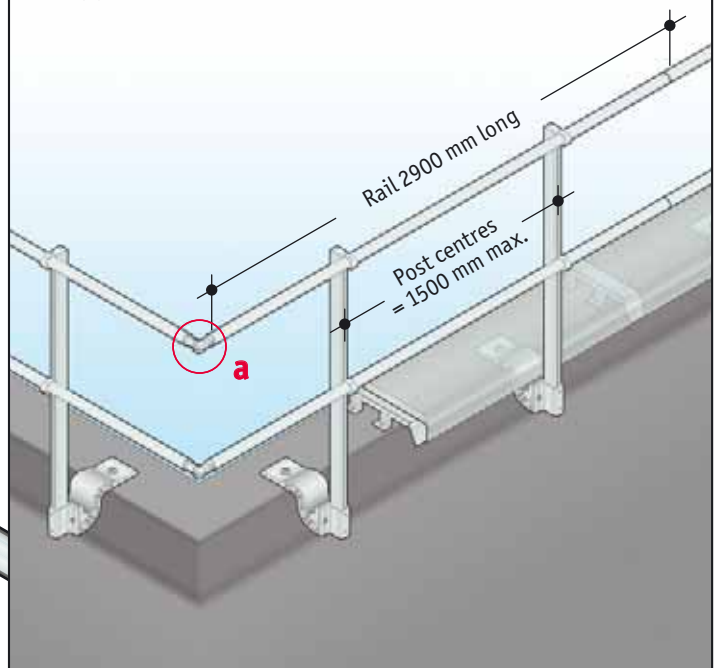
The folding rails are supplied purpose-made to the modules indicated on the detailed setting out drawing.

Standard length: 3000 mm. Other dimensions on request.



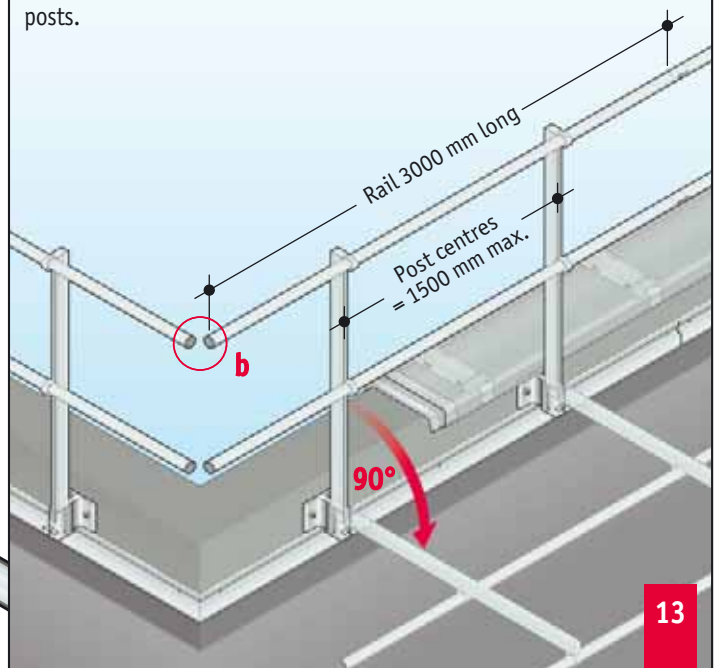
### Fixed Barrial

At the corners, the rails are linked with a variable angle corner piece (a).



### Folding Barrial

At the corners, the ends of the rails are plugged (b). Each folding module must have at least two posts.





# Barrial®

## Examples of use

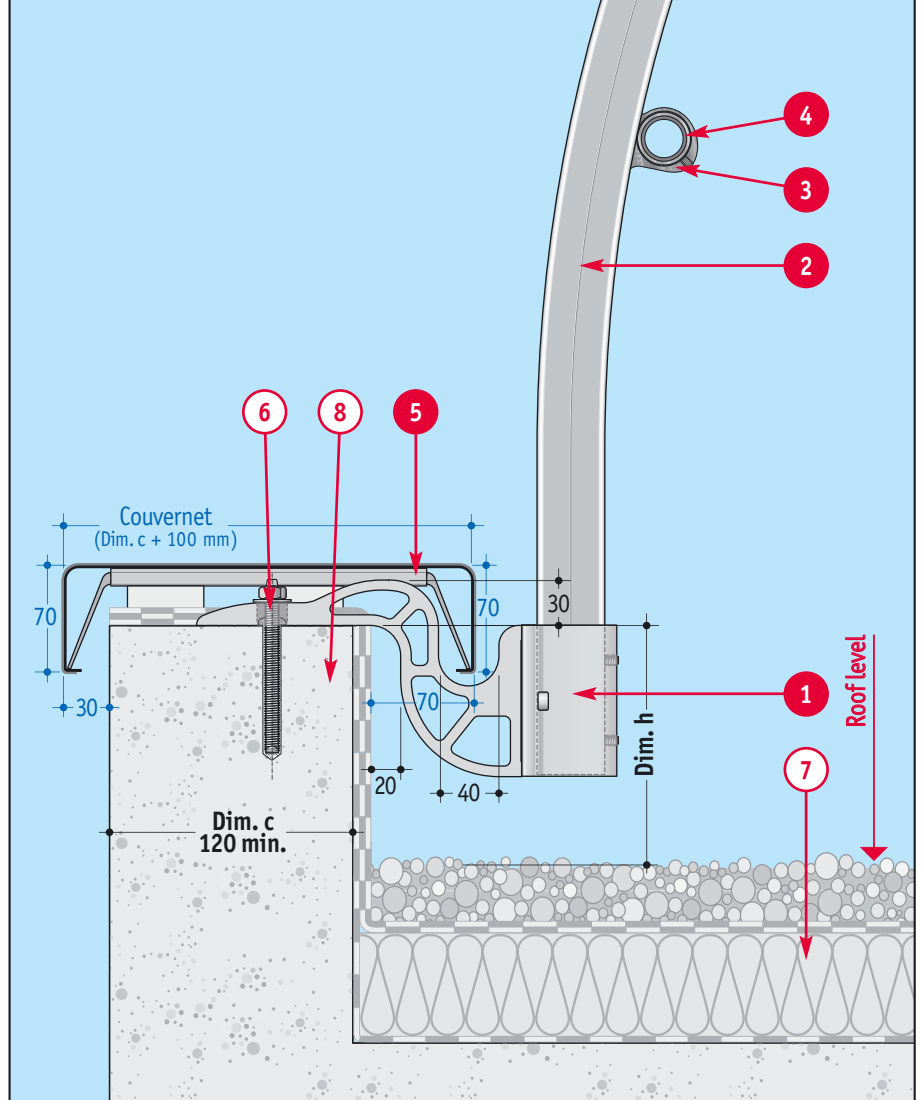
### Fixing to top of parapet wall with shoe Z

