uni rail®

uniline®

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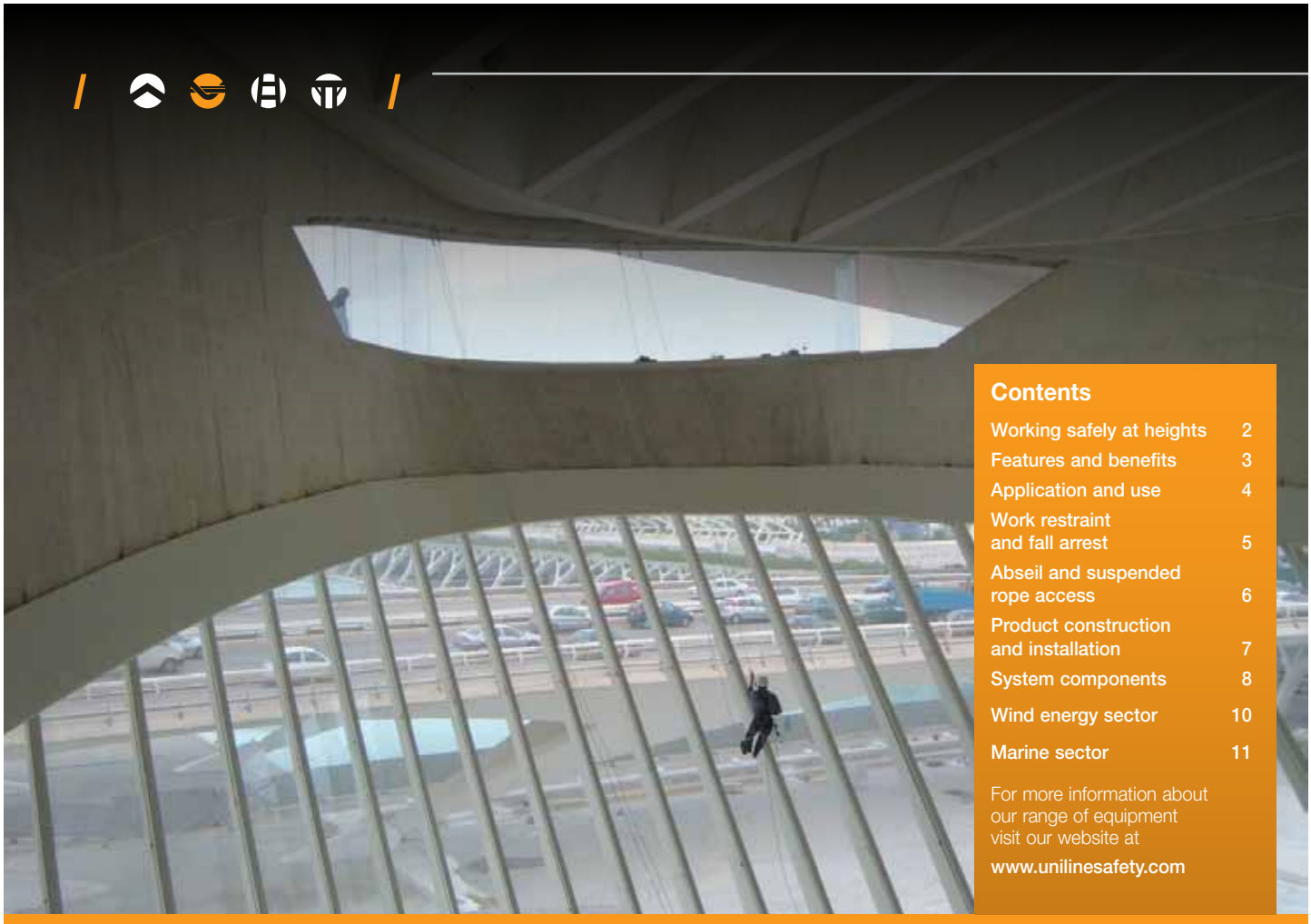

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For more information about our range of equipment visit our website at **www.unilinesafety.com**

Working safely at heights

Current workplace legislation requires that any person working at height should be properly protected against the risk of falling. This is especially important for people required to work in many aspects of building maintenance, structural and vehicle inspection and cleaning and construction tasks, as they can be exposed to significant risks whilst carrying out their duties.

