



# Cable and pipe seals for power transmission and distribution



## Secure a safe and reliable grid

Benefit from the world's most innovative and flexible cable and pipe transits. Standardize with Roxelite penetration seals in different applications throughout the entire electricity grid.

Never let the specification of cable entry seals be a field-based decision. Include it in the design and engineering scope to ensure safety and reduce the total cost of ownership. With Roxelite transit design

software, you can plan your entries and select the right engineered solutions to use – from the power generation through to distribution. Roxelite seals provide certified protection against multiple hazards.



# "We save money on using high quality seals from the start."

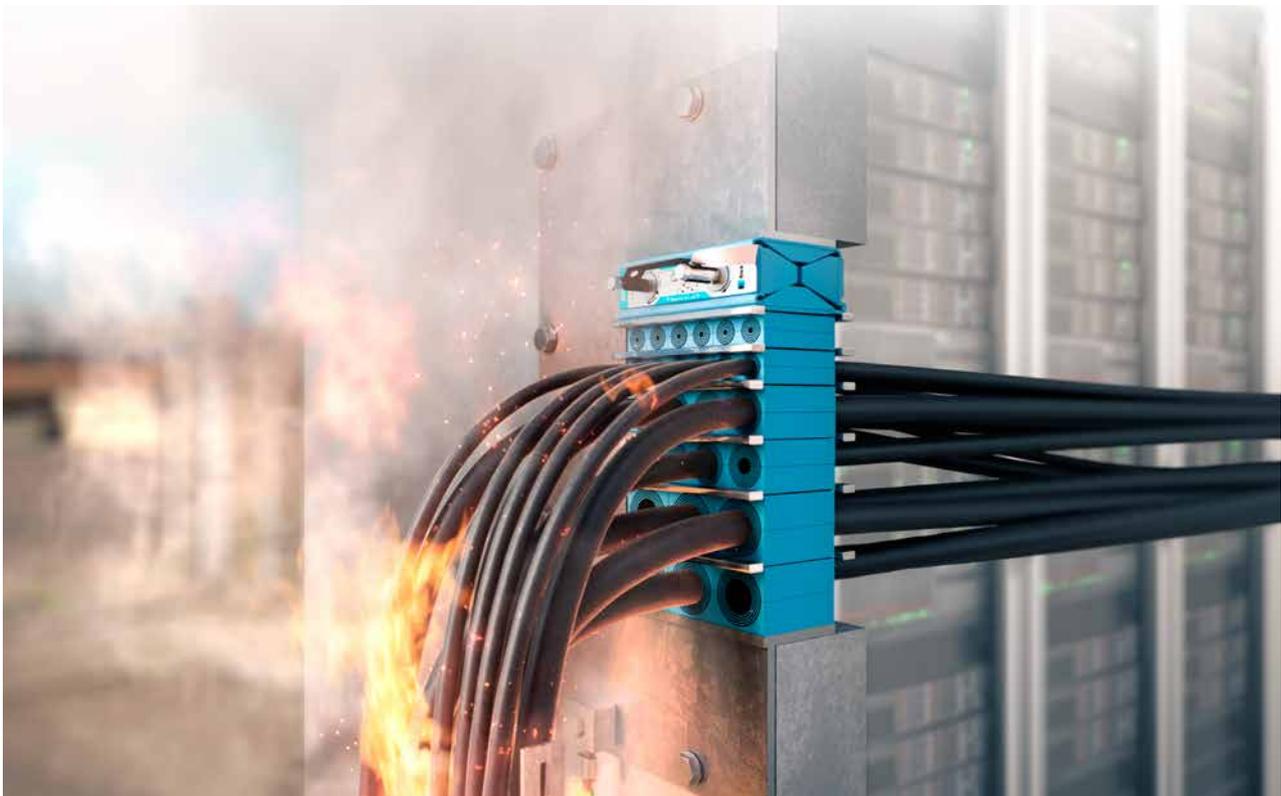
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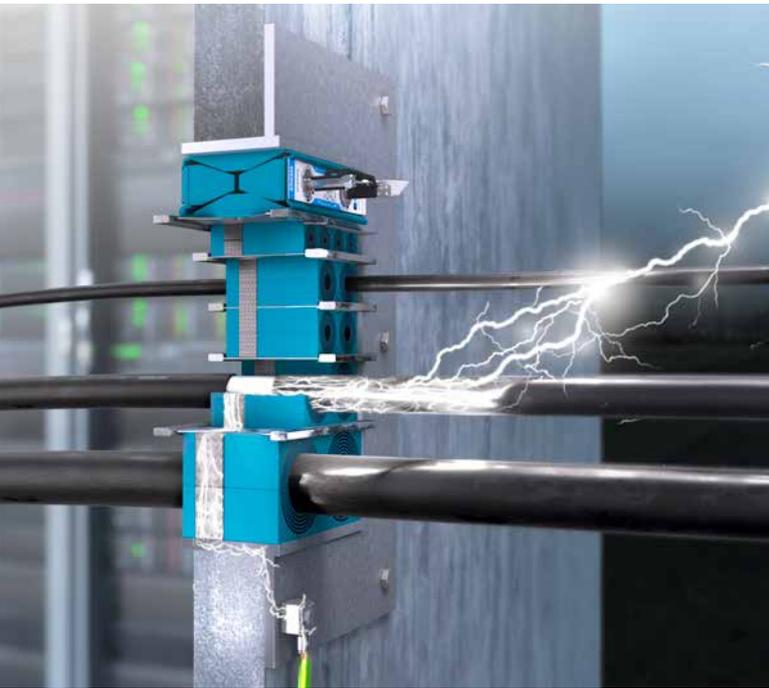
## Watch out for water and humidity