Scale 1:5

- 1 Shoe Z
- 2 Curved fixed post
- 3 Adjustable sleeve
- 4 Rails

5 Couvernet with straight edges, on standard raised supports

- 6 Fixing
- 7 Roof covering
- 8 Parapet wall



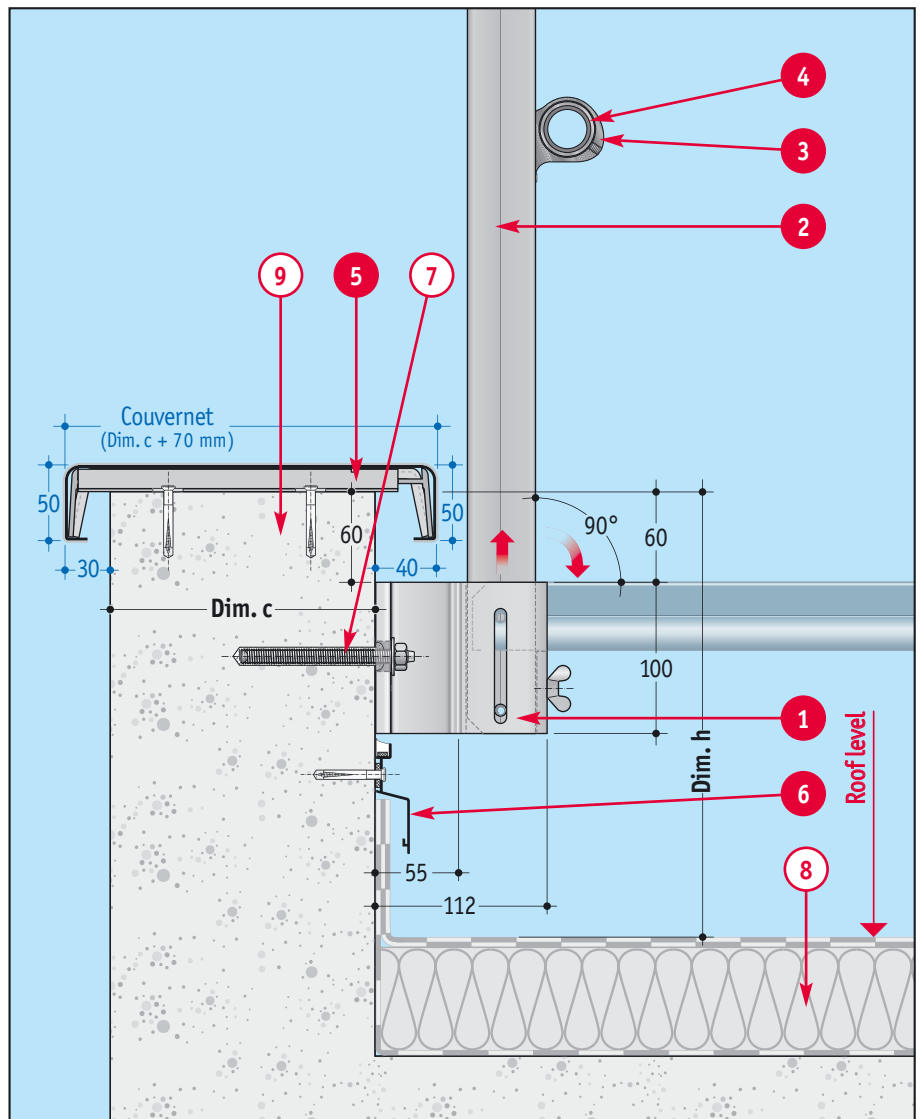
### Fixing inside parapet wall with shoe Ar

