



Roxtec

Flexible Seals for Cables, Pipes and Conduits

Lightweight Yet Robust Protection for the Rolling Stock Industry

Designing locomotives, high-speed trains, metros and other rail vehicles is a constant search for the optimised combination of strength, safety and low weight.

To ensure operational reliability and safe transportation of people and goods, and to avoid the risk of damage or downtime, engineers look for the very best components and every detail that can make a difference – such as Roxtec cable and pipe seals. Roxtec has an impressive history of solving problems in the rolling stock industry. Roxtec sealing experts know what it takes to seal off around cables and pipes in fire rated barriers throughout the vehicle structure. They have developed penetration seals that fulfil the highest fire resistance requirements and cover the highest hazard levels. Roxtec has thereby become an important partner for many rolling stock manufacturers around the world, providing innovative seals that ensure certified protection against multiple hazards and offering sealing knowhow, design services and software that enable fit-for-purpose solutions. The Roxtec sealing system is recognised by and familiar to most operators, engineers and installers who focus on speed, safety and sustainability. This has made it convenient to standardise with Roxtec penetration seals to enable success on the global market and to secure easy maintenance and reliable operation wherever the rail vehicle will be rolling.

Developed to Protect Life and Assets

Roxtec provides standard and tailor-made solutions to cover all sealing requirements to help manufacturers ensure passenger safety while maintaining operational



Roxtec cable and pipe seals are designed for easy installation

performance throughout the vehicle lifecycle. Roxtec has extensive research and development resources, including a technical centre and a material development lab, and is working together with manufacturer teams to continuously develop efficient seals. The company has advanced fire and test labs where internal and third-party witnessed tests are performed to support the product development process and verify the performance of the Roxtec products. The Roxtec system protects against fire, smoke, dust, water and vibration. The seals are tested in accordance with the major standards, such as EN 45545, NFPA 130, EN 60529 and UL/NEMA.

Tailor-Made Sealing Solutions

Roxtec sealing experts often create and design seals and transits according to specific needs. The team of designers, engineers and test technicians is always ready to take on a sealing challenge, even if it requires the creation of a completely new solution. The certified

and well-proven Roxtec system is often the base for new tailor-made seals, as Roxtec can supply it in other dimensions, with special frames, other rubber materials or bespoke sealing modules. Customisation of seals according to manufacturer needs is part of the service concept which includes everything from design support to fast deliveries.

Smart Engineering Tool

Roxtec Transit Designer™ is the rolling stock design engineer's shortcut to safety and efficiency. This free, web-based engineering tool simplifies product selection as well as the entire design process that surrounds cable and pipe transits. Users simply enter input, such as cable schedule, sealing requirements and mounting preferences, and the software automatically provides full documentation. There are currently more than 50,000 users in more than 100 countries, and it is free to sign up for the tool on roxtec.com.

Multidiameter™ by Roxtec

Roxtec modular-based mechanical seals are lightweight, compact and openable – and they ensure a perfect fit, regardless of the dimension of the cable or pipe. This is thanks to Roxtec Multidiameter™, an innovation for flexibility based on sealing modules with removable rubber layers. It makes the system adaptable to cables, hydraulic pipes and plastic conduits of different sizes. With only a few parts, manufacturers get a strong reliable barrier against multiple threats. The multi-cable transits are quick and safe to install from one side of the structure and allow for sealing of several cables, pipes and conduits in the same opening. This allows for high cable density, which in turn allows designers to save space by reducing the size and weight of enclosures and junction boxes. One cut-out is, in fact, enough for routing and sealing of dozens of pre-terminated cables. Another advantage is the built-in spare capacity for additional cables and pipes which simplifies retrofits and upgrades. The seals are available with frames in different shapes and materials, for welding or bolting, and for a variety of applications.

