Rail Industry Solutions







Building better together.





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Services & Bespoke Solutions Page 24



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Rail Industry Solutions

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Behind the Brand

Industry Leaders

About Atkore

With over a century of powering and protecting the world around us, Atkore has a deep understanding of the high demands of the various industries and applications we serve. Our portfolio of industry-leading brands, coupled with our breadth of products and solutions, brings you exceptional value.

Turn-Key Solution

Our market leading brands of Atkore Unistrut, Marco, Flexicon and Vergokan provide customers with a one-stop-solution to manage and protect cables.

Atkore Advantages

- ▲ Customer-focused: Sales & technical guidance
- ▲ Accredited CPD training programmes
- ▲ Toolbox talks by our expert team
- ▲ Engineer site visits & measures
- ▲ Custom & pre-fabricated solutions
- ▲ Over a century of innovation & expertise





















Sustainability Advancement

Corporate Sustainability

Driving Positive Impact

As a leading manufacturer, Atkore is paving the way to influence conversation.

Already, the business provides a versatile offering; 100% of scrap metal is recycled and put back into European manufacturing, and 97% of all used electricity in our European facility is produced by our own solar installations.

In addition to this, Atkore is able to support you with Environmental Product Declarations (EPD's). In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021, ISO 21930 our EPD's provide you with the data needed to understand your projects carbon footprint.





"Sustainability is central to the strength, safety, and longevity of our business."

Bill Waltz, President and CEO





The Complete Solution

Solutions for Rail

Every Rail Application Covered

Our products contribute to safe, reliable rail systems worldwide. With over a century of experience, we continue to lead the way with our industry-renowned Cable Management and Protection Systems.

Our comprehensive range encompasses solutions for both rolling stock as well as infrastructure. Additionally, our in-house technical engineers can work with you to provide bespoke or pre-fabricated solutions to meet your individual needs.





The Complete Solution

Solutions for Rail

Want to learn more?

Learn about the applications we cover and our product solutions online or alternatively, contact our rail development team for further guidance and support.

Visit us at atkore.com.





Atkore's rail solutions adhere to the highest industry standards to meet the stringent demands of the UK and international rail sector.































Fire Performance

Assessing Fire Performance

Safe & Reliable

Low Fire Hazard systems are required to protect the public, personnel, and property in the event of fire. They are required by specifiers, industry bodies, train and network operators, fire services, and even insurers.

Our product development programme involves extensive testing to the latest rail industry standards, ensuring safety. In turn, specifiers and consultants can be confident when it comes to their reaction to fire.

Fully Compliant

Atkore Cable Management and Protection products are compliant with international standards:

- ▲ EN 45545-2 European fire safety
- ▲ AS/NZS 1530.3 Australian standard
- ▲ DIN 4102-12

 Atkore offers a declaration of performance against premature collapse for 2 hrs.
- ▲ BS 8519 / BS EN 1363-1:2020 Fire resistant tested
- ▲ BS EN 13643 Non-loadbearing fire resistance
- ▲ TFL S1085 Transport for London
- ▲ NFPA 130 North American standard



Simple Classification

To highlight the fire performance of our Cable Protection and Flexible Conduit solutions, Atkore uses a simple method:



Inherent Low Fire Hazard

These products are made entirely from metals so there

is no non-metallic material to burn or create smoke.



Extra Low Fire Hazard

These products have a Limiting Oxygen Index of

greater than 32% as well as being low smoke and low toxicity.



Standard Low Fire Hazard

These products have a Limiting Oxygen Index of

greater than 26% as well as being low smoke and low toxicity.

For further information regarding fire performance classifications, download a copy of our comprehensive product catalogue from **atkore.com**.



Rolling Stock

Complete Critical Cable Protection Solutions





Product Applications Overview

Rolling Stock

Tested to Perform

Whether it is high speed travel over long distances, regional transit with repeated short journeys or true power solutions such as locomotives moving large masses of material & freight, we have the most reliable Cable Management and Cable Protection solutions to ensure safety and reliability for your critical cabling on all types of rolling stock.

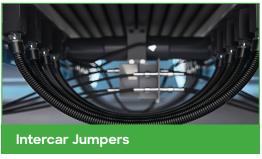
Our rolling stock product offering features:

- ▲ Corrugated non-metallic flexible conduit systems
- ▲ Metallic coated flexible conduit systems
- ▲ Flexible conduit bespoke accessories
- ▲ Flexicon Ultra™ fittings
- ▲ Cable strain relief fittings
- ▲ Metal trunking and cable tray learn more on pages 18-20.