Changes in weather, fragile roof elements, slips and trips, wind, steep inclines and slippery surfaces can all add to the dangers, so providing a safe system of work is essential, ensuring both compliance with regulations and the safety of employees and contractors.

The responsibility for providing a fall protection system falls to the building owner, employer or person in control of the work place. In new building design, the architect and person in control of the project, as well as the client, have a responsibility to 'design in' fall protection measures. The provision of a suitable solution should be based on risk and the work to be carried out, with a suitably qualified person assessing the workplace.

Protection from falls, by means of a secure and proven anchorage system, provides great reassurance to workers and helps them to carry out their job in a productive and efficient manner. Workers should not be exposed to unnecessary risks and, wherever possible, the highest standard of safety equipment to minimise risk should be provided.

Unline's UniRail product is a quality extruded aluminium rail system combining a simple, continuous and functional anchorage system with very high levels of user safety and great aesthetics.

In addition to fall protection applications, it has also been used extensively as the primary anchor point for suspended rope access tasks, where it is very cost effective when compared to using building maintenance machines.

With UniRail, you can be assured of the most effective protection against many of the risks associated with working at height, combined with great aesthetics that perfectly complement any building or structure.

Features and benefits of the UniRail system

UniRail is a quality extruded aluminium rail system, which provides a high level of user safety combined with an aesthetically pleasing appearance. The product can span up to 3m (9.84ft) between support brackets. It offers excellent functionality through its free flowing attachment carriage and, with no brackets to pass over, the user's experience with the system is truly hands free. The system is also capable of navigating corners and contours in the building or structure to provide complete design flexibility.

UniRail can be fitted to a wide range of structures and can support multiple workers for both fall arrest and fall restraint work applications.

- Rigorously tested product backed up with custom system design capabilities: your system will work to protect your employees when required, ensuring worker confidence and satisfaction
- Meets current international product standards: tested in accordance with EN795 and compliant with OSHA and AS/ NZS standards, ensuring customers meet their legal obligations
- All supporting documentation available, including technical manual, installation manual and user instruction manual in various languages helping with specification and training obligations
- 6000 Series Aluminium Alloy components ensure a quality safety system that will withstand harsh environments and deliver uncompromising levels of safety when needed
- Anodising of all parts and use of 316 stainless steel provides greater longevity, adding value to your investment and saving future maintenance and replacement costs
- Product design and fixing centres reduce structural loading and increase UniRail's ability to adapt to the building or structures tolerances, especially in weaker structures
- A discrete design and range of fixing brackets ensure design flexibility and offer concealed fixing solutions to complement building aesthetics
- The main rail floats in its fixings to mitigate the effects of thermal expansion and contraction which would otherwise cause the rail to buckle
- System offers workers continuous hands free movement and navigates corners and building contours, thereby providing maximum design and integration flexibility
- Continuous/enclosed systems available. Ideal for water treatment tanks and abseil access
- Proven track record of over 10 years use in buildings and 20 years use in commercial marine applications, reducing risk in specification and purchasing for employers and building owners.

great aesthetics
uncompromising safety

Application and use

The UniRail product is suited to protecting people from falling in a wide variety of building, structural and vehicle maintenance and inspection tasks, and has been used in some of the most prestigious and demanding projects all over the world.

Typical applications include:

- External façade access for window cleaners and building maintenance engineers
- Internal and external access for high work areas such as walkways and gantries
- Overhead anchorage for work on vehicles and in production halls
- Suspended rope access work for internal and external building maintenance tasks
- Fall arrest support for a swing stage
- Water treatment tanks and storage vessels
- Commercial maritime vessels
- Public and heritage buildings
- Wind turbine Nacelle safety
- Tourist attractions and theme parks

The UniRail system provides a very robust and solid anchorage for attachment by multiple workers and does not flex under normal working loads. This, combined with free running attachment carriages and continuous attachment for a high level of user safety and reduced need for training, makes UniRail uniquely suited to a wide range of applications and explains why it has been specified and installed on some of the world's most prestigious buildings and in demanding environments.

