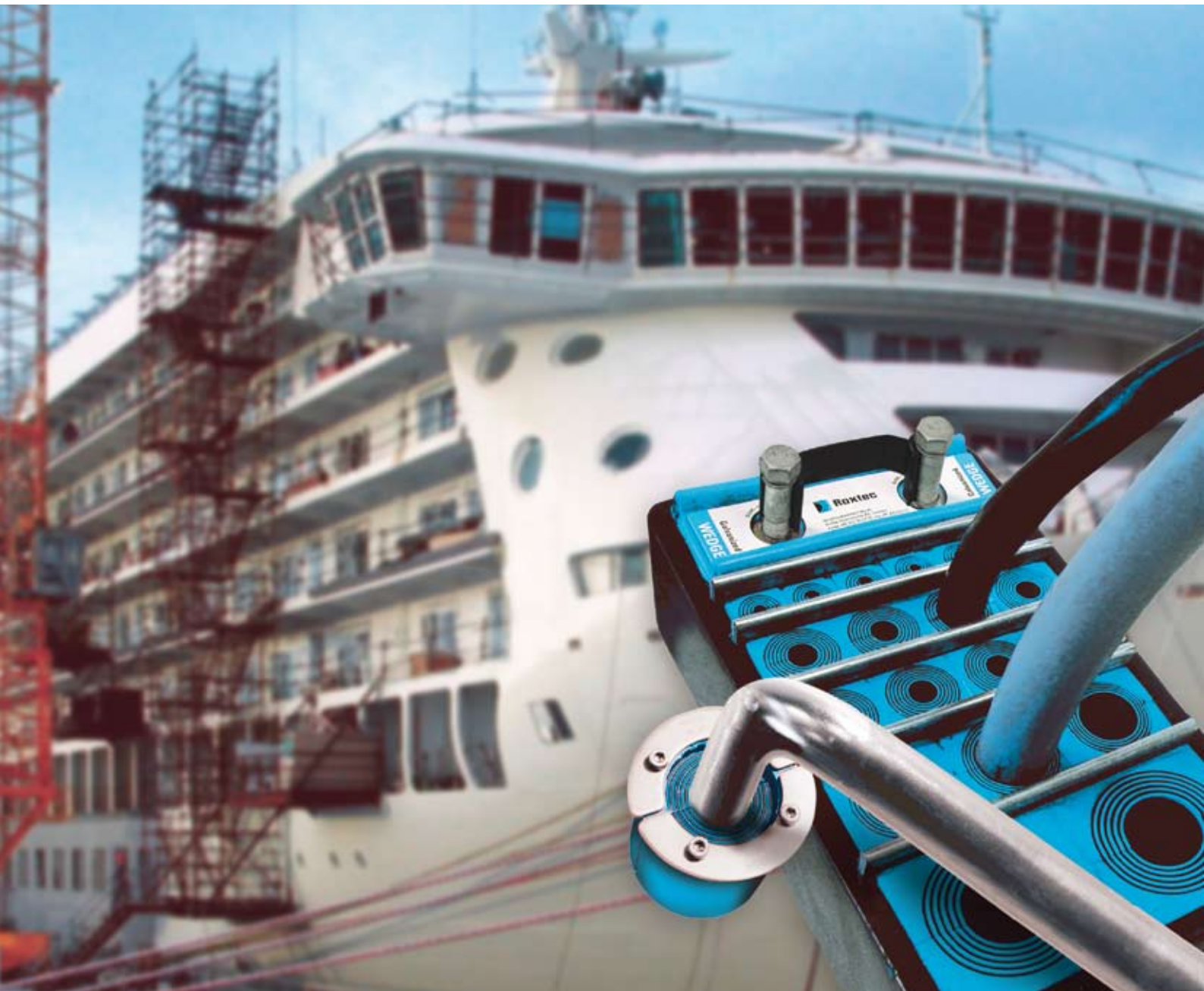




Marine

Cable and Pipe Transits



We Seal Your World





Peace of mind

With Roxtec's cable and pipe transits on board your ships there is simply one less thing to worry about. Safety and reliability are now taken care of and you can turn your focus to other important issues.

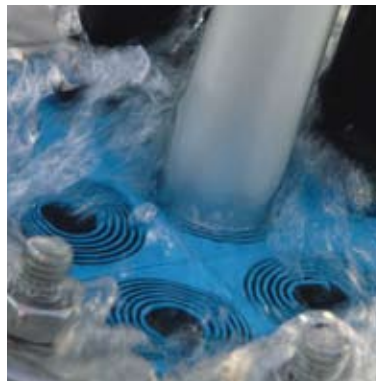
Reliable safety

The benefit of Roxtec is two-fold. First of all, installing and using the sealing system is simple. This results in fewer errors. Secondly, the built-in safety of the system guarantees protection in full accordance with official regulations in combination with market leading technical capabilities and benefits.

Our cable and pipe transits help to ensure operational reliability and

integrity, and minimize the influence from hazards induced by water pressure, fire, smoke and gas. The Roxtec sealing system is approved for use in A class rated sections, following tests according to IMO 754(18).

With both safety and operational reliability in world class, thousands of Roxtec customers around the world now consider cable and pipe sealing one less concern.



- Well known and established solution
- Largest number of tests and certificates in the industry
- Certified solutions also for plastic pipes
- Possibility to test installations on site for tightness
- Simple to install for fewer human errors

Ships are always modified

Simple to inspect and modify

Cables and pipes frequently get changed, added or removed on ships. The Roxtec sealing system allows immediate access to make all the necessary changes. Thanks to the modular design of a Roxtec transit it is very easy to inspect and identify problems. The seals can be re-opened and closed repeatedly without compromising the safety.

