

## Incorporating Latchways unique Constant Force® Technology

The performance of fall protection systems are based on effective load control. A system must be able to withstand the force of a person(s) fall and absorb the energy generated.

### Traditional issues

Previously it was necessary to attach the system anchors back to the building structure.

As such, any resulting load would be dissipated through the structure. The system location was also restricted as this was determined by the position of the structural elements.

System installation was time consuming, requiring a number of site visits to complete the overall solution.

These installations also created issues with warranties, the overall roof integrity and cold bridging.



### The Icopal solution

The Constant Force posts at the heart of the Icopal system are fixed to the roof deck giving more freedom for system location specific to the hazards. In the event of deployment, the load is absorbed by the entire system through a pre-tensioned stainless steel coil inside each post, there by reducing the impact load to both the person and the roof structure.

The Constant Force post is omni-directional further protecting the worker irrespective of the fall direction.

### Benefits of The Icopal Constant Force Post

- **During a fall the worker is protected by the post absorbing the load.**
- **Waterproofing integrity and guarantee is protected.**
- **The fall load imposed on the roof at any one post is limited to a maximum of 10kN.**
- **The system is fixed from above and therefore quick to install by registered installers.**
- **No need to fix to structural steel or purlins.**
- **Posts can be installed on most types of roof deck which are structurally sound\***
- **Suitable for use on sloping roofs up to 15°.**
- **Minimises cold bridging.**
- **Marine grade stainless steel used for key components.**
- **The system is tested, certified and tagged prior to use.**
- **Aesthetically pleasing and flexible design.**
- **CE marked, complies with BS EN 795.**
- **Only system guaranteed for use within an Icopal roofing system.**
- **Systems designed and tested for up to 3 users at any one time.**

\* Existing Roof Decks  
Installation and design of KwikLine systems for existing roofs are subject to site examinations and testing for resistance to post fixing pull out, by Icopal Technical Services.

## Guaranteed roof waterproofing for the Icopal Constant Force Post

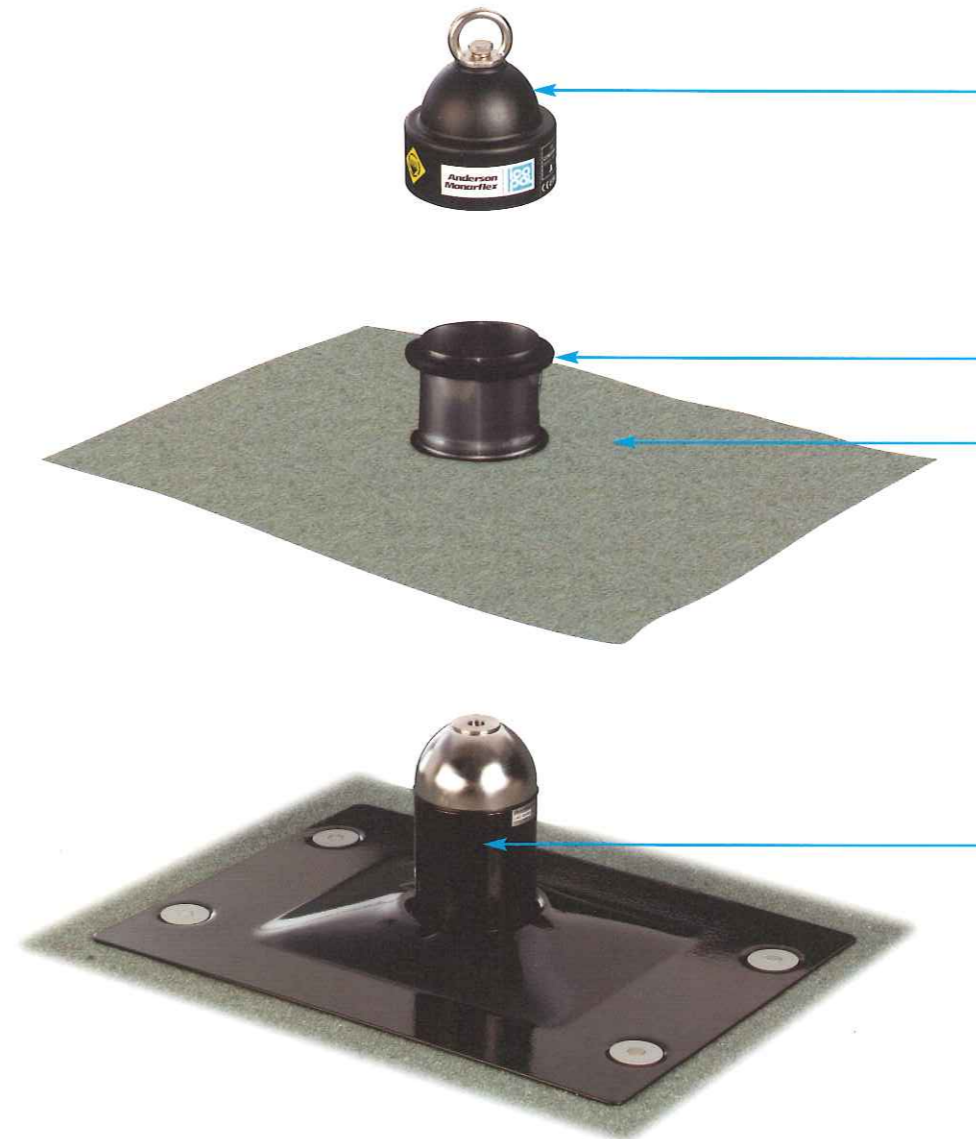
Icopal Roof Safety Systems include unique waterproofing design features that protect the integrity of the roof assembly under and around the posts where fixings penetrate the roof system.