Work restraint and fall arrest

UniRail has been tested to perform primarily as a fall arrest system, complying with the European Standard EN795 for Class D Anchor Devices; the US OSHA standard for fall protection systems; and the Australian Standard AS/NZS 1891.2.

Best practice demands that the system is designed to restrain a worker so that exposure to the risk of falling is minimised. UniRail is excellent for this purpose as the rail does not flex under load and, in the event of a fall, deflection is minimal, reducing the risk of injury from the fall and easing recovery of the fallen worker.

In addition, unlike a cable fall protection system, loads applied in the event of fall are limited to the force produced via the fall arrest lanyard or self retracting lifeline attached to the worker. This load is then distributed between the two nearest fixing brackets, making a rail system more beneficial for the structure. (In a cable system the fall arrest loads are multiplied and transferred to end or corner brackets, where the loads can be significantly higher than the arrest force.)

Self retracting lifelines

Self retracting lifelines (also known as retractable fall arrest blocks) are suitable for use in conjunction with the UniRail System. In the event of a fall, the device will lock off, arresting the worker's fall and controlling the forces that go into the system and the worker's body to a safe limit.

Your system integrator will advise you further on your equipment selection, including training for working safely at height.

Harnesses and lanyards

Uniline and our integrators also provide a range of harnesses and lanyards for use with our systems. Your system integrator can assist you in making the correct choice.

Equipment for use with your UniRail System should comply with local standards and regulations, be inspected before use and should only be given to personnel trained in its correct use.

Abseil and suspended rope access

UniRail's strength and functional characteristics make it very suitable for use as an anchorage system for rope access and abseil work tasks where the structure requires inspection and light to medium duty tasks.

The user connects to the rail via two attachment carriages - one for their abseil rope and one for their safety back up rope - so that they are attached via two independent points as required by industry standards. Carriages can be locked in place or allowed to move, which they do very well under load.

Each carriage has an ultimate strength of more than 15kN (3300lbs) and the entire system maintains a safety factor of at least two for multiple workers as part of a complete personal fall protection system. This ensures that the UniRail system meets the requirements for anchor systems specified by the industrial rope access standard BS7985, ASTM E2505 and Australian Rope Access Association Industry Code 2005; and helps operatives to comply with other aspects of these standards.

UniRail is fixed to the structure at approximately 500mm (1.64ft) intervals, making sure that the rail does not flex when under load and that fasteners do not suffer from fatigue. The rail can be formed to navigate corners and curves in building design in either axis and is aesthetically very pleasing, complementing modern building designs.

This type of work access system for building maintenance is extremely cost effective when compared to other access rail systems and building maintenance units on the market. It offers great flexibility when maintaining complex building designs, lower maintenance costs and, through high standards of industry training via member organisations of IRATA, has an excellent safety record.

UniRail has been used extensively for suspended access work by rope access technicians and specified on numerous projects of architectural merit around the world.

Roof Jockey System

A custom designed davit system elevates the abseil rope and prevents contact with the structure. All loads are deviated back to the UniRail System and the UniRail carriages allow the 'Roof Jockey' to be easily moved to the required descent location.

Contact us for details.

Rope access work kit

Low rise buildings and areas of buildings or structures of up to 25m (82ft) that require cleaning, maintenance and inspection, can be accessed easily and safely with minimal user training.

By combining a UniRail System with a Liftevac access device and a back up fall arrestor, a maintenance worker can raise and lower themselves to carry out routine maintenance tasks.

Product construction and installation

The UniRail system is modular and therefore is easy to specify and install. The safety rail is supplied in lengths of 3m (9.84ft) and is jointed to create a continuous system. Each side of the joint is supported by a fixing bracket, and further fixing brackets can be added to the system to provide additional support depending upon the application, number of workers or structural requirement and capability.

Fixing brackets are available in different styles, allowing both ease of installation, where fasteners are exposed (side fix), and maximum aesthetic effect, where the fasteners are hidden from view (concealed fix). Side fix brackets use as standard two 10mm (3/8") screws to secure the system to the structure and the concealed fix brackets use a counter sunk 10mm (3/8") hex head machine screw. (A tapped version is also available for use with a 10mm metric screw).

