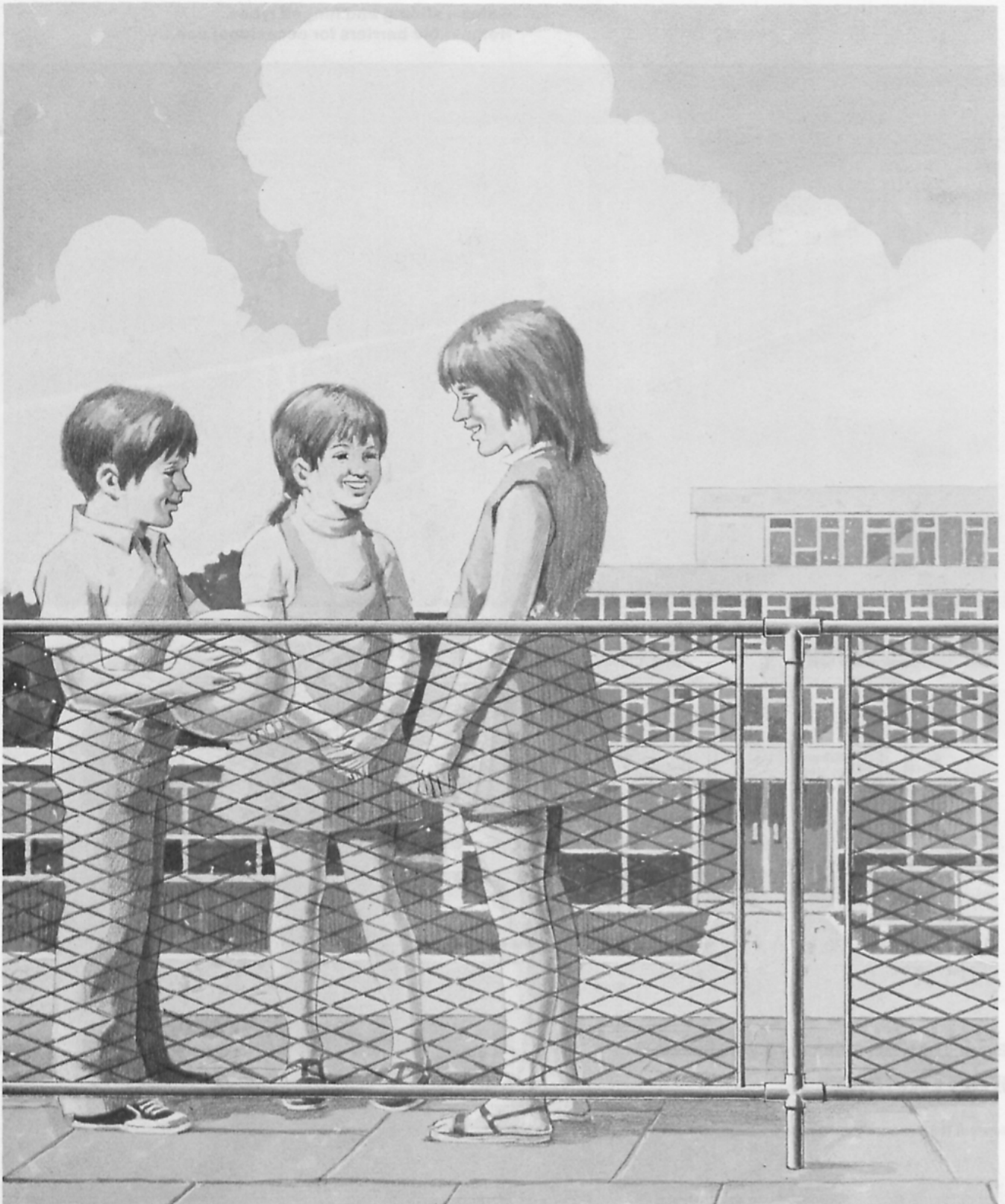


Expamet pedestrian barrier

Leaflet No BD10a
April 1980

CI/SfB

(90.21)



Expamet pedestrian barrier

The Expamet pedestrian barrier is supplied in 1830mm 6' 0" and 2057mm 6' 9" lengths.

The in-fill panels are made from ref 4599 38.10mm $1\frac{1}{2}$ " expanded steel and the whole panel is constructed in such a way as to be completely free from clips, bolts, projections or sharp edges of any kind. The neat diamond mesh blends with the smooth support members into an attractive design.