Scale 1:5

- 1 Shoe Ar
- 2 Folding post
- 3 Adjustable sleeve
- 4 Rails

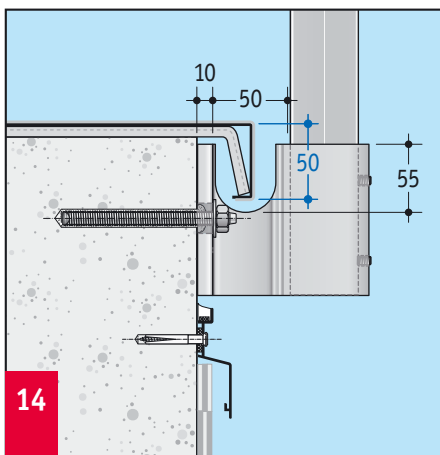
5 Couvernet with rounded edges with supports type 288

- 6 Solinet flashing system
- 7 Fixing
- 8 Roof covering
- 9 Parapet wall



### Fixing inside parapet wall with shoe Ae

In the case of low parapet walls, shoe Ae leaves space for the downstand of a coping.



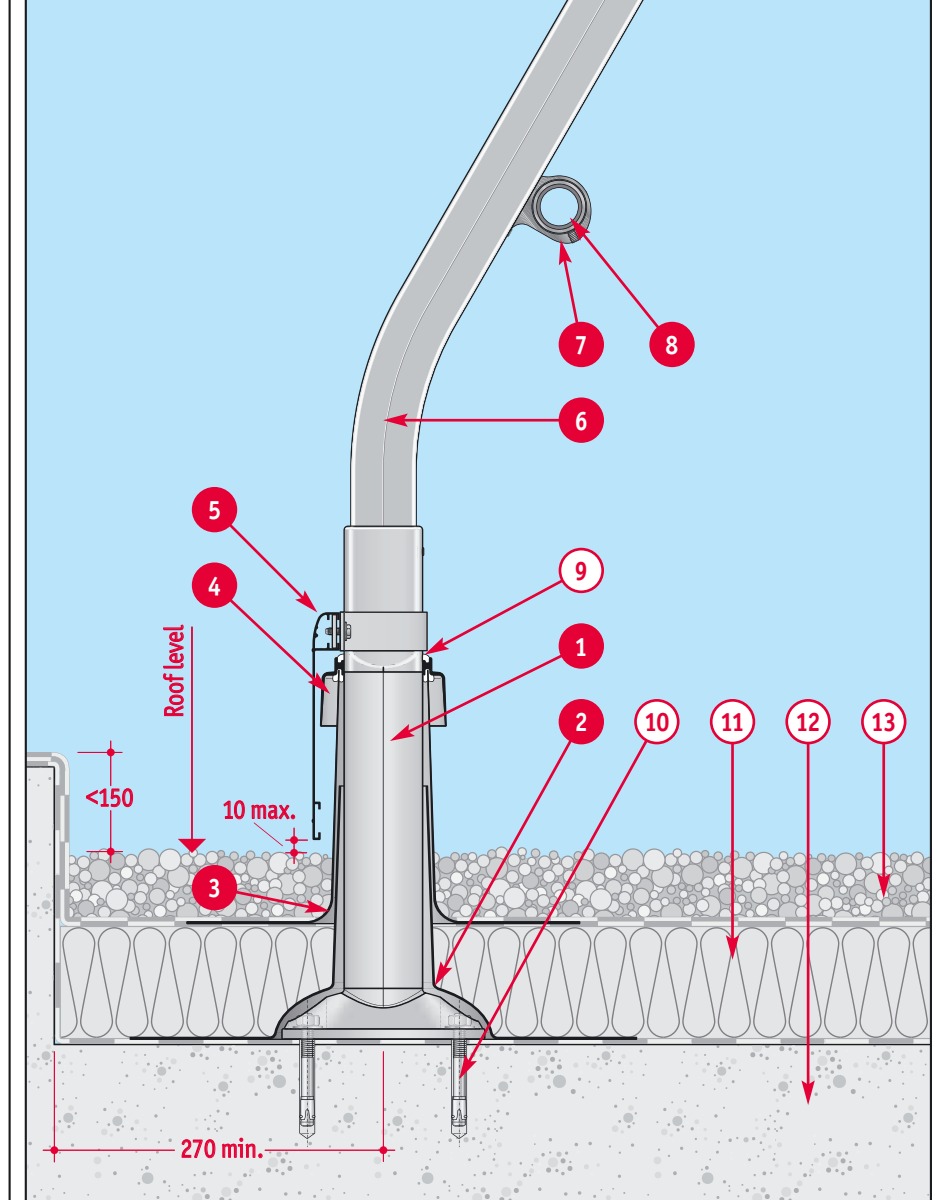
# Barrial®

## Examples of use

### Fixing on roof slab with shoe D

Scale 1:5