The rail can be formed or bent in either axis, enabling the system to follow changes in direction or contours in building designs.

The rail can be trimmed on site during installation work to ensure the correct fit is achieved, although this is only usually necessary for one or two lengths of rail where system designs have been properly planned.

A complete technical manual is available from Uniline to assist with design and specification works.

System design

Successful safety system design requires early input from trained safety professionals. Uniline's team is on hand to provide you with design input, identifying system layouts, fixing detail, structural suitability and discussing how the system will be utilised. This is an important feature of Uniline's product offer and it ensures that system designs are both safe and practical, providing complete functionality for future users.

Local design assistance, site visits, installation and training are facilitated by our network of Approved Contractors, all of whom are trained and audited by Uniline to ensure our customers receive the best possible service.

For architects, Uniline can provide technical drawings and specification details to help with the inclusion of its products in building specification documents and tenders.

System components: **Common parts**

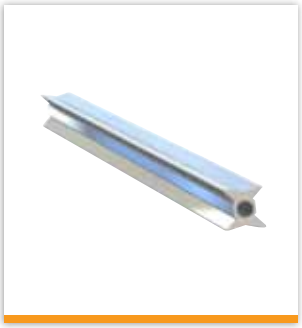
Moulded end (Part code: 7241053) – protects personnel from injuring themselves against an exposed edge of end rail.

System stop (Part code: 7241001) – prevents the rail from coming out of its end anchorage bracket in the event of a fall in the first or last span of the system.

Tamper-proof carriage stop (Part code: 7241000) – prevents the carriage from coming off the end of the system.

Removable carriage stop (Part code: 7241002) - prevents the carriage from coming off the end of the system but can be removed to allow the carriages to be taken off.

Rail joint (Part code: 7241005) – joins the ends of two rails and maintains the integrity of the system for fall arrest situations.



Rail (Part code: 7241013) – discrete profile just 32mm x 32mm (1 ¼" x 1 ¼"). Silver anodised as standard and can be powder coated on request.

Corners
90º (Part code: 7241014),
90º external (Part code: 7241015),
90º internal (Part code: 7241016),
45º (Part code: 7241019),
45º external (Part code: 7241018),
45º internal (Part code: 7241017) corners are available from stock and other bends and forms are easily accommodated down to a radius of 200mm (7.88").

Attachment carriage (Part code: 7241006) – enables the user to connect to the system and enjoy complete hands-free movement along the rail. It features a stainless steel parking lock for work positioning tasks and aluminium, nylon coated wheels. A stainless steel shackle enables connection of a karabiner hook and pivots to enable best functionality at any angle of take off. Min strength 15kN (3300lbs)

System components: Side fix parts

End anchor (Part code: 7241009) – secures the end of the rail to the structure and controls rail movement in the event of a fall.

Intermediate anchor (Part code: 7241012) – secures the rail to the structure at intervals to suit the work site and structure.

System components: Concealed fix parts

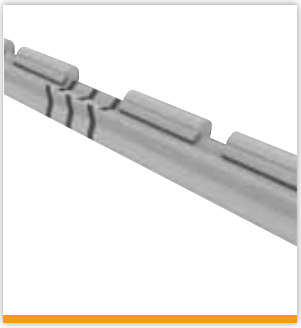
End anchor (Part code: 7241008) – secures the end of the rail to the structure and controls rail movement in the event of a fall.

Intermediate anchor (Part code: 7241011) (Part code: 7241010 Tapped version) – secures the rail to the structure at intervals to suit the work site and structure. (Tapped versions available.)

System components: Commercial marine

32mm Omega Clamp (Part code: 7241043) – to be used to mount sections of rail to stanchions or hand rails fabricated from approximately 32mm dia. Tube.

Carriage Gate (Part code: 7241040) – to allow the carriage to be removed from a closed loop of unirail for maintenance, as part of commercial marine system.