Rolling Stock

Non-Metallic Flexible Conduits

With a wide range of non-metallic conduits, reliable Cable Protection solutions are offered to the rolling stock sector. Our conduits are highly durable and resistant to common hazards related to rolling stock. To explore our product range in further detail, please refer to our comprehensive product catalogue.





FPIHRL flexible conduit is a heavy-weight PA12 material featuring enhanced fire performance properties for exterior rolling stock applications. Combined with excellent dynamic performance, a high degree of fatigue life and impact resistance is offered.

- ▲ EN 45545-2 (R23-HL3-exterior)
- ▲ High fatigue life and abrasion resistance
- ▲ Vibration and shock tested to EN61373 Cat 2
- ▲ Temperature range: -50°C to 110°C
- ▲ High impact resistance even at low temperatures
- ▲ Enhanced UV rating
- ▲ Available in sizes: 13mm to 80mm (OD Ø)
- ▲ Also available as FPIHRLSS, featuring Stainless Steel (316L) overbraid for enhanced mechanical protection, abrasion resistance and EMC screening performance

Stainless Steel overbraid: FPRSS

Stainless Steel overbraid: FPRSS

Stainless Steel overbraid: FPRSS

FPR Flexible Conduit

FPR flexible conduit is a standard-weight PA6 material featuring enhanced fire performance properties ideal for static interior rolling stock applications.

- ▲ EN 45545-2 (R23-HL3-exterior; R22-HL3-interior)
- ▲ UL recognised
- ▲ Compliant to LUL S1085
- ▲ UL 94 V0 flame retardancy
- ▲ Compliant to NFPA 130
- ▲ UV resistant
- ▲ Available in sizes: 10mm to 106mm (OD Ø)
- ▲ Temperature range: -40°C to +120°C (-20°C to +100°C for moving applications)
- ▲ Also available as FPRSS, featuring Stainless Steel (316L) overbraid for enhanced mechanical protection, abrasion resistance and EMC screening performance



Rolling Stock

Non-Metallic Conduit Key Features



Abrasion resistant



Oil resistant



Highly flexible



Self extinguishing



EN61386 compliant



Vibration & shock resistance



FPRDS divisible conduit is an ideal solution for interior or exterior applications where retrofitting mechanical cable protection is required.

- ▲ EN 45545-2 (R23-HL3-exterior; R22-HL3-interior)
- ▲ Compliant to NFPA 130
- ▲ UL94 V0
- ▲ Standard UV rating
- ▲ High compression strength
- ▲ Cables can be inserted laterally
- ▲ Temperature range: -40°C to 120°C



Innovative Ultra™ fittings combine a wide range of ingress protection ratings in one solution, by using integrated sealing technology. Offering integrity, strength, and assurance, Ultra™ fittings lead the way for use in performance and safety critical applications.

- ▲ EN 45545-2 (R23-HL3-exterior; R22-HL3-interior)
- ▲ Vibration and shock tested (EN61373 Cat 2)
- ▲ Fast fit True one piece component
- ▲ Compliant to NFPA130
- ▲ IP66, IP67, IP68 (1hr @ 2bar), IP68 (72hrs @ 1m)
- ▲ High pull off strength
- Tamper resistant
- ▲ Temperature range: -50°C to +135°C

Watch the video!









Rolling Stock

Metallic Flexible Conduits

Our range of metallic conduits are highly durable and resistant, offering reliable cable protection to the rolling stock sector where conditions are severe and requirements stringent. In addition to our conduits, we also offer a wide range of fixings and mounting accessories including, the robust FCLAMP range, ideal for use in various rail applications – learn more on page 20. To explore our product range in further detail, please refer to our comprehensive product catalogue.







LTPLFH flexible liquid tight metallic conduit features a smooth oil resistant jacket material that offers enhanced fire performance properties, ideal for static interior and exterior rolling stock applications.

- ▲ EN 45545-2 (R23-HL3-exterior; R22-HL3-interior)
- ▲ Compliant to LUL S1085
- ▲ Shock and vibration resistant to EN61373 Cat 2
- ▲ UV resistant
- ▲ Available in sizes: 16mm to 40mm (OD Ø)
- ▲ Temperature range: -25°C to +90°C
- ▲ Also available as LTBRDLFH, which features an internal braid for enhanced EMC screening performance



LFHU metallic flexible conduit features an LFH coating for oil resistance and enhanced fire performance properties, making it ideal for static interior and exterior rolling stock applications.