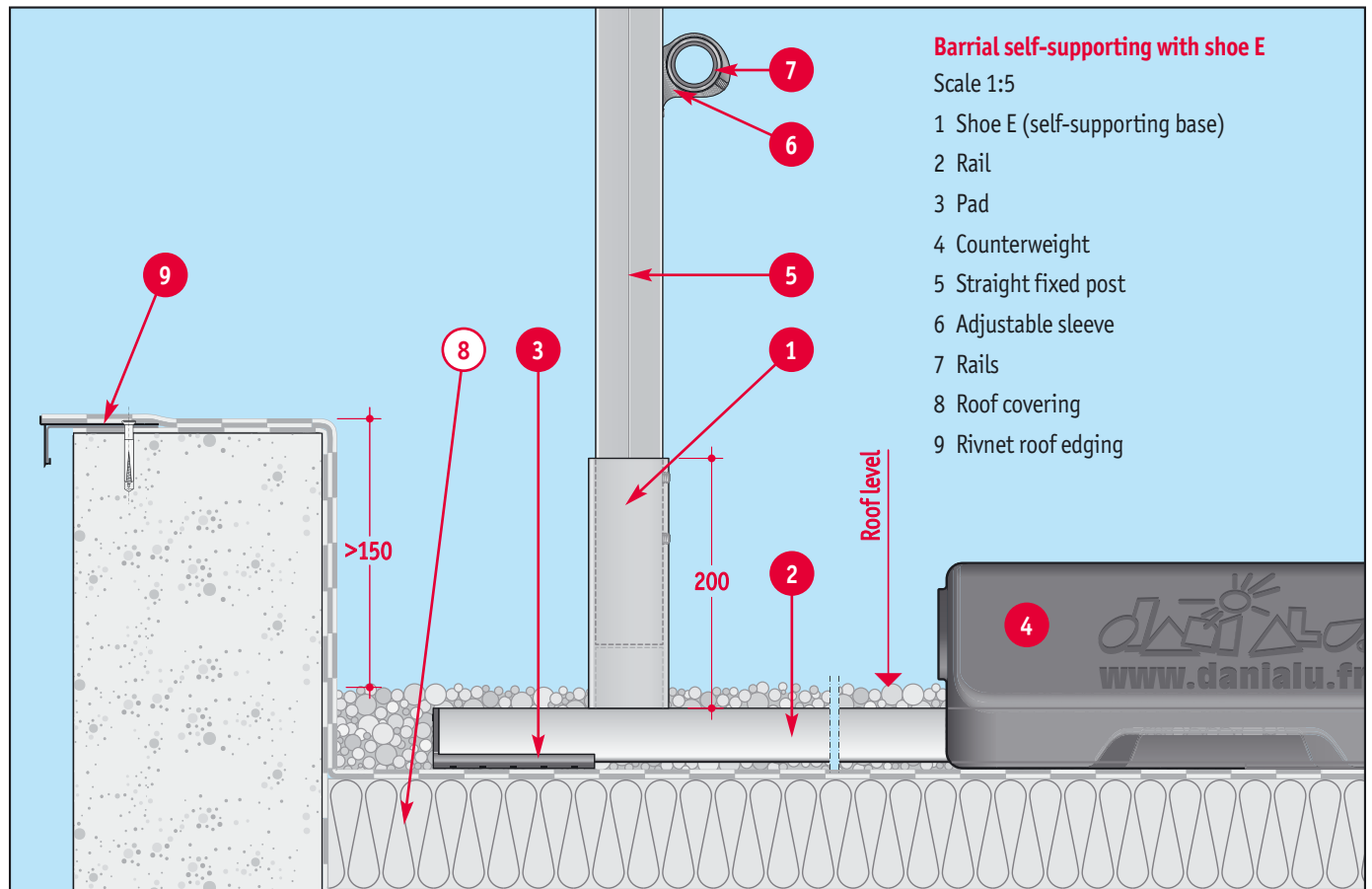
- 1 Shoe D
- 2 200 bottom base plate
- 3 200 top base plate
- 4 Colar
- 5 Skirting
- 6 Angled fixed post
- 7 Adjustable sleeve
- 8 Rails
- 9 Polyurethane mastic
- 10 Fixing
- 11 Roof covering
- 12 Concrete roof slab
- 13 Protective chippings



### Barrial self-supporting with shoe E

Scale 1:5

- 1 Shoe E (self-supporting base)
- 2 Rail
- 3 Pad
- 4 Counterweight
- 5 Straight fixed post
- 6 Adjustable sleeve
- 7 Rails
- 8 Roof covering
- 9 Rivnet roof edging