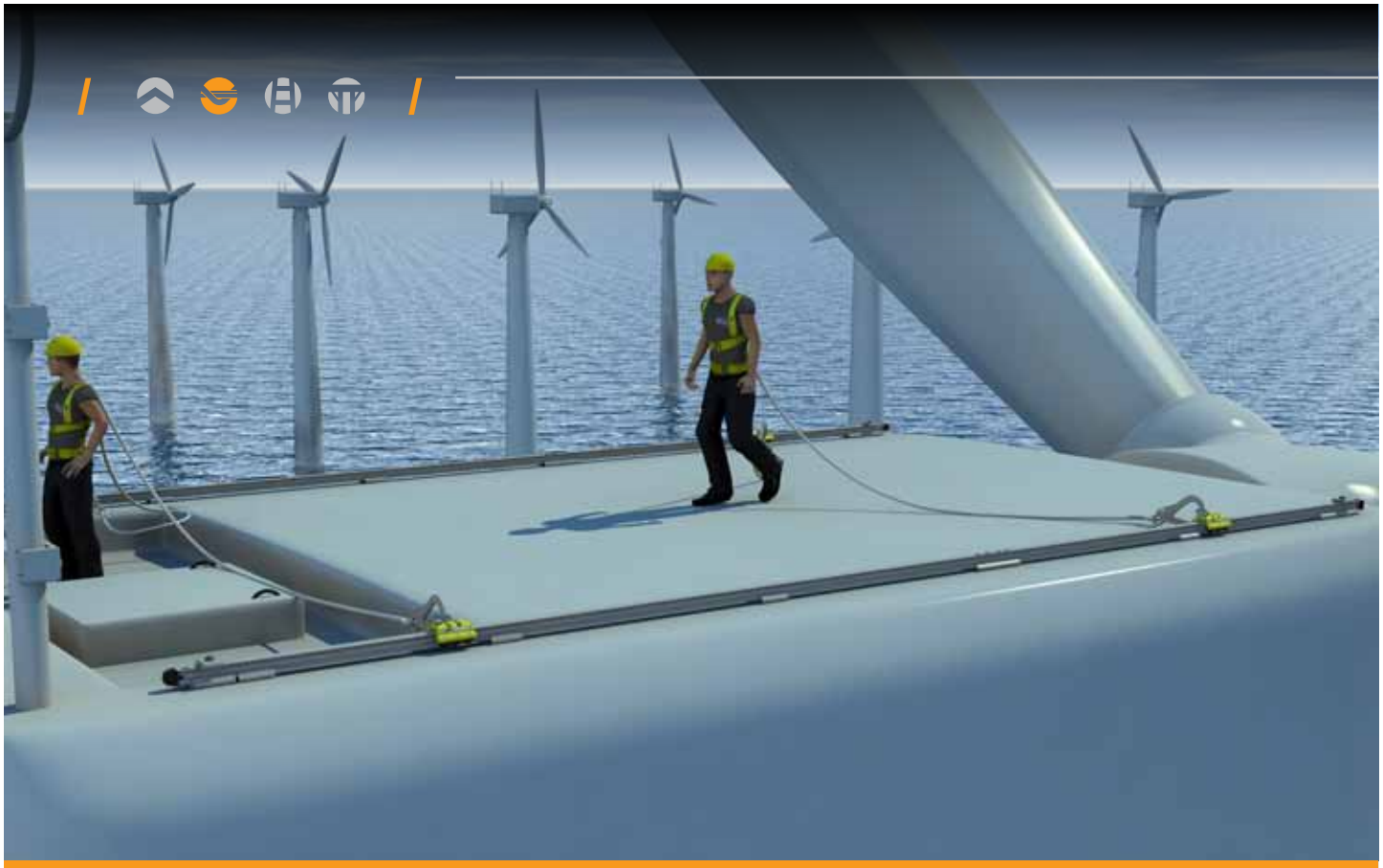
Flexirail Insert (Part code: 7241047) – to allow a continuous system to be fitted where two adjoining sections of rail need to be mounted to parts of the structure which can move independently of each other. In a UniRail commercial marine system.

System components: Wind energy sector

WT joint anchor (Part code: 7241025) – used to join two rails together and anchor to the structure in Wind Turbine Systems that are required to comply with BSEN50308.

WT intermediate anchor (Part code: 7241023) – for fixing the rail system to the structure in Wind Turbine Systems that are required to comply with BSEN50308.

