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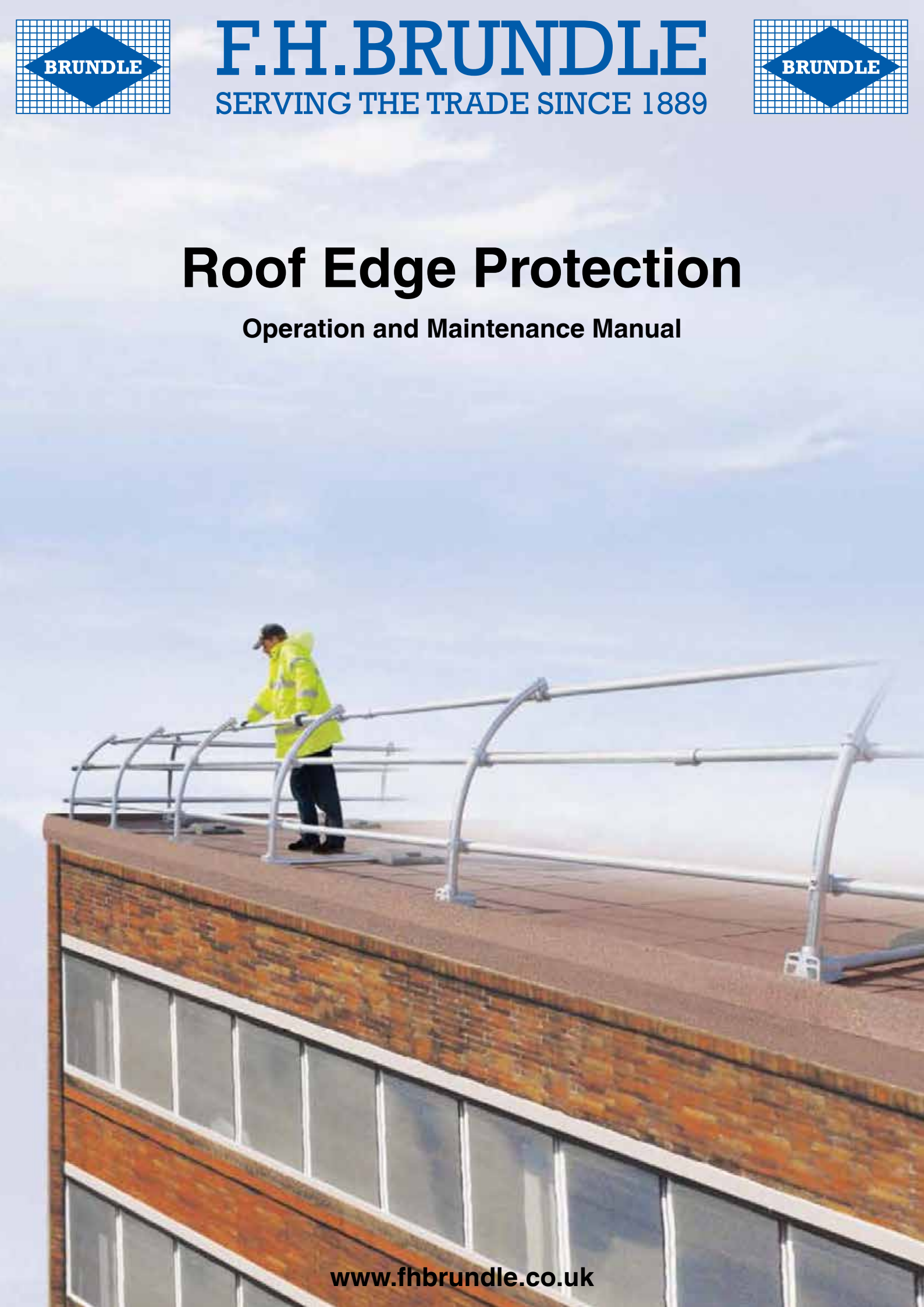
Roof Edge Protection

Operation and Maintenance Manual



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ROOF EDGE PROTECTION
ECONOMY SYSTEM

ROOF EDGE PROTECTION
STANDARD SYSTEM

ROOF EDGE PROTECTION
PLUS SYSTEM

CONTENTS

1.1 Distributor 24-36 Lamson Road, Ferry Lane North, Rainham, Essex, RM13 9YY

These Operating & Maintenance Instructions are a component part of any Roof Edge Protection system and must be used whenever the system is assembled. At no time should any pages from these instructions be removed.