Materials

Primary members 51mm 2" dia steel tube

Connectors – cast steel 'Kee Klamps'

In-fill – expanded steel ref 4599 38.10mm $1\frac{1}{2}$ " mesh with strands $4.75\text{mm } \frac{3}{16}" \times 3.18\text{mm } \frac{1}{8}"$.

In-fill edge 25.40mm 1" \times 2.95mm mild steel U section.

Construction

Primary members slide into connectors and are secured by socket grub screws. In-fill is welded to horizontal rails and to in-fill edging. It is usual for the barrier posts to be set into the ground and firmly grouted in.

Varying types of ground sockets or base plates are available if required.

Hot spelter galvanising is the standard finish.

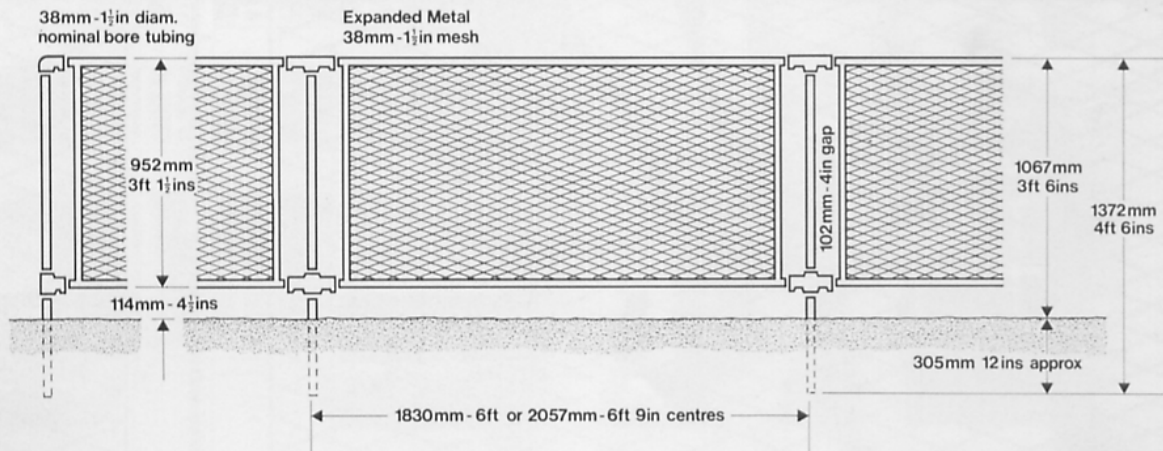
Sizes and types

1830mm 6' 0" and 2057mm 6' 9" units are supplied straight or curved to radius. For inclined sites stepped or raked types are available.

Also available

Gates – sliding and hinged types

Removable barriers for occasional use



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Bergorail ***pedestrian guardrail***

Patents Nos. 651362 & 804248

Bergorail with mesh or bar infilling complies with B.S. 3049. Three types are available: 1. With weldmesh infilling. 2. With vertical bar infilling, providing an exceptionally strong and attractive guardrail. 3. Open rail, without infilling.



Special features

1. Careful design makes BERGORAIL very easy to assemble and erect.
The cost of erection and maintenance is low.
2. Every component is easily replaced in the event of damage, and only the parts actually deformed need be dismantled for replacement.
3. Gradients, radii, removable sections, and gates are all available where required.

Upright members

These are of two types —

End Uprights used to commence and finish any individual length of guardrail, and Intermediate Uprights used between any two panels of the guardrail. Both are made from $1\frac{1}{2}$ " (38 mm) nominal bore, heavy tube, approximately 2" (51 mm) o/d overall length 4' 6" (1340 mm).

Connectors are permanently welded to the upright members to receive the ends of the horizontal members. They are of patented design and allow a considerable degree of flexibility in erection, thus complying with paragraph 11 of B.S. 3049.

The bottom of the tube is flattened to form a key, to allow the upright to fit close up to a kerb when fixing. The standard member allows for a depth below ground of 12" (300 mm), but can be adapted to suit special needs, e.g. by having a baseplate welded on at ground level for bolting to a retaining wall or parapet.

Horizontal members

These are secured to the connectors by means of four stainless steel bolt assemblies, each consisting of two key-headed domed nuts screwed on to a central stud. A strong, neat, and unobtrusive fixing device is obtained devoid of all unsightly clips and projections, and the guardrail is virtually tamper-proof.