When the safety system is installed by a registered installer, as part of a complete Icopal roofing system, the integrity of the waterproofing is covered by an Icopal insurance-backed guarantee – available up to 20 years.

This is an additional benefit for building owners and removes any potential guarantee issues which could arise if the roof waterproofing and safety systems are installed by different contractors or at different times.



**Up to 20 year insurance backed waterproofing guarantee available.**



**WEATHERPROOF CAP**  
Works in conjunction with the 'O' ring seal to prevent water ingress through rain and snow, and protects against insect intrusion and nesting.

**'O' RING SEAL**

**WEATHERPROOF COLLAR**  
An engineered weatherproof collar with factory seals designed to overcome on-site cutting of the membrane at this potentially vulnerable waterproofing detail. High performance SBS torch applied mineral and Sure-Weld TPO single ply weatherproofing collars are available to compliment the waterproofing systems below.

**THE ICOPAL CONSTANT FORCE POST**  
Secured to the roof deck over the waterproofing. Allows the roof waterproofing to be fully installed before the safety system.

## Components of Icopal Constant Force Roof Systems

The key components are manufactured in marine-grade stainless steel and individually serial numbered for traceability.

### 1 The Icopal Constant Force Post

Systems incorporate a start and end anchor post with intermediate and corner posts positioned where required. Posts are top-fixed through the membrane and insulation using four toggle bolts.

The cable is connected to the start and end posts via swaged terminations.



### 2 Transfastener™

The user, wearing a full body harness and energy-absorbing lanyard, is continuously attached to the system via the Latchways Transfastener. This unit rotates, allowing it to pass through the intermediate cable supports enabling convenient hands-free working on the roof.

*Transfastener is a trademark of Latchways plc.*

### 3 Turnbuckle assembly

This provides a cable termination and a method of tensioning the system. The integral indicator disc spins when the correct cable tension is reached.

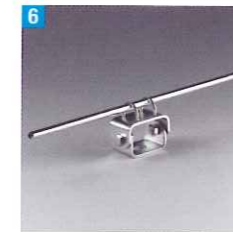


### 4 Swage and Clevis

This unit allows the cable to be terminated at the opposite end of the system to the turnbuckle.

### 5 90° Corner Bracket

Allows a 90° angle change when attached to an intermediate post.

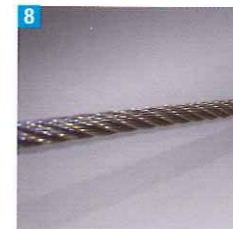


### 6 Variable Bracket

Attaches to an intermediate post to allow angle changes between 0 and 80° in either the horizontal or vertical plane.

### 7 D Ring and Hanger

These form an intermediate cable support. The cable is threaded through the hanger allowing the Transfastener to travel the length of the system without disconnecting.



### 8 Cable

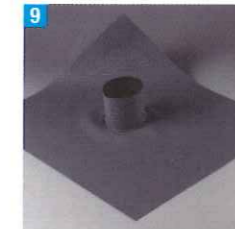
7x7 8mm stainless steel rope along which the Transfastener travels.