WT UniRail carriage (Part code: 7241027) – the carriage is part of the Unirail system. It provides a mobile attachment point for users to connect to. One user per carriage. Use only on straight systems. Minimum strength 22kN (5,000lbs)



Wind energy sector

UniRail is a valuable safety system for the wind energy market, with its potentially hazardous working environment: the nacelle requires external access for inspection and maintenance tasks which expose workers to the risk of falling.

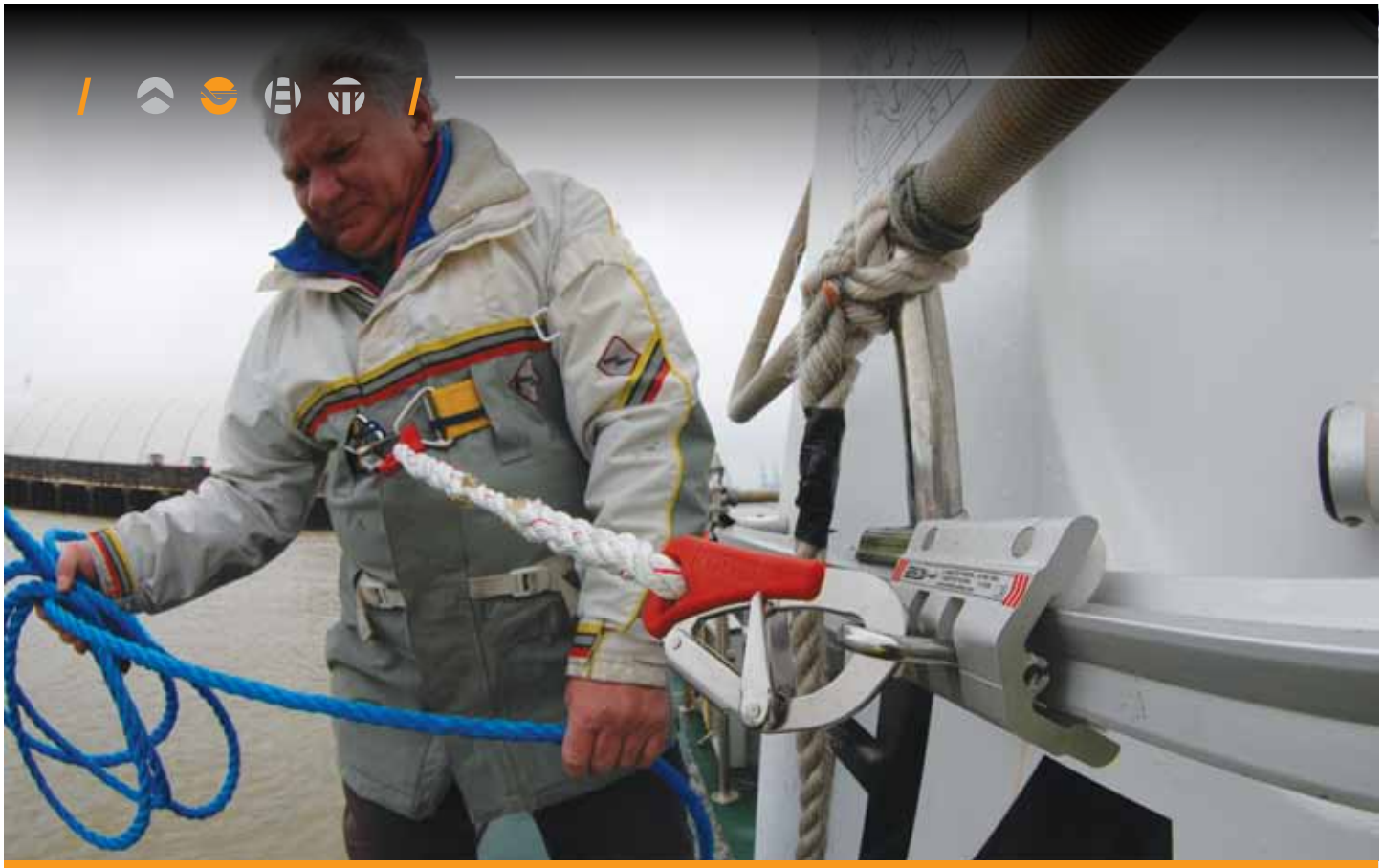
It is essential to be able to attach to a secure anchorage and move about efficiently and confidently. In the event of a slip or fall, the worker will almost certainly need to be rescued, so additional anchorage points need to be available to provide the flexibility and security to carry out such an operation.