1. Weldmesh infilling

(illustrated, top left)

With weldmesh infilling the horizontal members are two parallel flat oval tubular rails, size $2\frac{3}{8}$ " \times 1" \times 5' 9 $\frac{1}{2}$ " (70 \times 25 \times 1765 mm) long made from 10g mild steel and slotted to receive the mesh panels. The weldmesh is 3" \times 1" (76 \times 25 mm) with 5 s.w.g. vertical wires at 3" (76 mm) centres spot welded to 10 s.w.g. horizontal wires at 1" (25 mm) centres, the vertical edge being stiffened by a specially designed mild steel hollow tee section.

Size of panel is 5' 9" \times 3' 0" (1752 \times 914 mm).

2. Vertical bar infilling

(illustrated, bottom left)

With vertical bar infilling the same size of flat oval rails is used but these are NOT slotted as for weldmesh infilling. Vertical bars, $\frac{5}{8}$ " (16 mm) diameter, are securely welded to the top and bottom rails at 4 $\frac{1}{2}$ " (114 mm) centres.



3 Open Rail

(illustrated opposite)

Two separate rails are used for this open rail without infilling. The bottom rail is connected to the uprights 20" (508 mm) above ground level and special upright members are used. The design does not conform to B.S. 3049, but is used mainly as a handrail, in conditions where no infilling is necessary.

Finish

The standard finish is hot dip galvanising to B.S. 1775, Appx. B. Alternatively, the upright members and the horizontal rails can be rust-proofed and stove enamelled to any B.S. colour. This finish, however, cannot be applied to the weldmesh panels, which are always galvanised.

Gradients

Slight gradients up to 1 in 60 can be accommodated in the standard design without special adaptation. For gradients over 1 in 60 special horizontal members are supplied, with the weldmesh infilling re-formed to suit the required slope. Horizontal members with vertical bar infilling are also made specially to suit the gradient.

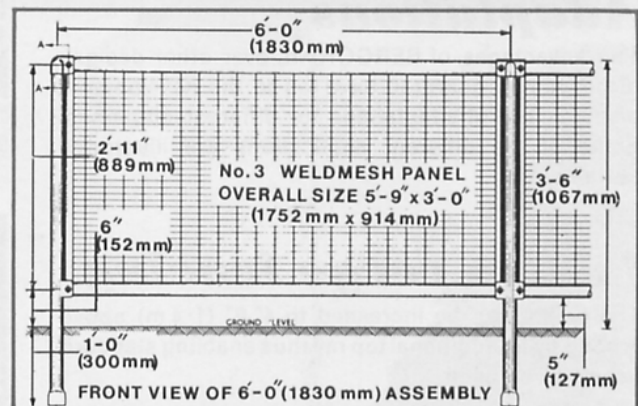
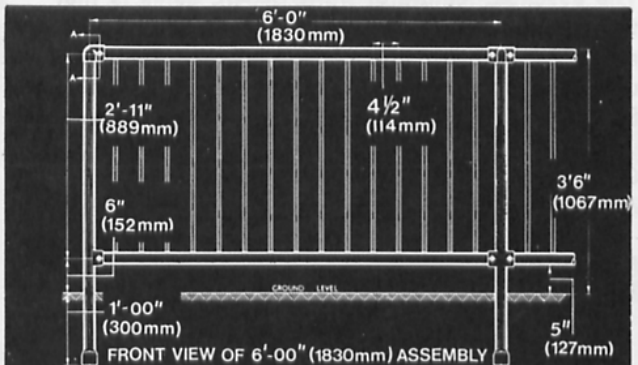
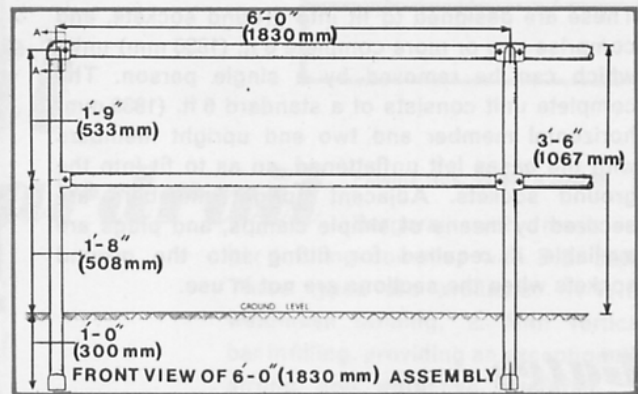
This special feature of BERGORAIL avoids the use of unsightly steps, and allows the rail to follow the contour of the ground, with the upright members truly vertical.