Humidity, water ingress and flooding are constant threats to switchgear and equipment – and to the stability of your electricity network. Water, dirt, and dust entering via badly sealed openings for cables and pipes in foundations can fill up substation basements and cause immediate outage and other negative effects of humidity, such as partial discharge activity. Another risk factor is weak cable retention. Cable settlement and movements can easily lead to water ingress in basements.

## Fire and gas cause costly failures

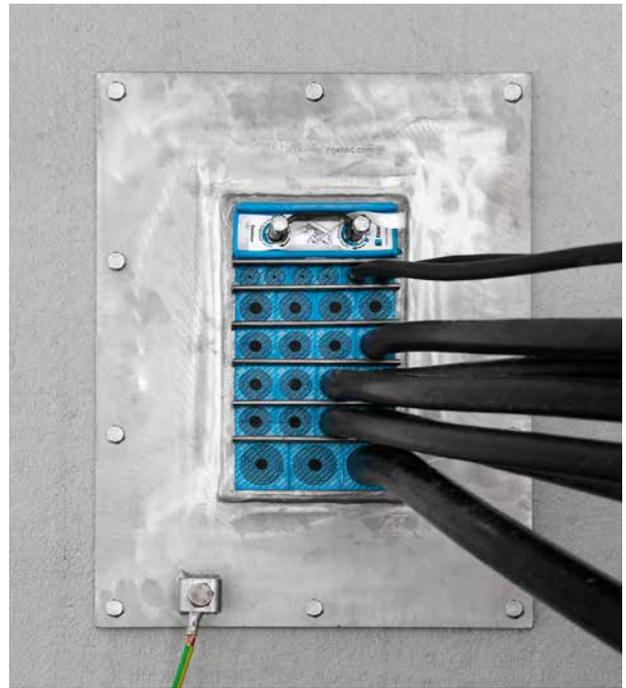
Whether your substation is in a city, an industrial area or very remote, a fire will certainly mean severe danger, costly damages, and loss of profit due to extensive downtime. It can, for example, start just because of a combination of an unexpected heat increase and a small gas leakage, and then spread rapidly when smoke and flames find their way via paths in walls, floors, and ceilings.