Seals for Any Rail Vehicle Application

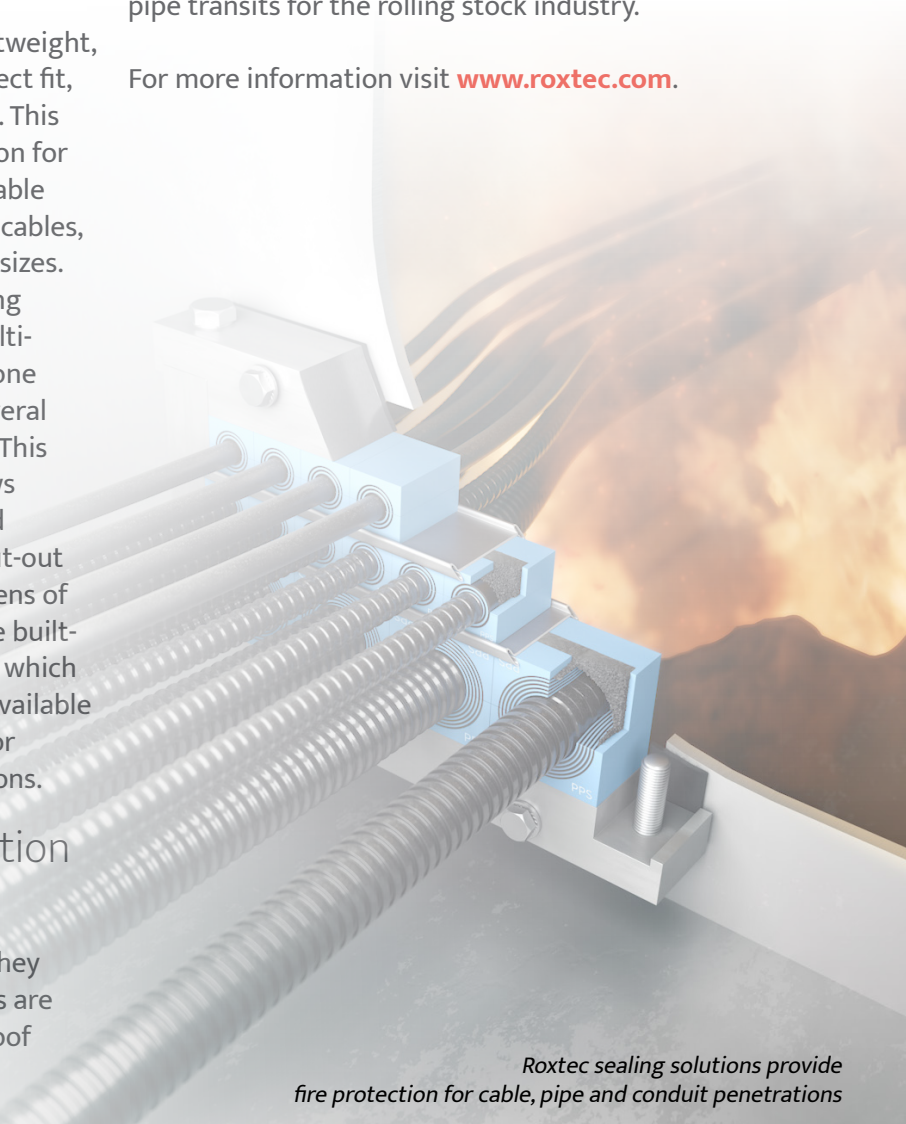
Manufacturers all over the world rely on Roxtec because there are so many applications where they can benefit from the sealing system. The transits are available for sealing floors, partition walls and roof

tops. It is used for converters, inverters, motors, brake systems, hydraulic pipes, junction boxes, pantographs, antennas, roof boxes, HVAC systems, air conditioning, switchboard panels and equipment. One example is cable management, cable retention and vibration damping. The area-efficient sealing system is gentle to the cable sheath, but also extremely resistant to pressure and excellent for keeping cables in place to avoid damage. It helps manufacturers extend cable lifetime and ensure long-term functionality.

World Leader in Modular-Based Seals

Roxtec is a global company with a strong local presence that understands the international activities of the leading rolling stock players. Roxtec supports customers and partners in design, production and modernisation across continents and geographies, and is present all over the world to ensure everything from quick support to smooth logistics and just in time deliveries from local stocks. This partner strategy has made Roxtec the world leader within flexible cable and pipe transits for the rolling stock industry.

For more information visit www.roxtec.com.



Roxtec sealing solutions provide fire protection for cable, pipe and conduit penetrations