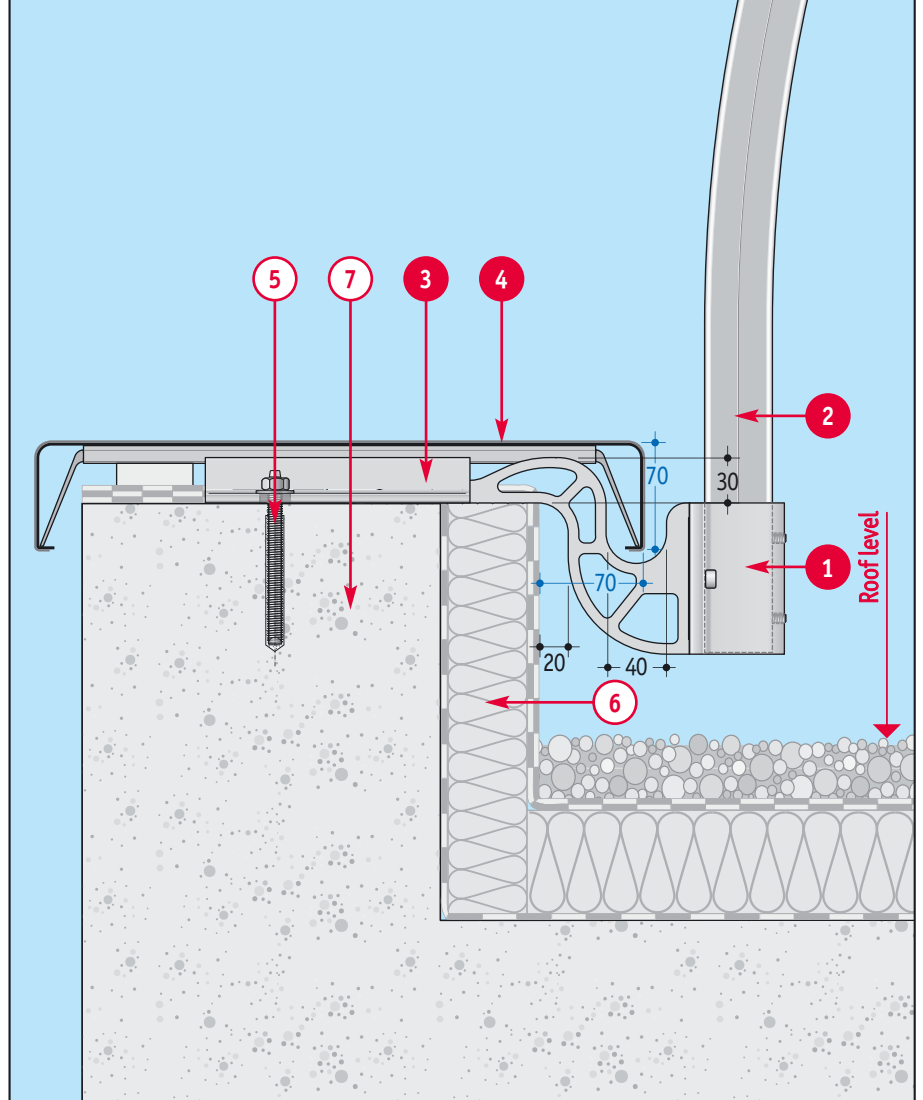
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## Other examples

### Fixed Barrial with shoe Z

Scale 1:5

- 1 Shoe Z
- 2 Curved fixed post
- 3 Shoe Z with offset piece
- 4 Couvertnet (with raised supports)
- 5 Fixing
- 6 Internal insulation
- 7 Parapet wall



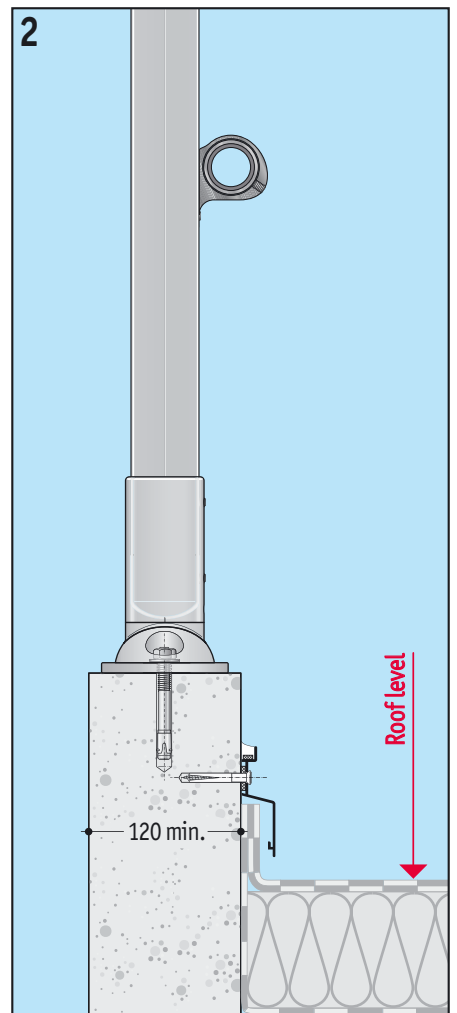
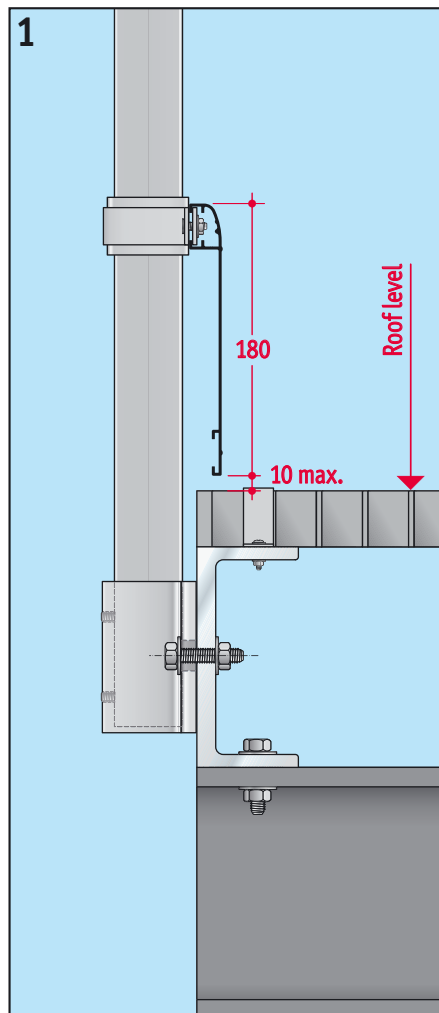
### Applications in an industrial environment

Barrial can also be used as a safety railing in an industrial environment, for example on gangways or mezzanines.