### 9 Constant Force Post Weatherproof Collar

An engineered roof component that protects the integrity of the roof waterproofing under and around the posts and therefore the system guarantee. Supplied with 'O' ring seal.

Two types are available:

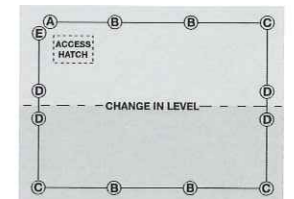
- **High performance SBS torch applied mineral collar** – available in green, blue/grey and brown mineral finishes to match Icopal capsheets.
- **Sure-Weld TPO single ply collar** – available in light and dark grey to match Icopal membranes.



### 10 Weatherproof Cap

UV resistant high grade plastic cover cap used in conjunction with the 'O' ring seal to prevent water penetration through splashes and pooling and protect against insect intrusion and nesting.

## TYPICAL ROOF LAYOUT



- A Start Post** – Turnbuckle assembly.
- B Intermediate Post** – D ring and hanger.
- C Corner Post** – 90° Corner bracket.
- D Intermediate Post** – Variable bracket.
- E End Post** – Swage & Clevis.

Posts must not be spaced more than 10m apart. Designers should try to ensure that access to all areas is achieved without the need for adjustment of PPE (Personal Protective Equipment).



Transfastener allows continuous hands-free working.



**Icopal Ltd**

Barton Dock Road  
Stretford, Manchester  
M32 0YL  
Telephone: 0161 865 4444  
Fax: 0161 866 9859  
Technical Fax: 0161 865 8433  
email: info.uk@icopal.com

**Northern Ireland**

Telephone: 028 9037 0888  
Fax: 028 9037 0747

**Republic of Ireland**

Telephone: 1800 409 056  
Fax: 1800 409 055

www.icopal.co.uk

**Total building protection from a single source**

When you deal with Icopal you'll enjoy all the advantages of sourcing a full range of top brand products from one supplier

**Protection for flat roofs**

- Built up roof systems
- Single ply roof systems
- Green roof systems
- Liquid waterproofing systems
- Fire protection roofing systems
- Roofgard accessories

**Structural protection**

- Damp proof membranes
- Damp proof courses and cloaks
- Containment membranes
- Gas control systems
- Tanking/below ground waterproofing

**Protection for pitched roofs**

- Warm & cold pitched roof systems
- Breather membranes
- Vapour control layers
- Non-permeable underlays

**Protection for people and the worksite**

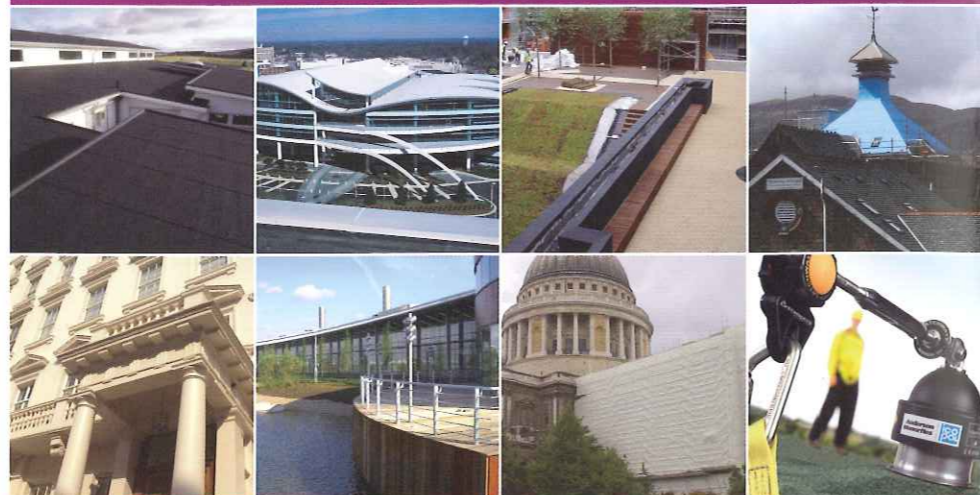
- Standard and fire retardant scaffold sheeting
- Fall protection safety systems
- Edge protection safety systems