1.2 Intended Use

The Roof Edge Protection system is a collective freestanding guardrail that has been designed to provide an effective barrier for flat or nearly flat roofs with a maximum pitch of 3°.

The Roof Edge Protection system is a permanent barrier.

The Roof Edge Protection System can be dismantled and relocated in a different area providing the installation is undertaken in accordance with the instructions in section 2.3.

The Roof Edge Protection system is only regarded as being fit for its intended use if the following conditions are complied with:

- Governed by statutory regulations and guidelines and installation per sonnel shall be familiar and adhere with the following:

  - EN ISO 14122 - part 3
  - EN 13374 – Class A (part thereof) Load & Deflection
  - HSG 33 Health and Safety in roof work
  - HSE INDG 284 – Working on Flat Roofs

Designed to withstand a maximum horizontal load applied perpendicular to the top rail of 300 N / m without deflecting more than 30mm. As required by EN 14122 Part 3.

Roof Edge Protection system is for use on Asphalt using Spartan or Elastomer tiles, Mineral Coated felt roofs or VC membranes.

1.3 Misuse

The system will be classed in misuse if any of the following are evident:

- The strength of the roof structure is not capable of withstanding the weight of the system plus operators, if there is any doubt then a suitably qualified structural engineer should undertake a detailed inspection.

- The roof surface is not clear of stones, debris, snow, ice, lubricants or anything else that could possibly affect the system performance during installation or relocation.

- Damaged components or incorrect assembly of the system.

- Is being used as an anchor point to lower or secure items from a rope or chain or is being used as an anchor point for PPE.

- Failure to observe the correct assembly configurations.

- Use by personnel without satisfactory instructions.

In the event of misuse the system shall be designated as “out of order” until the necessary remedial actions are taken.

1.4 Service Life

Metalwork:	May deteriorate with time and atmospheric conditions, but generally indefinite.
PVC counterweights:	20 years at -10° to + 40°
Rubber pads:	20 years at -10° to + 40°

1.5 Duty of Care

The building owner and/or building manager have a duty of care for the structures they have responsibility for, and in particular they shall ensure:

<u>The Roof Edge Protection system is/should:</u>

- Only be used as intended.
- Checked regularly.
- Only used by trained and authorised personnel.
- Provided in a reliable and fault free condition.
- Where possible be linked into the building’s lighting protection system.

<u>That operatives have:</u>

- Personal protective equipment available for use.

- Personal protective equipment is checked regularly.

- A current Operation and Maintenance manual located adjacent to the installation.

- All relevant operatives understand the contents of the manual.

- Installation operatives are duly instructed in all health and safety matters before initial commencement of work, and once a year the reafter. In addition to this installation operatives are to have adequate PPE to prevent falls from height during installation.

- All installation and use should cease when the average wind speed reaches 23mph (gusting to 35mph or more).

- Sufficient knowledge of the English language in order to understand these instructions.

- Free from any disability which may affect their ability to assemble or repair the system.

2.1 System Parts List

• 16RE00G40	Standard Post	8.2kg each
• 16RE00G40SS	Plus Post	12.5kg each
• 16RE11G40	Counterweight	30kg each
• 16RE11G40SS	Plus Counterweight	28kg each
• 16RE12G40	Run End Weight	67kg each
• 16149D	Sleeve Joint	1kg each
• 16125D	90° Elbow	1kg each
• 16133D	End Cap	10g each
• 160248	Handrailing	3.6kg each

2.2 System Parameters – Un-restrained – EN 14122 Part 3

- 16RE00G40 and 16RE00G40SS posts can be spaced up to a MAXIMUM of 2000mm centres. In a semi-restrained environment i.e. a parapet wall of at least 150mm high is within 2m of the system.

- At free ends on all systems, 16RE12G40 are required to be fitted to the first/last post. On Economy systems an 16RE11G40 is required to be fitted to the next post after the 16RE12G40. On Standard and Plus systems an 16RE11G40SS is required to be fitted to the next post after the 16RE12G40.

- On closed installations, i.e. installations which have no free ends, there are no requirements to fit 16RE12G40.

- On Economy systems thereafter a 16RE11G40 is required at 4000mm maximum centres.

- On Standard systems a 16RE11G40SS is required at 2000mm maximum centres.