Examples of use:

- 1) Fixing to the outside of the wall using shoe A10
- 2) Fixing to parapet wall using shoe M

Please ask for our advice!





# Barrial®

## Other examples

Barrial can be adapted to a large number of special cases:

- safety railings around rooflights;
- construction of self-supporting access hatches;
- delineation of escape corridors.

Our design office would be pleased to adapt Barrial to your project.





# Barrial®

## Regulations, standards and testing

### Regulations

#### What does the law say?

All employers have statutory and common-law obligations in relation to the health and safety of their employees and premises.

The Health & Safety at Work Act 1974 places an obligation on employers to take reasonable care of the health and safety of not only himself but also those around who may be affected by his acts or omissions.

The Management of Health and Safety at Work Regulations 1999 place an obligation on employers to assess risks and where necessary take action to eliminate or control the risks.

The Workplace (Health, Safety and Welfare) Regulations 1992 and The Construction Health Safety and Welfare Regulations 1996 cover all aspects of the workplace and construction sites respectively, including the requirement to ensure that all areas where people could fall from a height over 2 metres are properly guarded or covered.

The HSE has introduced new regulations on "Working at Height". They were introduced in April 2005. The main aim is to avoid working at height if possible and where it cannot be avoided to use the best practicable means of ensuring the safety of those working at height.

The Work at Height Regulations have changed the meaning of working platforms, which have traditionally been understood to mean a fully-boarded platform with handrails and toe boards. A working platform can now be virtually any surface from which work is carried out, such as a roof.

As roofs require maintenance work and are furthermore increasingly used for the installation of machinery (ventilation, solar panels, etc.), which also involves maintenance work, it is the duty of the owner and of the planning supervisor to allow the technical arrangements needed to prevent falling from height.

Fall restraints and arrest equipment, such as safety lines, harnesses and safety nets, should only be considered as a last resort when no other means are reasonably practicable. They

should only be used and erected by trained operatives and given regular inspections.

Collective control measures should always take priority over personal control measures. Collective measures protect more than one person at any one time, eg scaffolds, airbags, nets etc and they are usually passive (ie they require no action by the user to work effectively).

The Barrial safety railing is a permanent collective protection system that meets all of these statutory constraints.

### Standards and testing

Barrial has been developed on the basis of two main European standards:

**EN 14122-3** (Machine safety – August 2001): this standard specifies that a safety railing must be installed wherever it would be possible to fall from a height greater than 500 mm. The materials used must, by their nature or by means of additional treatment, be capable of withstanding the corrosion induced by the ambient atmosphere.

**EN 13374** (Temporary edge protection systems – October 2004): this standard describes the tests on self-supporting railings, frequently used in the building industry. It also requires, in particular, more extensive static loading tests.

In order to guarantee the highest levels of safety, the entire Barrial has been tested by reference to the most stringent criteria in each of these two standards (see diagram "Static loads").

The tests are carried out by two independent accredited bodies:

- CEBTP (Lyon)
- DEKRA-EXAM (Bochum)



### GS Certification

Barrial is entitled to use the GS European quality mark (Geprüfte Sicherheit) issued by DEKRA EXAM.

The GS mark requires a regular external audit to enable the quality and the invariability of our products to be guaranteed.

### Sizing of the railings

The new British Regulations require that handrails have a minimum height for construction work of 950 mm, increased from 910 mm in the old regulations. Where existing 910 mm handrails are fixed in place they can remain at that height until they are changed. Any gap between the top rail and any intermediate rail should not exceed 470 mm.

Toe-boards shall be suitable and sufficient to prevent the fall of any person, or any material or object, from any place of work. (Source: HSE, Q/A on the Work at Height Regulations 2005).

Barrial sizing is above regulation requirements, since it is designed by reference to the most stringent criteria of the two above European standards (see diagram "Sizing").

### Load-bearing structure

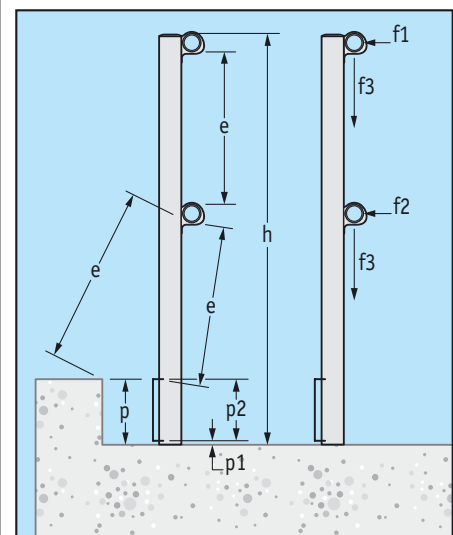
The load-bearing structure must be designed to withstand the loads applied to the railing (see diagram "Static loads").