- ▲ EN 45545-2 (R23-HL3-exterior; R22-HL3-interior)
- ▲ Compliant to LUL S1085
- ▲ Shock and vibration resistant to EN61373 Cat 2
- ▲ UV resistant
- ▲ Available in sizes: 12mm to 75mm (OD Ø)
- ▲ Temperature range: -25°C to +90°C
- ▲ Also available as LFHUBRD, which features Stainless Steel (316L) overbraid for mechanical protection and abrasion resistance



Rolling Stock

Metallic Conduit Key Features



Abrasion resistant



Oil resistant



Tamperproof



Temperature resistant



EN 61385 compliant



REACH/RoHS compliant



Our range of liquid tight metallic fittings and our multipart compression fitting (including elastomeric seal), can be used for knockouts or threaded entries as the fitting rotates until tightened. Can also be supplied with a swivel fitting to allow tightening of the thread into threaded entries or as a 90° elbow.

- ▲ Nickel plated brass fittings
- ▲ Polyamide compression seal and insulated throat seal
- ▲ High mechanical and tensile strength
- ▲ IP65 for LFHU conduit with type C compression fittings
- ▲ IP66, IP67, IP68 (1hr @ 5 bar)) and IP69 for LTPLFH conduit
- ▲ Compliant to LUL S1085
- ▲ Temperature range -50°C to +135°C



An effective solution. acting as a safety barrier to prevent the spread of flames and fumes, limiting fire propagation. The adapter's integral seal activates on heat, expanding to seal the cavities around cables routed through a conduit system.

- ▲ Tested to EN 45545-3 and rated to E30, provding a minimum of 30 minutes fire resistance
- ▲ Intumescent material thermal expansion from 200°C
- ▲ Nickel plated brass construction
- ▲ Enhanced resistance against corrosion
- ▲ Compatible with our Cable Protection systems, in both horizontal or vertical mounting positions

Rail Infrastructure

Leading Cable Management Solutions





Product Applications Overview

Rail Infrastructure

Tested to Perform

Whether it is passenger information systems, station lighting, CCTV & passenger safety, trackside power & signalling, train monitoring & information systems or tunnels, our products provide ideal Cable Management and Cable Protection for infrastructure and track related installations - ensuring safety and reliability.

Discover our Rail infrastructure solutions:

- ▲ Flexible conduit systems metallic & non-metallic
- ▲ IP4X metal trunking solutions
- ▲ Cable management systems
- ▲ Mechanical support systems
- ▲ Steel wire cable tray
- ▲ Curved bracket applications for tunnels
- ▲ Bespoke assemblies
- ▲ Channel & fittings available in a range of materials and finishes including the Atkore Defender™ high resistance finish for harsh environments













Rail Infrastructure

Cable Management Systems

With a proven track record coupled with industry expertise and a wide range of Cable Management systems, Atkore offers the ideal solution for many types of rail infrastructure applications including, tunnels, stations, and maintenance depots. To explore our product range in further detail, please refer to our comprehensive product catalogue.





Atkore Secure Fix Trunking is ideal for static interior and exterior rail infrastructure and rolling stock applications.

- ▲ IP4X compliant
- ▲ Multi head & tamper proof screws as standard
- ▲ Available in standard sizes from 50 x 50 mm up to 300 x 300 mm
- ▲ All sizes supplied as internal measurements
- ▲ Bespoke sizes and compartment configurations on request
- Available as a powder-coated option and in various finishes including Atkore Defender ideal for harsh environments
- ▲ Supplied with captive steel bushes for faster lid fixing, couplers and accessories



Atkore Cable Ladder systems are globally renowned for quality and engineering excellence. Wherever severe corrosion conditions are present, or a long maintenance free life is required, our welded steel cable ladder systems are the obvious choice. Perfect for use in rail tunnels.