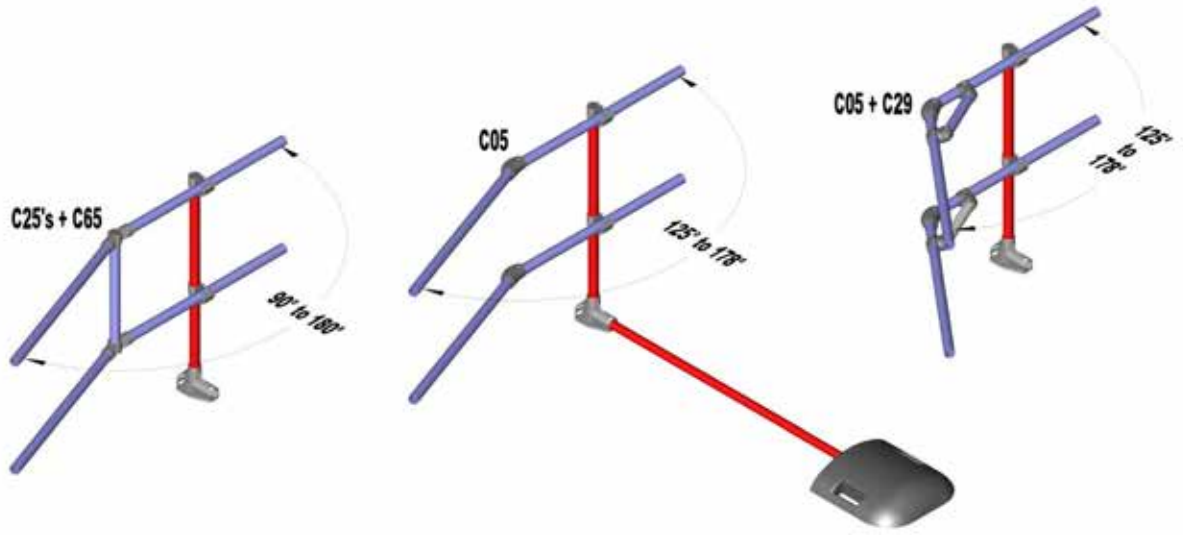
- On Plus systems a 16RE11G40SS is required at 4000mm maximum centres.

- On all systems the cross rail tube connections should be made using 16149D sleeve joints. On Economy and Standard systems the top and mid rail joints must be made in separate bays and be at least 2000mm apart. On Plus systems the top and bottom rails can be joined in the same bay but the mid rail must be joined in a separate bay and be at least 2000mm apart from the top and bottom joint.

- An upstand or parapet wall at least 150mm high is required within 2000mm of any intended location for an installation.

- All corners need support within 50mm or one side with the cumulative distance between uprights adjacent to corners not exceeding the maximum bay size of 2000mm, e.g. 0.5 + 1.5 or 0.3 + 1.7 etc.

- Non ninety degree corners will need additional support. The suggested methods are show in the images below:



2.3 System Parameters - Un-restrained – EN 13374 Class A (part there of)

- 16RE00G40 and 16RE00G40SS posts can be spaced up to a MAXIMUM of 240mm centres for intermediate bays. End bays to remain at 2000mm. In a semi-restrained environment, i.e. a parapet wall of at least 150mm high within 2m of the system.

- At free ends on all systems, 16RE12G40 are required to be fitted to the first/last post. On Economy systems an 16RE11G40 is required to be fitted to the next post after the 16RE12G40. On Standard and Plus systems an 16RE11G40SS is required to be fitted to the next post after the 16RE12G40.

- On closed installations, i.e. installations which have no free ends, there are no requirements to fit 16RE12G40

- On Economy systems thereafter an 16RE11G40 is required at 4800mm maximum centres.

- On Standard systems an 16RE11G40SS is required at 2400mm maximum centres.

- On Plus systems an 16RE11G40SS is required at 4800mm maximum centres.

- On all systems the cross rail tube connections should be made using 16149D sleeve joints. On Economy and Standard systems the top and mid rail joins must be made in separate bays and be at least 2400mm apart. On Plus systems the top and bottom rails can be joined in the same bay but the mid rail must be joined in a separate bay and be at least 2400mm apart from the top and bottom joint.

- An upstand or parapet wall at least 150mm his is required within 2000mm of any intended location for an installation.

- All corners need support within 500mm on one side with the cumulative distance between uprights adjacent to corners not exceeding the maximum bay size of 2400mm, e.g. 0.5 + 1.9 or 0.3 + 2.1 etc.

- Non ninety degree corners will need additional support. The suggested methods are shown in the images above.