## Electromagnetic interferences and hazards

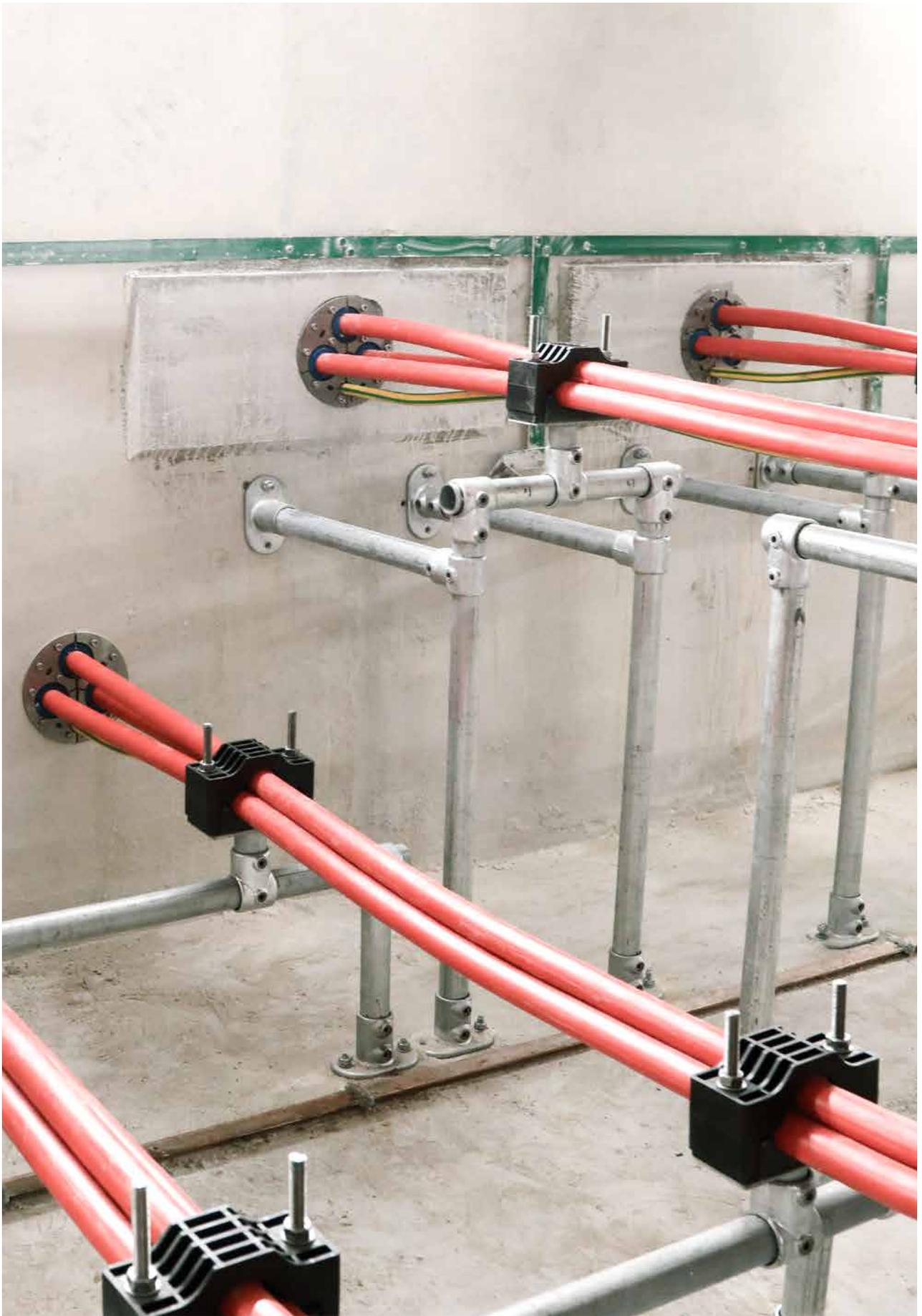
All along and in between equipment in your network for power generation, transmission and distribution, there are potential electromagnetic interferences, disturbances, and electrical hazards. The effects of a lightning strike, fault currents or a current surge on a cable can be disastrous for electrical and electronic equipment in case of inadequate protection, bonding, and grounding.