UniRail has been tailored to meet the specific needs of wind turbine manufacturers and operators, providing a continuous anchorage system for up to 3 workers for fall protection, suspended access and rescue applications. Its free running attachment carriages can be parked during use to maintain worker stability, and when not in use to prevent the wind from moving them away from access points.

The system can easily be installed both during nacelle production and retrofitted to existing structures, enabling customers to standardise their chosen fall protection solution.

UniRail's marine grade anodised aluminium construction provides long term protection in harsh weather conditions. Fixings have been developed for wind energy structures with proven waterproofing details to prevent water ingress. The rail can expand and contract with changes in temperature, removing the risk of damage or unnecessary stress to the structure or fixings.

The rail system is complimented by a range of anchor points that can be attached to by two workers for fall protection, suspended access and rescue applications.



Commercial marine sector

The sea can be a hostile environment in which to work. The combination of harsh weather conditions with a constantly moving work environment means worker safety and security must always be paramount – especially as the implications for rescue in the case of an accidental fall are more onerous and carry additional significant risk than would be the case on shore.

UniRail is the only marine safety system to offer complete hands-free security. It provides continuous attachment via a four-wheel attachment carriage and can be used both as a proactive restraining system for multiple users or a reactive system to arrest a fall.

UniRail is particularly well suited for pilot cutters, harbour patrol vessels, police patrol craft and other similar vessels which operate without any external guardrails. The forces generated by acceleration, turning and sea motion are enough to catapult crew off the decks: pilot cutters are particularly vulnerable as they often operate with only a coxwain and one crew member to assist the pilot. Full two-handed assistance is required to safeguard the transfer of the pilot, but this cannot be achieved if the crew member is holding on with one hand or ejected off the deck whilst moving forward to the transfer station.

The product has been designed for easy installation with anchorages which are fixed to the vessel's structure or its stanchions while enabling the rail to float. This allows for thermal expansion and contraction as the temperature changes throughout the different seasons. A change in gradient and direction in both axes of the rail extrusion presents no problem, with complete continuous access and attachment guaranteed at all times.

UniRail can easily be retrofitted to existing vessels or structures or can be designed in before construction, and meet all necessary marine safety standards and codes of practice.

Capital Safety Group, through our Uniline brand is the global market leader in the design and manufacture of engineered fall protection systems. Through a combination of expert knowledge and practical experience, we can help our customers reduce risk and increase safety when working at height.

Our comprehensive Uniline range of products offers fully compliant, practical solutions for structures of all types, in all industries. Our ethos of delivering quality, service, training and support for our customers has earned Uniline a deserved reputation for excellence around the world.

Operating through specialist safety companies globally, Uniline provides local support and installation services to meet the specific safety objectives of all our customers.

roofing systems™

If you need a safety solution for roof access during maintenance and inspection tasks, then look no further than Uniline's Roofing product range. Our products, including roof anchors, horizontal lifelines & horizontal rail systems offer comprehensive protection for workers on all types of roofs.

horizontal systems™

The products in our Horizontal systems range are some of the best know brands in fall protection safety. The versatility of these products combined with Uniline's expertise in fall protection ensures we can solve even the most complex of height safety problems in industry, construction, façade access and for all manner of building maintenance and inspection tasks.

uniline®

vertical systems™

The best vertical fall protection systems in the world won't let you down. The extensive development of this range of products for vertical structures including masts, towers, pylons, wind turbines, silos, bridges and chimney stacks ensures customers will enjoy the safest and most functional climbing experience possible.

access systems™

A unique range of custom access products for challenging fall protection situations in transport and industry. These solutions are structurally analysed and designed to our customers exact needs and specifications.

local distributor/systems integrator

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