2.4 System Parameters – Fully Restrained – EN 13374 Class A (part there of)

- 16RE00G40 and 16RE00G40SS posts can be spaced up to a MAXIMUM of 2800mm centres for intermediate bays. End bays to remain at 2000mm. In a fully restrained environment, i.e. the base of the upright is placed up against the base of a parapet wall which is at least 150mm high.

- At free ends on all systems, 16RE11G40 are required to be fitted to the first/last post. On Economy systems a 16RE11G40 is required to be fitted to the next post after the first and last posts. On Standard and Plus systems a 16RE11G40SS is required to be fitted to the next post after the 16RE11G40.

- On Economy systems thereafter an 16RE11G40 is required at 5600 maximum centres.

- On Standard systems a 16RE11G40SS is required at 2800mm maximum centres.

- On Plus systems a 16RE11G40SS is required at 5600mm maximum centres.

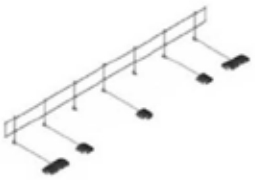
- On all systems the cross rail tube connections should be made using 16149D sleeve joints. On Economy and Standard systems the top and mid rail joints must be made in separate bays and be at least 2800mm apart. On Plus systems the top and bottom rails can be joined in the same bay but the mid rail must be joined in a separate bay and be at least 2800mm apart from the top and bottom joint.

- All corners need support within 500mm on one side with the cumulative distance between uprights adjacent to corners not exceeding the maximum bay size of 2800mm, e.g. 0.5 + 2.3 o 0.3 + 2.5 etc.

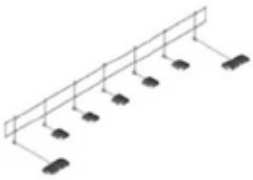
- Non ninety degree corners will need additional support. The suggested methods are shown in the images above.