Re-formed weldmesh panels have small metal labels permanently attached to them. For example, a panel having a gradient of 1 in 40 will be labelled 40R or 40L according to whether it is a right-hand or a left-hand gradient. A right-hand gradient means a slope rising from left to right when viewed from the pavement, and a left-hand gradient means one rising from right to left. These labels simplify replacement in the event of damage, and also assist in the course of erection.

Some degree of flexibility has been achieved in the use of gradiented panels and the Table shows the range available.

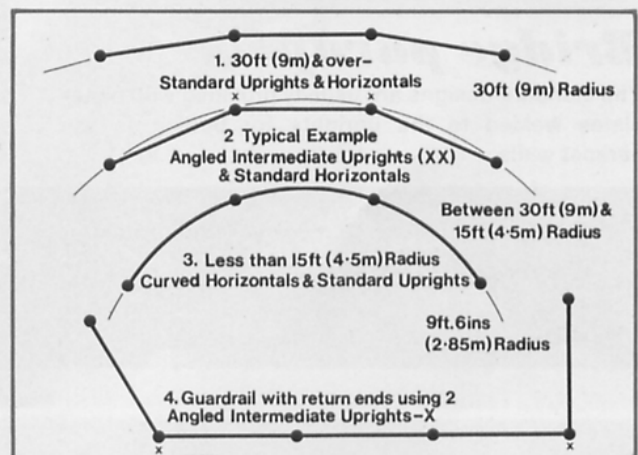
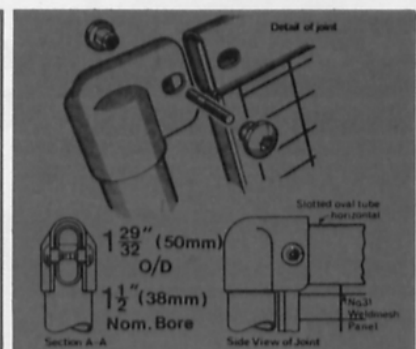
Radii

1. A radius of 30 ft. (9 m) and over needs no special provision and is accommodated automatically by the standard design.
2. Radii between 30 ft. (9 m) and 15 ft. (4.5 m) need angled upright members joined by standard straight horizontal members. Angled upright members normally have the connectors set at an angle of 165°. Special angles can, however, be supplied for particular conditions. For example, right-angled uprights are available for return lengths.
3. For radii less than 15 ft. (4.5 m) curved horizontal members are supplied, for use with standard uprights. If site conditions permit, an alternative method of dealing with 'tight' radii, is to use shorter horizontal members, 3 ft. (900 mm) or 4 ft. (1200 mm) long, instead of the standard 6 ft. (1830 mm) members.



Gradient Measured on Site
Over 1 in 60
1 in 60 — 1 in 32
1 in 31 — 1 in 22
1 in 21 — 1 in 17
1 in 16 — 1 in 14
1 in 13 — 1 in 12
1 in 11 — 1 in 10
Less than 1 in 10

Panel Re-formed Standard
1 in 40
1 in 25
1 in 19
1 in 15
1 in 12
1 in 10
As required
For open rail no special components are required on gradients.



Removable sections

These are designed to fit into ground sockets, and comprise one or more complete 6 ft. (1830 mm) units which can be removed by a single person. The complete unit consists of a standard 6 ft. (1830 mm) horizontal member and two end upright members with the bases left unflattened, so as to fit into the ground sockets. Adjacent upright members are secured by means of simple clamps, and plugs are available if required for fitting into the ground sockets when the sections are not in use.

Gates

The essential feature of BERGORAIL gates is that the two main supports, or upright members, are made of extra heavy tube and are laterally connected under the ground by means of a strong welded steel framework, so that the relationship between the uprights remains constant.

Gate assemblies are supplied complete with sliding bolt secured by galvanised padlock.



Adaptations

The advantages of BERGORAIL over other designs of pedestrian guardrail have led to the development of a number of adaptations for different situations. Some of the different applications are illustrated at right.

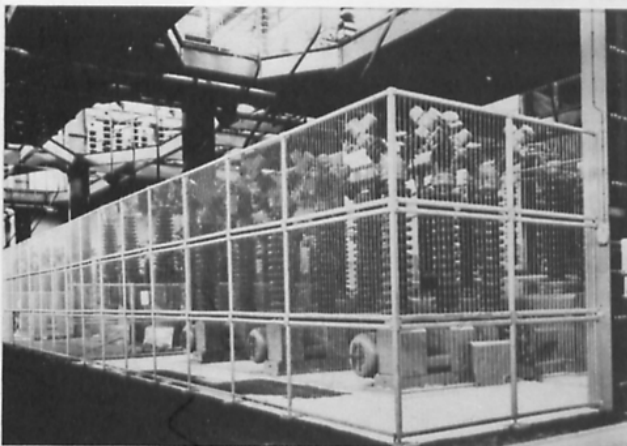


Centre verge fencing

The height can be increased to 4' 6" (1.4 m) above ground by an additional top rail thus enabling standard panels to be used.