- ▲ Heavy load carrying capacities
- ▲ Excellent performance in harsh environments
- ▲ Available in multiple finishes
- ▲ Wide range of load and span combinations to suit the requirements of almost any installation
- ▲ Engineered to maximise long span runs where support installation is limited
- ▲ BS EN 61537 compliant, ensuring earth continuity* (no additional earthing braids or bonds required), for simplified installation

*When installed using specified coupler and bolting arrangements



Rail Infrastructure

Cable Management Key Features

BS EN 1363-1:2020 compliant



BS 8519 compliant



Tamperproof



UK manufactured



DIN 4102-12 compliant



Corrosion resistant



Complete range of cable tray solutions for use in light, medium, heavy & extra heavy duty applications. Atkore cable trays offer flexibility, quality and speed in installation. Ideal for all your cable applications, from low power control and signalling through to mains power supply cabling.

- ▲ Available in a wide range of sizes and finishes
- ▲ Extra heavy duty options, for applications where additional strength and capacity is required
- ▲ Atkore Unistrut manufactured cable tray accessories
- ▲ BS EN 61537 compliant, ensuring earth continuity* (no additional earthing braids or bonds required), for simplified installation



Atkore Flexible Trunking is an adaptable trunking solution eliminating the need for costly on-site measuring due to its innovative design. Ideal for use in tunnels and uneven walls.

- ▲ IP4X compliant
- ▲ Available in 1 metre length as standard
- ▲ Screw fixing at each end for rail compliancy
- ▲ Designed for internal/external bends
- ▲ Available as a powder-coated option and in various finishes
- ▲ Bespoke sizes and compartment configurations on request



Rail Infrastructure



Designed to sit within the floor screed, with service outlet positions allowing access, our range of underfloor trunking is ideal for station ticket barriers and platforms.

- ▲ Manufactured in 2 metre lengths
- ▲ Available in single, two or three compartment variants
- ▲ Trunking lengths are a total welded construction removing the need to couple together loose channel sections
- ▲ Each length is joined together by a saddle clamp and plate, which prevents screed ingress into the duct
- ▲ Available in bespoke sizes and compartment configurations on request



It's often the case that an off-the-shelf solution is unable to answer all your needs and requirements, especially when there are specific location, timing, or environmental issues to consider. In these situations, Atkore prefabricated cable management solutions can offer you the support and flexibility required to successfully deliver projects.

- ▲ Off-site manufacturing services
- ▲ On-site surveys and measures
- ▲ Bespoke cable management solutions including custom-made Trunking specials, curved channel & more
- ▲ DfMA solutions to increase on-site productivity and enhance health & safety benefits
- ▲ Technical support and advice



Cost of Ownership

Atkore Unistrut Support Systems

Trusted Support Systems

As the support channel system is normally the product supporting the majority of your rail infrastructure services, we understand the importance of having confidence in the pedigree of the material used. Our Atkore Unistrut channel support system provides you full peace of mind when specified.

Fully Traceable Product

Atkore Unistrut product is fully compliant to BS 6946:1988 standard, which requires the standard to be stamped into the product, alongside the name of the manufacturer. Atkore Unistrut's channel support system achieves this, giving you full you have peace of mind that it meets the performance we publish.

Contractors and distributors should be aware of cheap imported and non-standard products that have removable or no product marking at all, as this is not within the standard.



Product Markings

Our channel support system is rolled with the part number, full name of the standard, and our UNISTRUT[®] branding - clearly demonstrating our ownership of products, and when used in a total Unistrut metal framing solution, qualify for our 10 year warranty*.







▲ Channel QBN

A QBN (Quality Batch Number) is stamped on every length of Atkore Unistrut we manufacture. With this code its possible to trace the material used back to the original coil and back to the mill certificate.

▲ Bracketry Batch Number

Our bracketry features a batch number for traceability, ensuring you can clearly identify our product over inferior market place alternatives.

▲ Clearly Visible Engravings

As a standard prerequisite, these engravings are clearly visible at all times, even after our product has undergone finishing treatments such as Hot-Dip Galvanised, Epoxy Coating.



Materials & Finishes

Solutions for Rail

Comprehensive Range of Finishes

We can offer different material finishes for metal systems to suit your project application requirements.

Hot Dip Galvanised (HDG)

Processed in accordance with BS EN ISO 1461: 2009, HDG is an excellent solution for outdoor environments. Its unique metallurgical structure gives outstanding resistance to mechanical damage.

*55µm minimum thickness.

Pre-Galvanised (PG)

A popular finish generally used for internal applications. Pre-Galvanised to Z275-BS EN 10346 1.0244 standards, its supplied with a zinc coating to a nominal coat of 20µm.