### Fixings

In order to comply with the standard, the railings must be fixed using fixings that are suitable for the background. Seek advice from your fixings manufacturer, showing him the table of Barrial forces, which can be downloaded from [www.danialu.com](http://www.danialu.com).

### Sizing

	NF EN 14122-3	NF EN 13374 category A
<b>h</b>	1100 mm min.	1000 mm min.
<b>e</b>	500 mm max.	470 mm max.
<b>p1</b>	10 mm max.	20 mm max.
<b>p2</b>	150 mm	not stated
<b>p</b>	not stated	150 mm



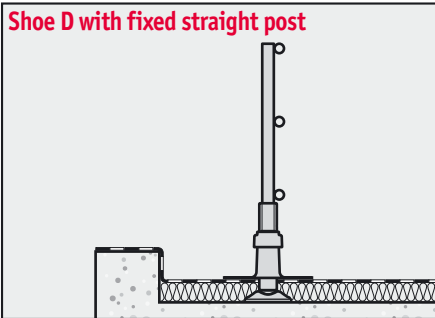
### Static loads

	NF EN 14122-3	NF EN 13374 category A
<b>f1</b>	30 daN/m at the position of the post and in the middle of the handrail deformation < 30 mm	30 daN at the weakest point deformation < 55 mm
<b>f2</b>	not stated	30 daN at the weakest point deformation < 55 mm
<b>f3</b>	not stated	125 daN at the weakest point No deformation limit

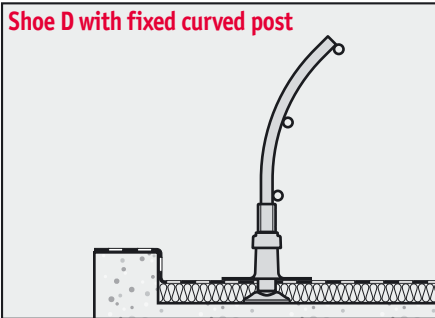
# Barrial®

## Sample specification clauses

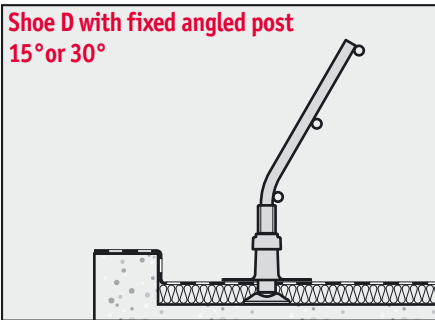
Shoe D with fixed straight post



Shoe D with fixed curved post



Shoe D with fixed angled post  
15° or 30°



### Fixed Barrial – Fixing to roof slab using Shoe D

dani alu (telephone 04 74 87 12 48, [www.danialu.com](http://www.danialu.com)) Barrial aluminium fixed safety railing system for flat roofs inaccessible to the public, positioned on the roof and fixed to the roof slab, or technically equivalent.

The system shall comply with standard NF EN ISO 14122-3, be covered by both static and dynamic test certificates issued by an accredited body, and be certified by the European GS Mark.

In compliance with the standard, the top rail, or handrail, shall be positioned 1100 mm above the roof level. The gap between 2 rails shall not exceed 500 mm.

**Height of parapet wall:** ..... mm (state the height).  
**Distance from parapet wall:** ..... mm (state the dimension).  
**Thickness of chippings:** ..... mm (state the thickness).

**Type of shoe:** shoe D

The safety railing shall be positioned on the flat roof and shall be fixed to the roof slab using a shoe type D, comprising:

- an aluminium base plate coated with bituminous primer;
- a thermoplastic elastomer collar, forming a flashing.

**Type of post:** The posts shall be type ..... (state type of post).

- straight fixed ● curved fixed (radius 1.00 m) ● angled fixed at 15° ● angled fixed at 30°

The posts shall be fitted with a groove to allow the insertion of a varying number of lugs, for use as fixing points and to allow the horizontal and vertical adjustment of the rails.

**Rails:** Number of rails: ..... (In order to determine the number of rails, use the Barrial configurator at [www.danialu.com](http://www.danialu.com) or seek our advice).

The handrail (or top rail) and the intermediate rails shall be made from the same rail profile and shall be fitted with a spigot to allow them to be slotted together for a minimum depth of 100 mm. The maximum rail diameter shall be 35 mm.

At corners, the rails shall be connected together using variable angle corner pieces (45° to 180°) with the same finish as the rails.

**Skirting** (obligatory if the parapet wall is less than 150 mm high):

The railing shall have an extruded aluminium skirting 180 mm high, fixed to expand freely using tightening lugs and cleats. The system shall include factory-prefabricated junction and corner fittings.

**Bolts:** All bolts and screws shall be in stainless steel (nickel-free)

**Finish:** The finish shall be aluminium ..... (state the finish).

- unfinished ● Danilac powder coating to RAL colour (state RAL No.)

**Detailed setting out drawing:** A detailed setting out drawing shall be provided by the manufacturer and submitted for the Architect's approval before the system is installed.

**Installation:** Installation shall be carried out in accordance with the manufacturer's instructions, preferably by a contractor providing evidence of qualifications 3211 and 3212 (flat roof coverings).

**Quantity:**

Length of parapet wall to be protected: ..... (state the quantity).

No. of angles: ..... (state the quantity).