**Sound protection**

- Acoustic systems

**Icopal Roof  
Safety Systems**

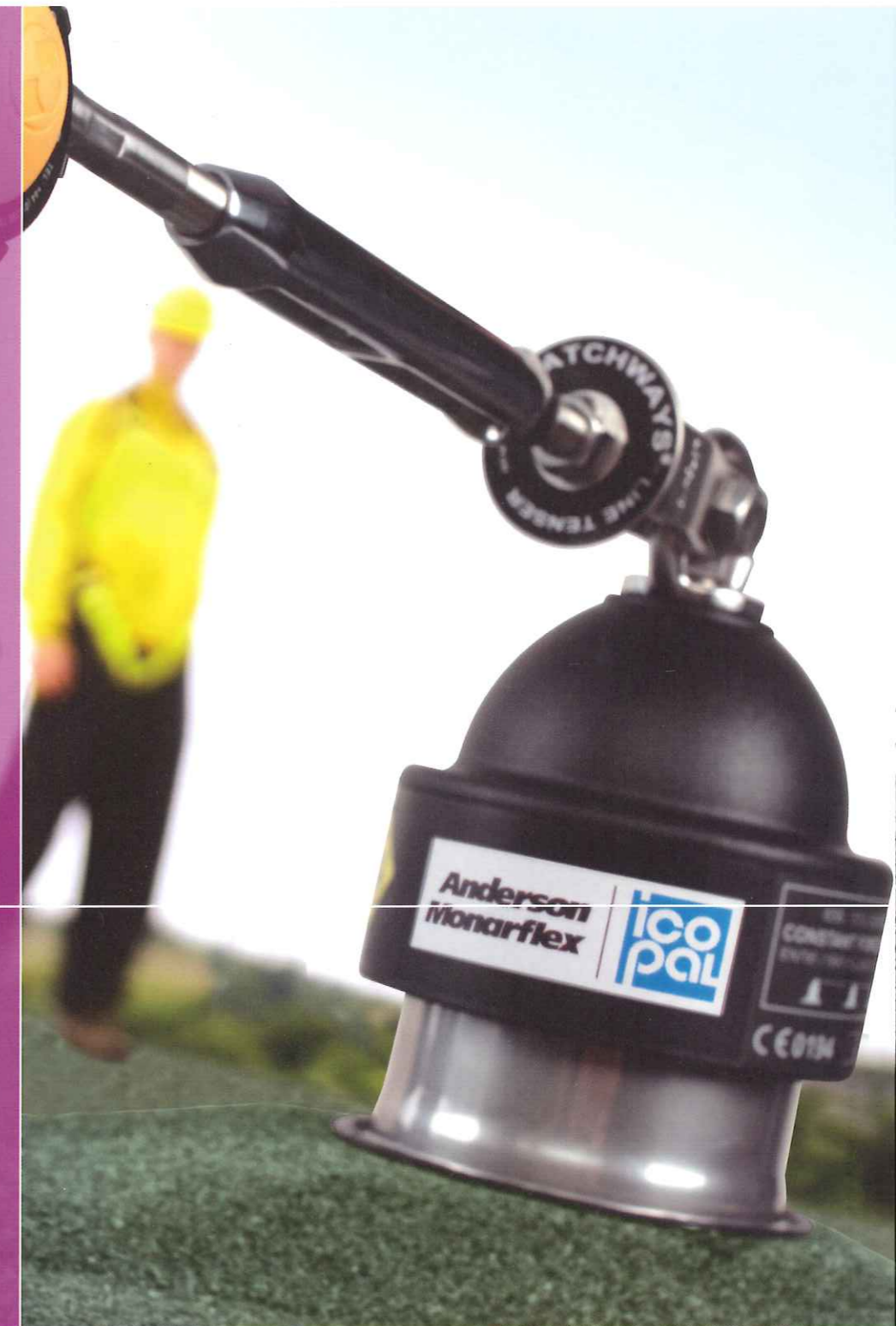
**Fall protection  
and roof safety  
systems with  
guaranteed  
waterproofing**



Every effort has been taken in the preparation of this brochure to ensure the accuracy of representations contained herein. Recommendations as to the use of materials, construction details and methods of installation are given in good faith and relate to typical situations. However, every site has different characteristics and reliance should not be placed upon the foregoing recommendations. Advice can be given as to specific applications of the products, upon request.

Design Ref: ICO1122

**www.icopal.co.uk**



**A range of engineered safety systems designed to comply with the latest standards and legislation**