2.5 Installation – Un-restrained

Open system



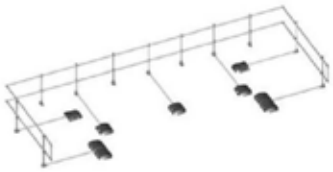
Economy



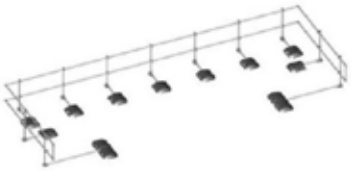
Standard

Plus

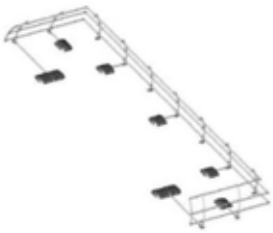
Semi closed system



Economy



Standard



Plus

2.5 Installation – Restrained

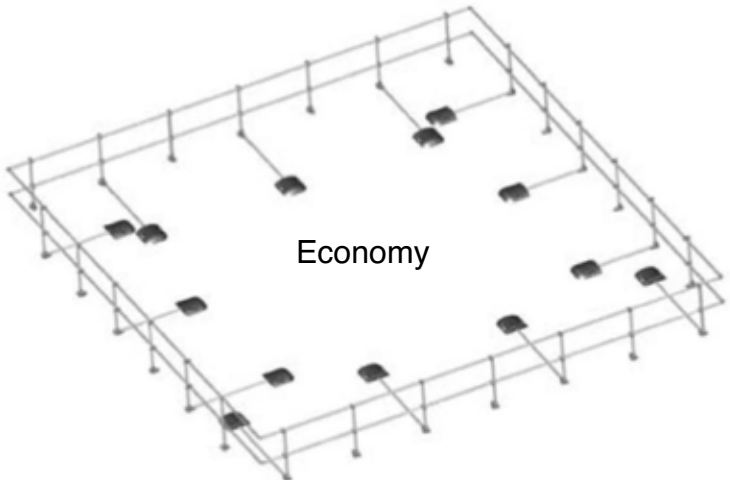
Open system

Economy

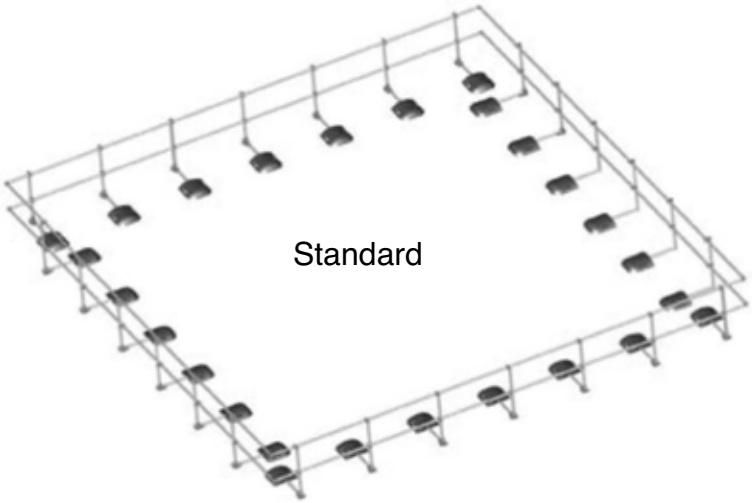
Standard

Plus

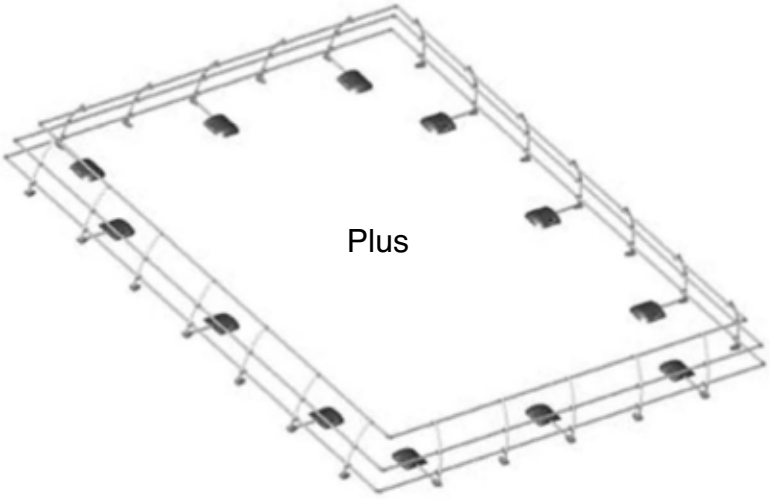
Fully closed system



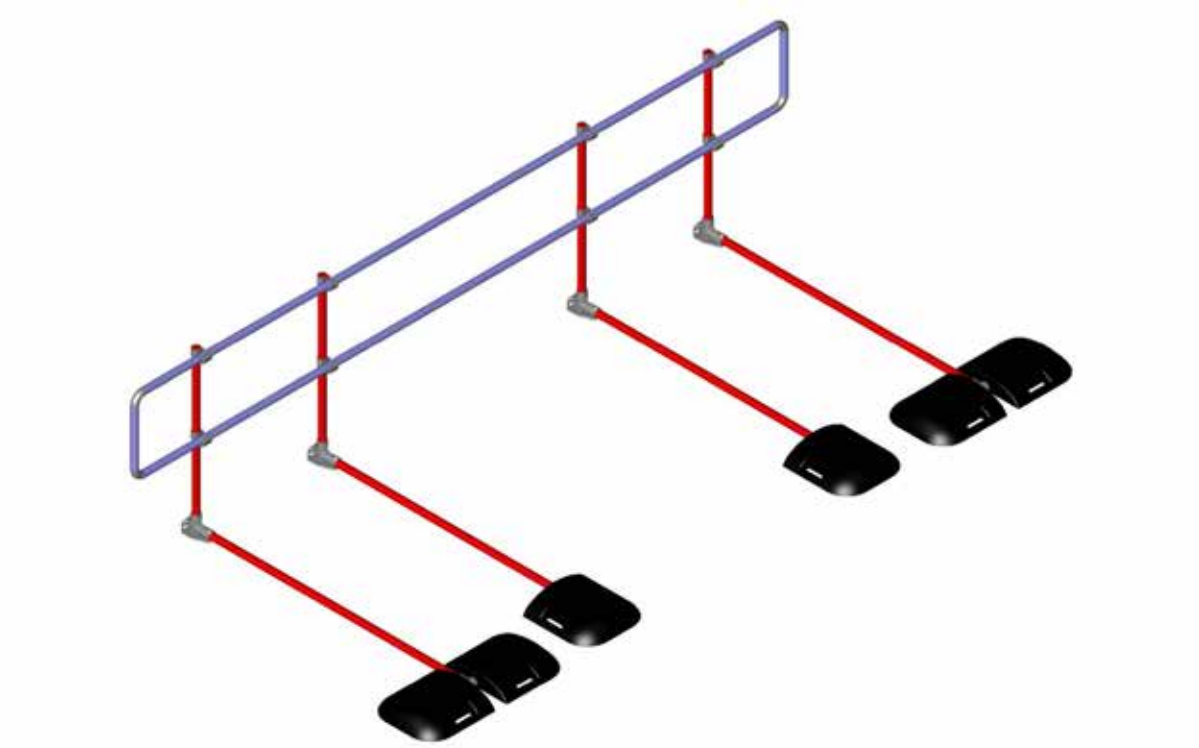
Economy



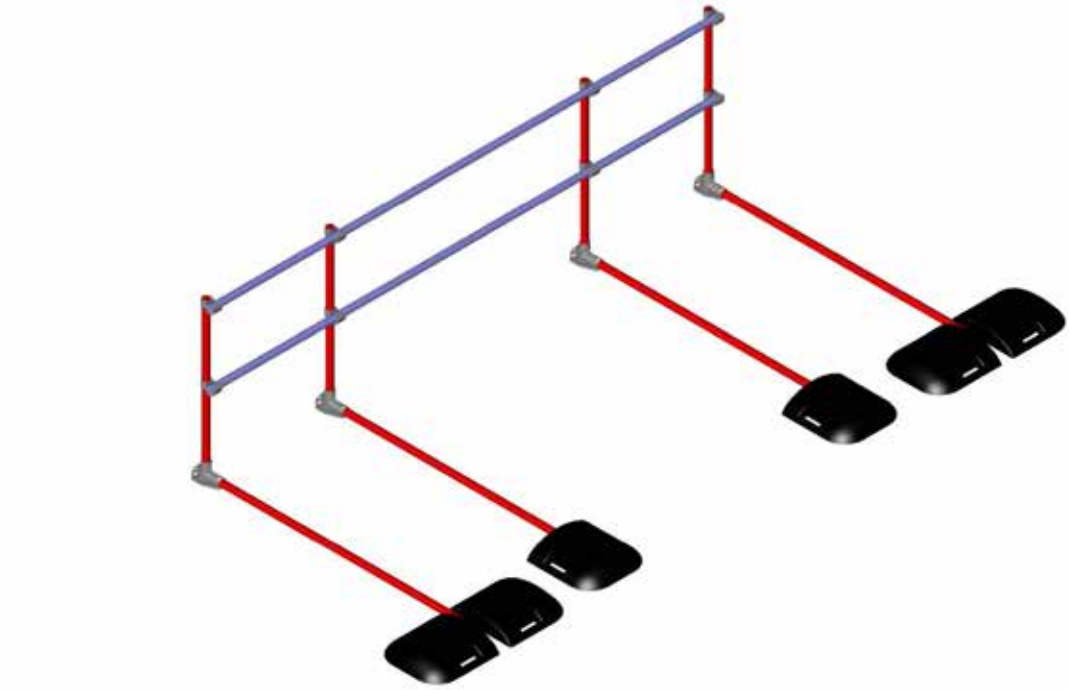