Price per m as specification (including angles): ..... (state the quantity).

Download the table of forces on the fixings, standard sections and sample specifications to suit your project from [www.danialu.com](http://www.danialu.com)





# Barrial®

Date: \_\_\_\_\_

Company / Address / Stamp: \_\_\_\_\_

Page: \_\_\_\_\_ from \_\_\_\_\_

UK official distributor  
**International Construction Bureau Ltd**  
 Unit 1, Dominion Centre, Elliott Road  
 Bournemouth, Dorset BH11 8JR

Contact: Rob Jackson  
 E-mail: [robjackson@icb.uk.com](mailto:robjackson@icb.uk.com)  
 Tel.: 01202 583309  
 Mobile: 07976 263973  
 Fax: 01202 575524

Phone: \_\_\_\_\_ Contact: \_\_\_\_\_

Fax: \_\_\_\_\_ Mobile phone: \_\_\_\_\_

Contract site: \_\_\_\_\_

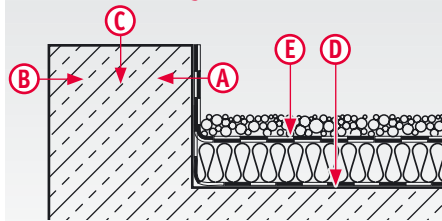
## Request for quotation

(Tick the options required)

Type of project:  New building  Refurbishment Stage of the project:  Design  On site

For a precise quotation, please fill in this form. In the case of an order, please enclose a survey of the site dimensions.

### 1. Method of fixing

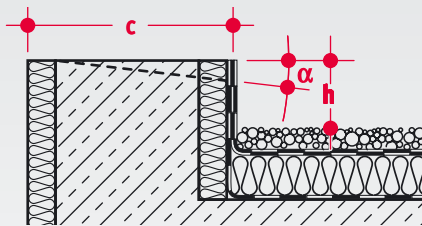


- A Inside parapet wall     B On outer face of wall  
 C On parapet wall     D On roof slab  
 E Self-supporting

### 2. Nature of the support

- Concrete     Metal  
 Timber     Other

### 3. Characteristics and dimensions of the parapet wall



Width c = mm \_\_\_\_\_

Height h = mm \_\_\_\_\_

In the absence of a parapet wall, or if it is low (< 150 mm), a skirting will be needed.

Slope  $\alpha = \text{°}$  \_\_\_\_\_

Insulation:

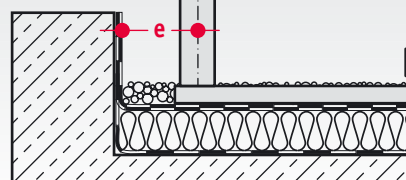
Internal insulation = mm \_\_\_\_\_

External insulation = mm \_\_\_\_\_

Insulation on parapet wall = mm \_\_\_\_\_

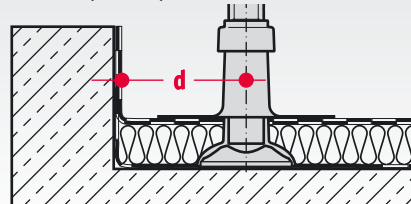
In the case of a parapet wall of a special shape, draw a section on a separate sheet.

### 4. Distance from inside of parapet wall to post (shoe E)



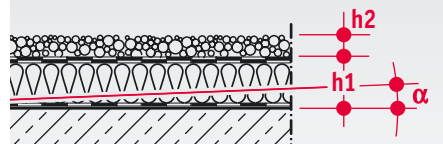
Dimension e = mm : \_\_\_\_\_

### 5. Distance from inside of parapet wall to post (shoe D)



Dimension d = mm (270 min.): \_\_\_\_\_

### 6. Characteristics of the roof slab



Insulation h1 = mm \_\_\_\_\_

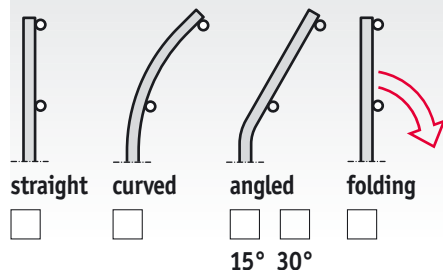
Chippings thickness h2 = mm \_\_\_\_\_

Slope  $\alpha = \text{°}$  \_\_\_\_\_

Roof covering:  bituminous

synthetic     other

### 7. Choice of post



straight     curved     angled  15°  30°    folding

### 8. Choice of shoe

- Fixed Barrial, fixed inside parapet wall or on outer face of wall
- Shoe A     Shoe Ae     Shoe A10

- Fixed Barrial, fixed on top of parapet wall
- Shoe Z     Shoe F     Shoe M     Shoe M+

- Fixed Barrial, fixed to roof slab
- Shoe D

- Barrial self-supporting
- Shoe E

- Folding Barrial, fixed inside parapet wall
- Shoe Ar     Shoe Aer     Shoe A10r

- Folding Barrial, fixed on top of parapet wall
- Shoe Zr

- Folding Barrial, fixed to roof slab
- Shoe Dr

### 9. Finish

- Unfinished aluminium     Danilac powder coating

State RAL colour: \_\_\_\_\_

### 10. Quantities

Length in m \_\_\_\_\_

No. of angles \_\_\_\_\_