Car Park balustrades

Panels may be fixed direct to the steel framework of the building, or to uprights fitted with baseplates.

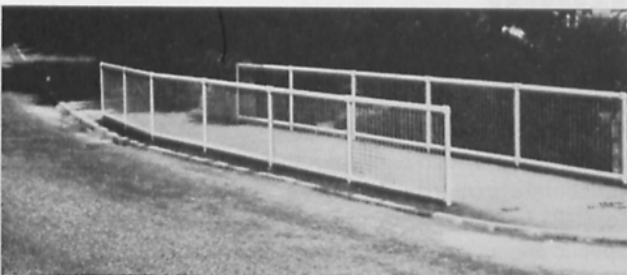


Power Station screens

Two or more standard panels may be combined to provide an effective safety screen for switchgear, up to 12' 6" (4.1 m) high.

Bridge parapets

The standard designs are usually provided with baseplates welded to the uprights for bolting to the parapet walls.



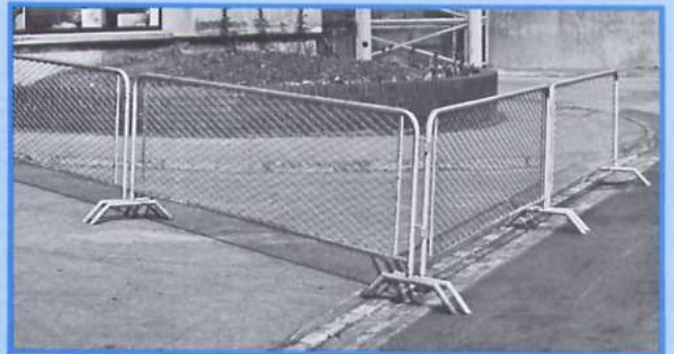
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Bergo portable guardrail



Bergo portable guardrail is designed to provide a temporary barrier for the control of pedestrian traffic.

Each unit is easily transportable, and may be used singly or linked to form a continuous line of protection. Interlocking connectors are designed so as to prevent casual opening.

The construction is robust but comparatively light as the infilling of the panel consists of expanded metal welded to the tubular steel frame. The vertical ends and the bottom of the panel are framed in heavy 'U' section.

Welded tubular supporting legs are securely bolted in position so as to prevent loss or removal during transit, but they may be adjusted on site to allow for adjacent units to be angled.

The portable guardrail is hot-dip galvanised after fabrication, to provide maximum protection against corrosion.

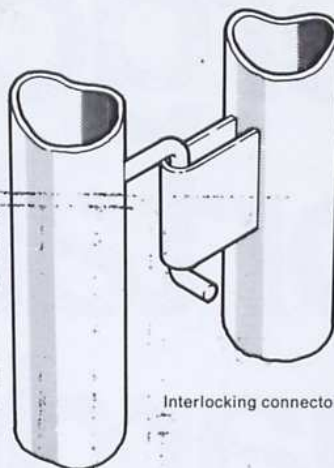
Dimensions are as follows:

Length overall 2600mm

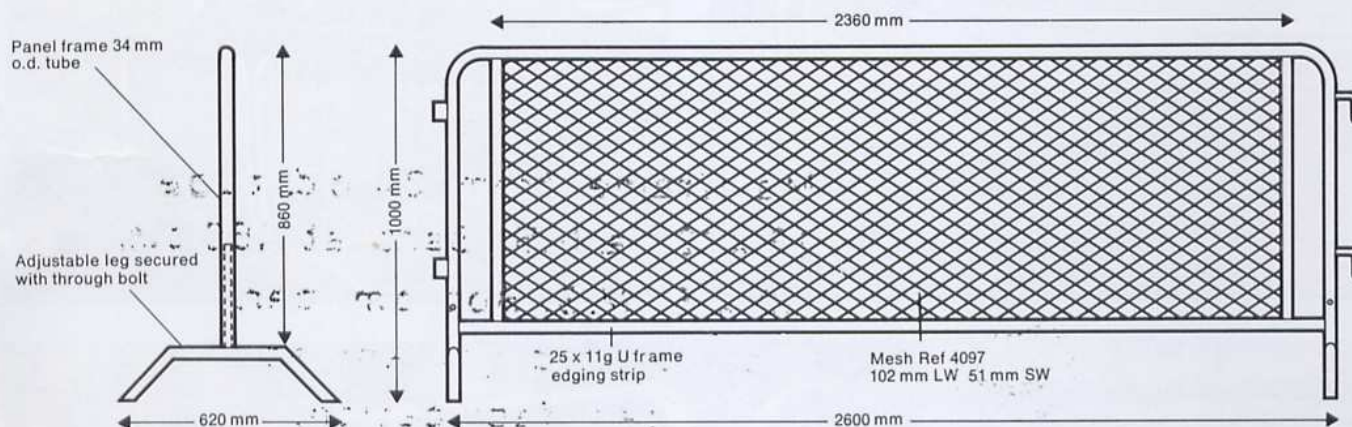
Height above ground 1000mm

Width of leg 620mm

Outside diameter of tubular frame 31.75mm



Interlocking connector system



The company policy is one of continuous development: we therefore reserve the right to alter specifications, etc., without notice.

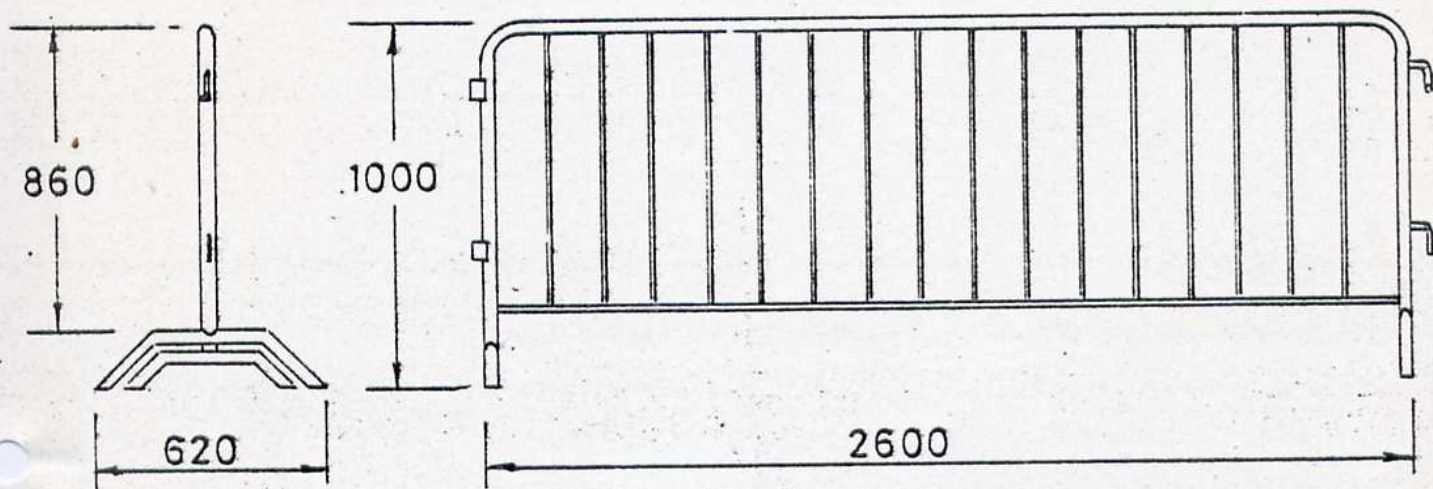
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Bergo Division

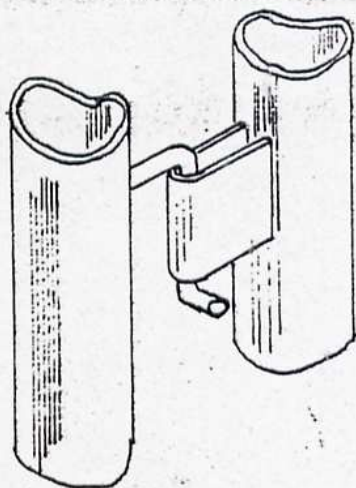
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Mainframe from 34 o.d. tube
 16 x 12 dia. M.S. Bars at 150 cts.
 30 x 5 M.S. Bottom bar.
 Hot dipped galvanised
 after fabrication.
 Long leg at male end



Interlocking connector
 system (on top pair only)

DRAWN BY J R F DATE 4-84

BERGO

BERGO VERTICAL BAR