Stainless Steel (SS)

Stainless steel to 1.4404 (316L) standards. Ideal for harsh applications and extreme environmental conditions.

Pickle & Passivate is available upon request.

Defender (DF)

A cost-effective option, ideal for use outdoors and in corrosion-prone locations, Atkore Defender provides superior performance to eliminate or reduce future repair or system replacement.

Deep Galvanised (DG)

Processed in accordance with BS EN ISO 1461: 2009 to a greater thickness than the standard Hot Dip Galvanised, it is an excellent solution for outdoor and harsh environments. *75 - 85µm minimum thickness.

Powder Coated (PC)

A variety of powder coated finishes are available. Often used to provide a pleasing aesthetic finish to projects such as shops and retail environments.

Deep Galvanised 120 µm+

Extra Deep Galvanised on silicone rich steel to a depth of 120µm+. Please consult the Atkore Unistrut Technical Team for predicted lifespan.

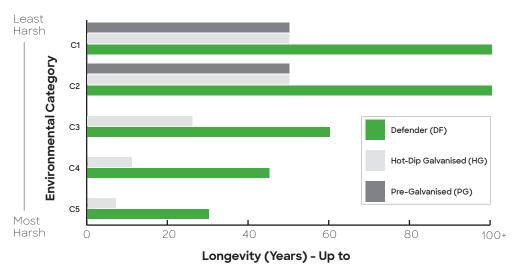




Atkore Defender™

The latest addition to our range of materials and finishes, Atkore Defender™ outperfoms Hot-Dip-Galvanising by lasting up to 3 times as long before reaching the 5% red rust failure criteria*, the premium finish of Atkore Defender™ aids in extending the service life of your building, while reducing maintenance and labour costs in the long run.

Encompassing metal framing and cable management, Atkore Unistrut straight lengths and accessories are available in the premium finish. Contact for more information.





*Based on average ASTM B117 salt spray test results



Services & Bespoke Solutions

Solutions for Rail

▲ BIM Library

Our BIM Library is an intelligence-based 3D Model software system used for planning, designing, construction, and management of infrastructures, buildings and sites. Our BIM files provide clash detection and reduction in cost as additional benefits.

▲ REVIT® Toolbar

Our custom integrated toolbar to the Revit® software package is free to download. This new Atkore Revit® Toolbar allows contractors and BIM designers to access all Atkore products without leaving the Revit software.

Front Right

▲ Atkore Flexicon 3D CAD Models

Powered by Cadenas, our parts community provides technical information on all of our conduits, fittings, and accessories.

From CAD models, dimensional diagrams, and 3D PDFs to part numbers, sizes, and downloadable data sheets - all in one place.

▲ Atkore Unistrut Engineering Calculators

We provide these useful tools as a valuable resource for engineers and designers doing any type of structured analysis.

▲ Atkore Unistrut Content Centre for use with Autodesk Inventor The custom-built Content Centre for Atkore Unistrut, for use with Autodesk Inventor, will help designers to select the best products for their specific applications.

▲ PreFab 3D

Our intelligent cloud-based system allows you to create modular frames and bespoke systems using the Original Unistrut Support system. PreFab 3D software allows you to design easily using our products as well as automatically receive a CAD model, drawing, BOM, and be connected to your local BDM for a quotation.





Proud Partners of Industry Organisations

We are proud partners with some of the most recognisable trade groups and organisations in the UK rail industry. Our strong business relationships within the sector are a reflection of our national credibility and give us the opportunity to contribute to the future of UK railways.



Services & Bespoke Solutions

Solutions for Rail

▲ Bespoke Services

We understand the challenges modern infrastructure projects can create. It's often the case that an off-the-shelf solution is unable to answer all of your needs and requirements, especially when there are specific location, timing, or environmental issues to consider. In these situations, a bespoke solution can offer you the durability and flexibility you need to successfully deliver your project.



Our team of technical experts work closely with you, offering on site measurement services and advice, to ensure your project is compliant and successfully delivered. This flexible approach differentiates us from the market.

▲ Technical Data Sheets & Certification

To give you confidence and help you select the correct products for your application, we can provide technical data sheets for all of our products, documenting performance properties and key specification information. We can also provide, on request, copies of certification to support technical submittals.