Standard



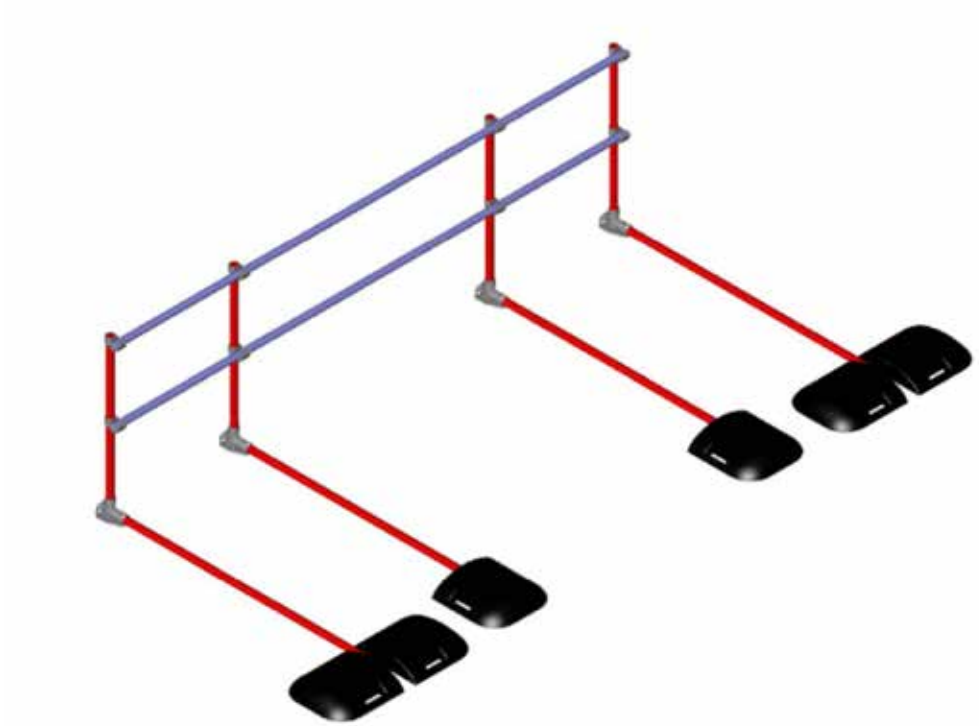
Plus



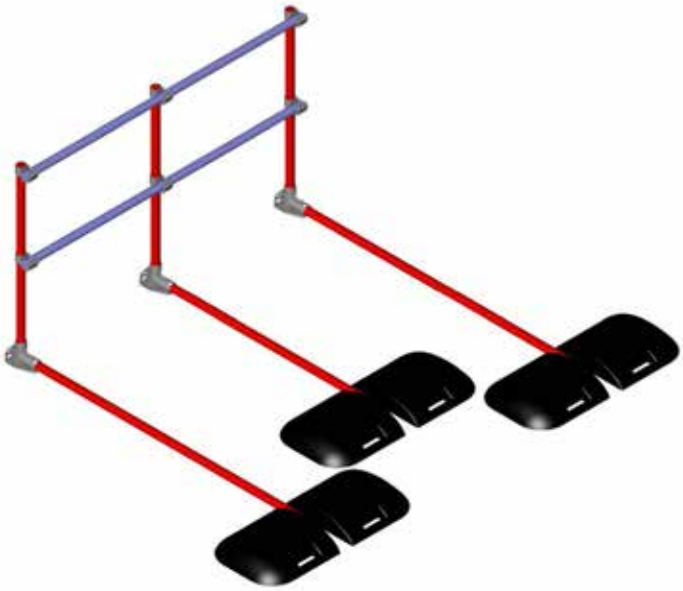
Typical 5000mm Roof Edge Protection system (Economy) construction



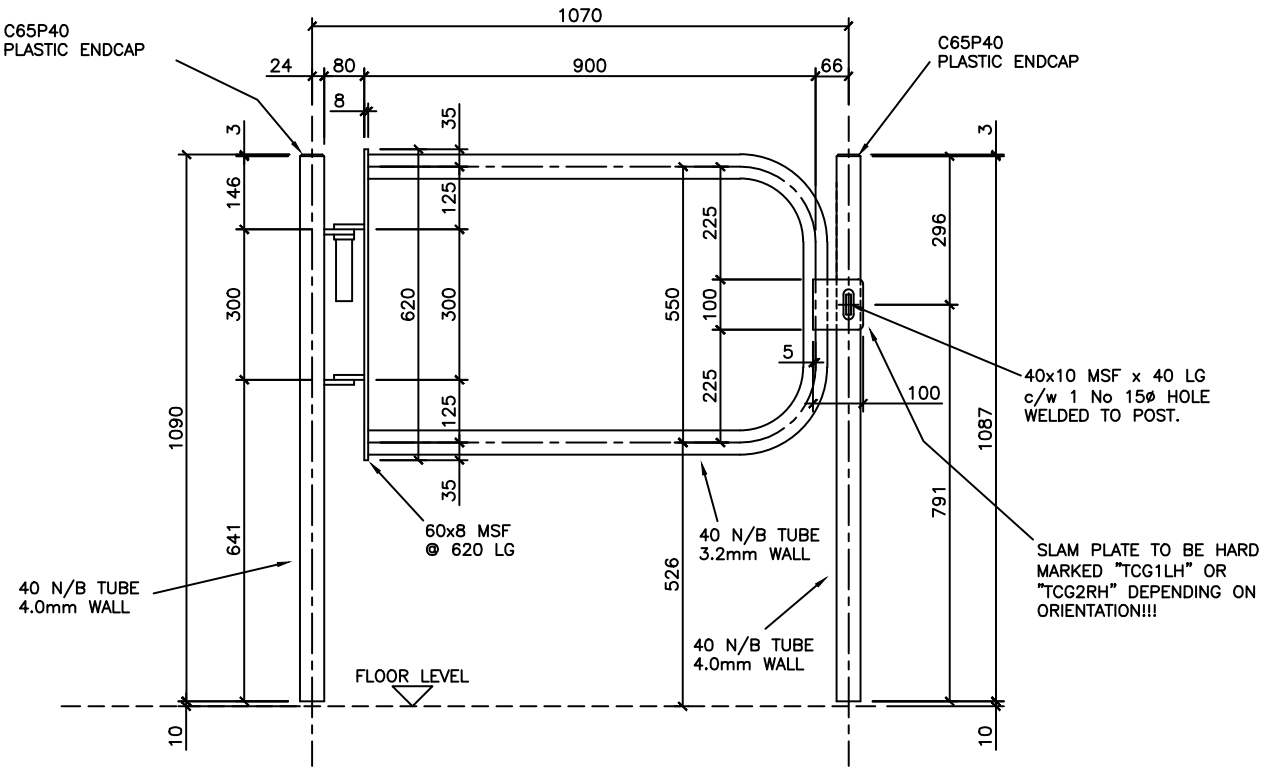
Typical 4000mm Roof Edge Protection system (Economy) construction