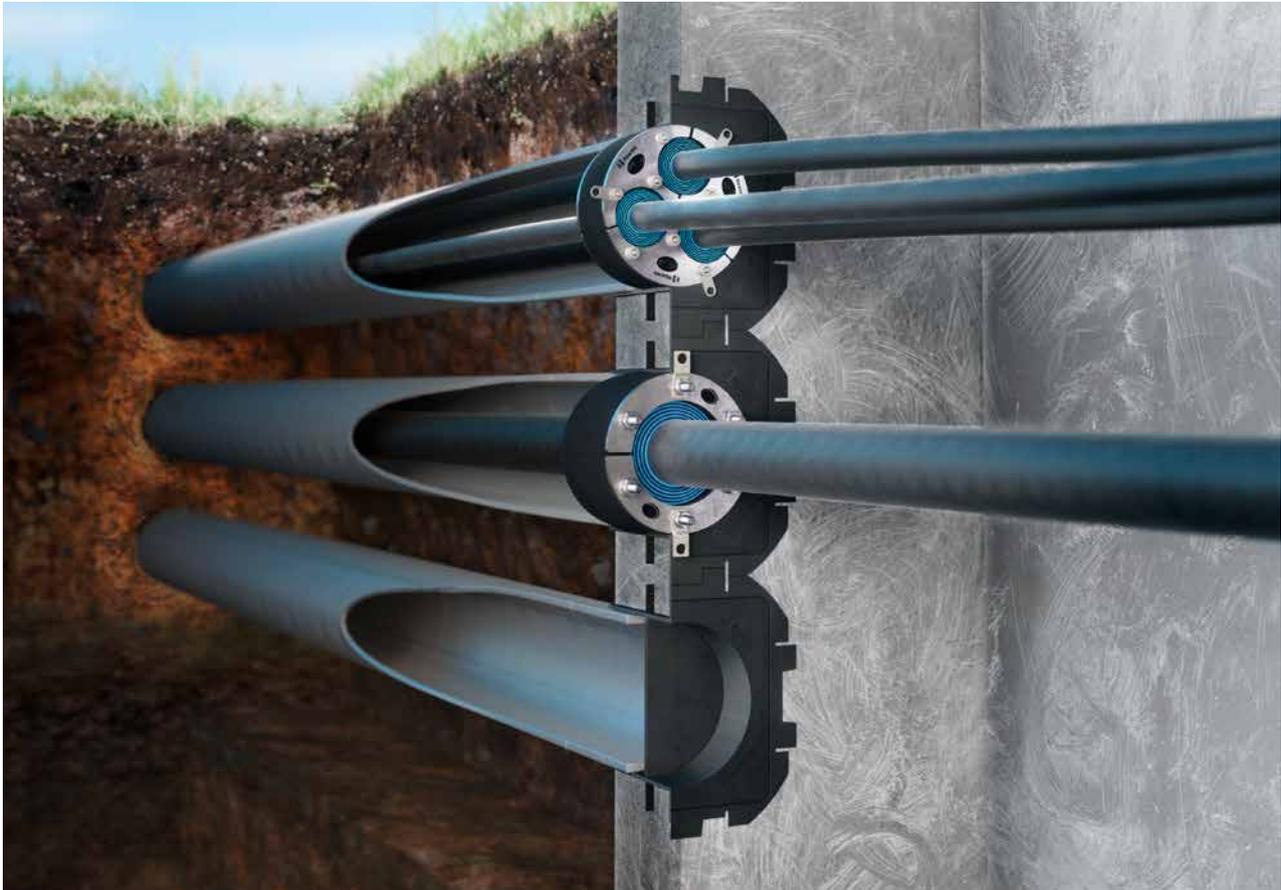


## How to meet safety requirements and ensure stable power supply?

Make sure you secure certified protection for all cable and pipe penetration areas in:

- Foundations
- Walls and floors
- Cabinets and enclosures





# Outstanding sealing solutions

Use Roxtec seals as an all-in-one solution to keep your substations dry and maintain optimum operating conditions for switchgear and equipment. Roxtec seals protect against fire, gas, water, EMI, dirt, dust, and rodents, and provide efficient bonding and grounding.

They add blast protection, reduce the risk of partial discharge failure on switchgear, prevent typical causes of arc, and limit the effects of an arc-flash. The transit frames can be bolted, cast, or welded to the structure and cover a multitude of applications.

## **Roxtec UG™ transits for underground use**

Roxtec UG™ transits are for single or multiple cables and pipes entering via foundations. The seals form a long-lasting barrier against flooding, humidity, gas, and rodents. They provide excellent cable retention, withstand cable bending and can be installed in running water conditions into conduits, core-drilled holes, and sleeves. The Roxtec knock-out sleeve is

smart, as it keeps your building dry during and after construction until it is time for service routing. It is a cost-efficient way of ensuring spare capacity.

- Watertight
- Rodent resistant
- Reliable cable retention
- Quick and easy to install

### Roxtec multi-cable transits for fire protection

Roxtec transits for walls and floors, such as the Roxtec GH FL100, provide certified passive fire protection as well as protection against multiple other hazards, including water, gas, and dust. The seals are easy to install and inspect and extremely area efficient, allowing for very high cable packing density.

- Passive fire protection
- Protection against multiple hazards
- High cable density management
- Easy to maintain and inspect

### Roxtec seals for bonding, grounding, and EMC

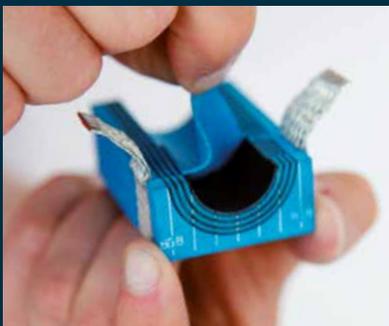
Roxtec cable entry seals are ideal for protecting electrical cabinets and electronic equipment. The Roxtec BG™ sealing system provides bonding and grounding to guarantee maintained safety in the event of short circuits or effects of lightning strikes while the Roxtec ES sealing system ensures protection against EMI, electromagnetic interference, and EMP, electromagnetic pulses.