▲ Training Programs

Atkore offers flexible and free training across our electrical products and solutions, with online or in-person training courses available including Toolbox Talks as well as approved CPD courses earning you CPD credits. Contact us for further details.

▲ Latest Literature & Video Library

You will find all the latest Atkore literature, useful video tutorials and product launch video content across our websites and YouTube channels.









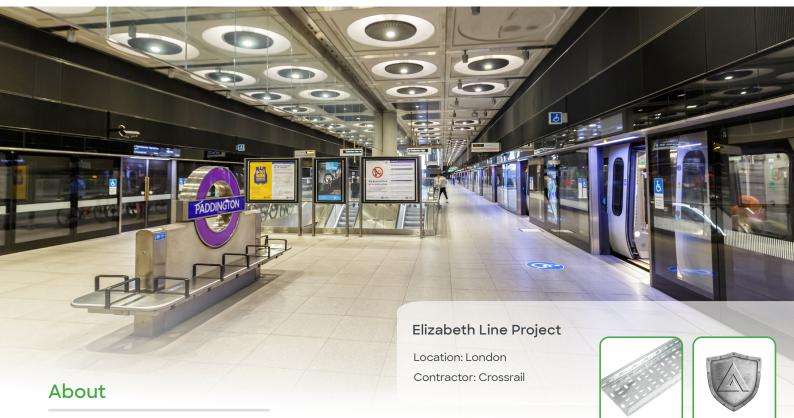






Proven Track Record

Real-World Applications



Products: Atkore Defender™ Cable Management & Curved Channel Cantilever Arrangements

The Elizabeth Line spans over 42 kilometers, connecting Reading and Heathrow in the west with Shenfield and Abbey Wood in the east of London. Now fully operational, the line can handle up to 200 million passengers annually.

Challenge

The Elizabeth Line's Running Tunnels required cable management systems that could withstand harsh environmental conditions, including moisture, vibration, and potential chemical contamination.

Given the tight schedules and spatial constraints within the tunnels, the installation of Cable Management systems needed to be as swift and efficient as possible.

Solution

To solve the potential problem of harsh environmental conditions, Atkore Defender™ finish was chosen for the Cable Management system (CMS), significantly extending lifespan of the CMS in comparison to standard Hot-Dip Galvanised products. This innovative coating ensured the infrastructure would remain in optimal condition, reducing maintenance costs and downtime.

To ensure swift and efficient installation, Atkore supplied over 29,000 curved channel cantilever arrangements, specifically designed to facilitate faster installation. These pre-engineered solutions minimised on-site modifications, allowing the project to progress smoothly and meet critical deadlines.



Atkore worked with us on the Crossrail C610 Systemwide Tunnel project delivering innovative off site fabricated products... This consisted of 280 km of cable tray, 100 km of cable ladder, and 29,000 off site fabricated curved welded CMS brackets... Atkore's technical, manufacturing expertise and logistical capability delivered on behalf of Crossrail.



Joe Kemm - M&E Project Manager - Alstom / TSO / Costcain (ATC) Joint Venture





Proven Track Record

Real-World Applications



About

Products: Atkore Flexicon FPAU Ultra™ Fittings and Atkore Flexicon FPIHRL nylon flexible conduit

The Alstom Ubunye rail factory in South Africa installed electric cable protection faster by using our FPIHRL nylon flexible conduit and FPAU Ultra™ fittings.

Challenge

Key deciding factors in selecting Atkore Flexicon as the preferred supplier included the speed and ease of installation, the material composition, which is approved to international rail standards as well as Alstom's own stringent pressure testing and proven reliability on numerous rail applications globally.

Solution

Flexicon's FPAU Ultra™ fitting simplified Alstom Ubunye's inventory management by meeting multiple requirements with a single component. It offers protection against temperature extremes, vibration, fire, smoke, and gas, suitable for both interior and exterior use.

Our FPIHRL nylon flexible conduit was also specified for the project due to its compatibility with the used ULTRA fittings. Alstom's testing indicated a 35-year service life, enhancing long-term reliability in rail systems.



Atkore Flexicon's products have enabled our production teams to significantly reduce installation time. This means carriages can now be commissioned in a tenth of the time it has previously taken with conventional methods, while simplifying stock control and saving the cost of purchasing multiple fitting types.



PRASA Project Manager - Radel





Atkore

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Want to join a company that helps you build the mindset, skill set and tool set for success? Visit us at atkore.com/careers

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