Typical 3000mm Roof Edge Protection system (Economy) construction



Typical 2000mm Roof Edge Protection system (Economy) construction



Gates available as right or left hand hung - Drawing shows a left hand assembly.

CLOSED INSTALLATION

SINGLE COUNTERWEIGHT INSTALLATION PROCEDURE

1 Lay the first post (16RE00G40) at the start position.

2 Attach a counterweight with 1575mm long tube to the first post.

Single counterweight
16RE11G40 or 16RE11G40SS

The locking collar goes into the first hole in the counterweight. The tube passes through the collar and is in position when the end of the tube is visible in the second hole. The setscrew on the locking collar is then tightened and the setscrews on the post base are tightened.

3 Position the second post; this does not require a counterweight.

4 Position the third post and attach a counterweight. Continue this procedure with a free post and then a weighted post.

CRADLE AND TUBE INSTALLATION PROCEDURE

5 Lower the tube into position in the cradle; tighten the setscrew to a recommended torque of 29Nm.

Notes

Make certain that the maximum spacing for posts is no greater than those specified.

Make certain that the maximum spacing for counterweights is no greater than those specified.

Apart from at a direction change the joining of tunes mush be in separate bays for the top and middle rail

FREE END INSTALLATION

RUN END COUNTERWEIGHT INSTALLATION PROCEDURE

1 Lay the first post at the start position.

2 Attach a run end counterweight assembly with 1575mm long tube to the first post.

The run end counterweight comprises 2 counterweights, 2 locking collars, 1 short tee 1575mm tube and a 900mm solid bar.

Run end counterweight
16RE12G40

As with the single counterweight insert the locking collar into the first hole. The solid bar then passes through the locking collars until it is visible in the second hole. The short tee is positioned on the solid bar between the 2 counterweights. The setscrew on the locking collars is then tightened and the setscrew on the short tee is tightened. The 1575mm tube is then placed into the short tee and the other end into the base of the post and the setscrews tightened.

3 Position the second post and attack THE CORRECT counterweight depending on the system being used.

4 Position the third post. This does not require a counterweight on Economy or Plus systems.

5 Position the fourth post and attach the correct counterweight.

Notes

Make certain that the maximum spacing for posts is no greater than those specified.

Make certain that the maximum spacing for counterweights is no greater than those specified.

Apart from at a direction change the joining of tunes mush be in separate bays for the top and middle rail

3.1 Periodic Inspection

At least once every 12 months a designated competent person shall check the system for:

- Any movement of the system.
- Tightness of setscrews.
- Any corrosion of parts.
- Adhesion of rubber pads.
- Damage to component parts.
- Condition of roof areas adjacent to the installation.

3.2 Cleaning

- System can be cleaned simply by using clean water and a light detergent applied with a hose or by wiping down.

3.3 Maintaining the system

- The system is constructed from hot dip galvanised iron and steel
- Corrosion may occur with time and any signs of oxidisation should be lightly wire brushed and 2 coats of zinc rich paint shall be applied
- Fixings should be immediately replaced on evidence of any deterioration.

3.4 Disposal

- Except for the PVC weights and rubber mats, the system is predominantly constructed from ferrous metals and can be disposed of in a scrap metal facility.

4.0 Inspection Records

- It is important that a record of regular inspections, comments and remedial action is kept, and form 5.1 in the attachment should be completed and signed after ever inspection and action.

5.1 Inspection Log

Date	Name of Inspector	Comments	Action	Signature

TUBE CLAMPS

PRO-RAILING

GATE AUTOMATION

WROUGHT IRON

FENCING

MESH

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