One area efficient Roxtec seal can replace dozens of traditional cable glands and save cabinet space. You can install the seals today, also with pre-terminated cables, and build in spare capacity for tomorrow. It is easy to open the entry seal and add cables without punching holes or adding extra material or costs.

- Bonding and grounding
- EMI and EMP protection
- IP and UL/NEMA ratings
- Electromagnetic compatibility

Roxtec ensures a perfect fit, regardless of the dimension of the cable or pipe.

If you use Roxtec BG™ B, you can also ensure bonding and grounding of armored cable types.



Roxtec Multidiameter™ is an innovation for flexibility based on removable layers.



It makes the mechanical system adaptable to cables and pipes of different sizes.



With only a few parts you get a strong reliable barrier securing operational performance.



## Customized solutions

Customization according to specific needs is part of our service concept. Our designers, engineers and test technicians are always ready to take on your sealing challenge – even if it requires the creation of a new solution. Our certified system is often the base for our tailor-made seals, as we can supply it in other dimensions or materials or with special frames or modules. In many cases, we have already supplied a similar solution allowing us to respond very quickly to your request.

### **Roxtec at your service**

We are eager to use our expertise to help you extend the life of your power network and maintain its value for years to come. We provide design services, help you choose the right solution and support you onsite by conducting visual inspections to make sure your Roxtec penetration seals meet safety requirements and official regulations.

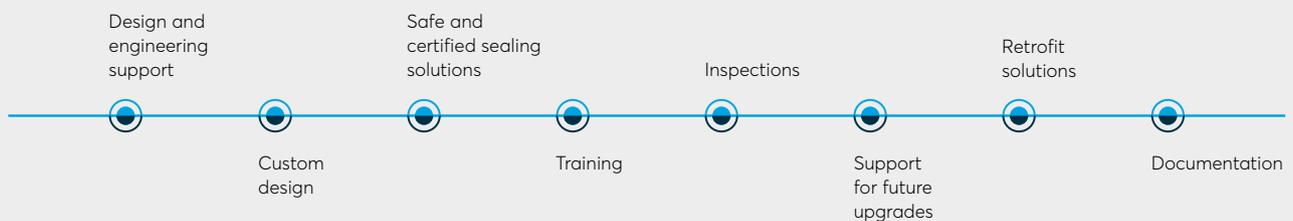


## Developing for safety

Having extensive research and development resources, including a technical center and a material development lab, we can work closely together with your team to develop and improve seals. We also have

advanced fire and test labs where we perform tests to support the product development. The Roxtec system is, for example, tested for pressure, climatic changes and electromagnetic threats.

### Roxtec support throughout the lifecycle of your project



More on [roxtec.com](https://www.roxtec.com)

“By importing data into the Roxtec software, we saved several weeks – if not months.”

Gary Jennings, Lead Electrical Designer of Wood Group



## Smart engineering tool

Roxtec Transit Designer™ is your shortcut to safety and efficiency. This free, online tool simplifies product selection and the entire process that surrounds cable and pipe transits. Just enter your input and it provides you with full documentation. Generate hole-cuts, drawings and documents in minutes!

- Free web-based application
- Simple product selection
- Tens of thousands of users in 100+ countries

### Simple user input:

Cable/pipe schedule or estimates  
Sealing/certification requirements  
Installation preferences  
Material quality selection



### Automatically generated output:

2D drawings in DXF and PDF  
3D STEP  
Bill of material in Excel  
Installation instructions  
Certificates

Sign up for Roxtec Transit Designer™ at [roxtec.com](https://roxtec.com)



## **Roxtec is a global company with a strong local presence**

You can always reach a Roxtec representative in your region. We are present all over the world to ensure everything from quick support to smooth logistics and just in time deliveries from local stocks. It is our job to help you succeed if there are late changes in design or production requirements.

# Protecting life and assets

Roxtec is the world leader within flexible cable and pipe transits. Since the start in Sweden in 1990 we have grown successfully to cover all continents. Our passion is innovative sealing solutions, and our goal is to make our world a safer place.

- Extensive R&D resources and advanced test facilities
- Inventor of Multidiameter™
- Customers in more than 80 markets



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