Few disturbances to passengers

The Roxtec sealing system is future-proof. Changes to cables or pipes are usually made by re-using already installed Roxtec transits and components. This reduces the need for structural interventions for new openings. As a result, the disturbance from maintenance on the surrounding environment is



minimized and both passengers and the superintendent are happy. Roxtec is well-known technology familiar to a wide range of staff and technicians on board ships. This means that the competence to perform maintenance on the cable and pipe transits is wide-spread. Upgrades and installations, such as adding pipes for sprinkler systems, can be performed under local supervision to reduce downtime.

More than a seal



Reducing thermal bridges

The rubber material in a Roxtec transit helps to insulate HVAC pipes from bulkheads and decks. The reduction of thermal transfer between the cooling or heating pipes and the surrounding environment, saves energy and money. Fewer thermal bridges also reduce service costs due to less water condensation and damage to the insulation.

Less vibration, less material fatigue

The material properties of Roxtec rubber include the ability to withstand vibrations. The result is that a Roxtec transit performs well as a sound and vibration damper, preventing noise, fatigue and structural failure.

Saving time and money

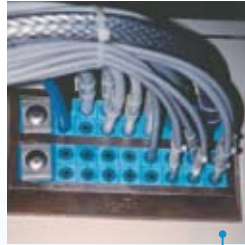
Roxtec and Multidiameter™, our technology based on sealing modules with removable layers, enable customers to save time and money. Costs stay within budgets and time schedules are kept. Typical benefits are lower labour cost, less time needed for installation and replacement, less storage cost for additional inventory, and reduced administrative costs when re-ordering.

Roxtec keeps your ship safe

Roxtec's penetration seals help owners and operators of ships, such as cruise liners, LNG carriers, military ships and yachts to achieve certified safety with cost-efficiency.

Shown here are examples of applications and benefits possible with Roxtec.

Captains bridge: Compact seals to IP protect electrical wires to and from enclosures.



Engine room: Roxtec round seal for hydraulic and pneumatic pipes in machine room.



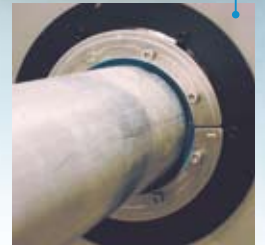
Fire protection system: Pipes sealed with Roxtec when passing through the super structure.



Gastight bulkhead: Back-to-back seal (open view), which allows pressure test on board LNG carrier.



Stress exposed bulkhead: Frame solution with rounded corners to avoid cracks in bulkheads around cable or pipe inlets.



Non-weld zones: Roxtec non-weld solutions protect bulkheads and decks in areas where welding is not desired.

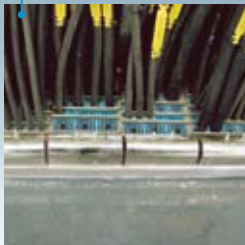
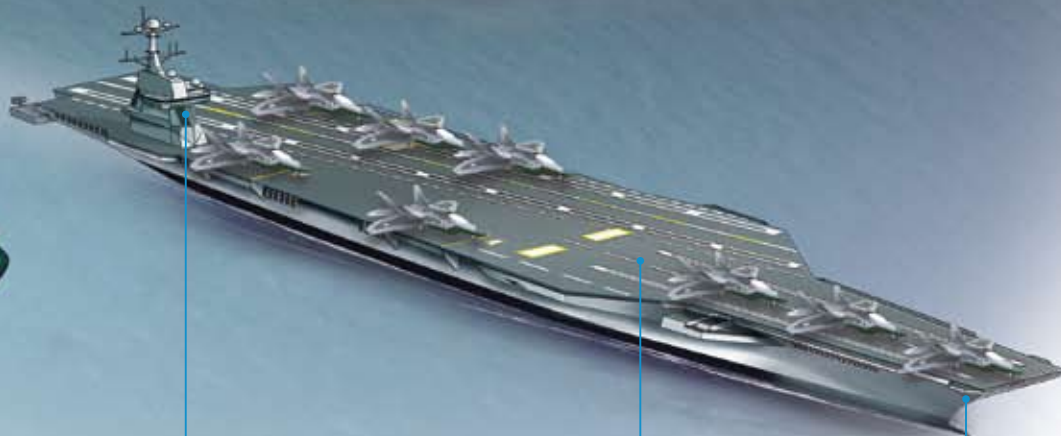
Bulkheads and decks:
Pipe seals for fire protection of openings with a variety of plastic pipes.



Lighting: Round seals for single wires to external lighting fittings.



Deck of engine room:
Transit welded at an angle in the deck to handle large cables with low bending radius.



Radio room: RFI-shielded EMC and firestop solutions for radar and navigation equipment in bulkheads.

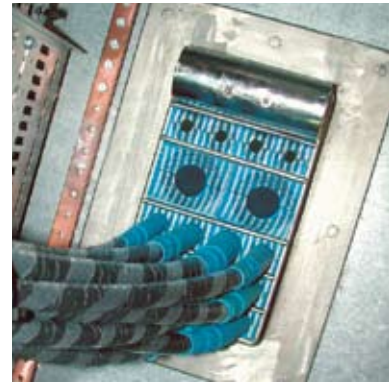
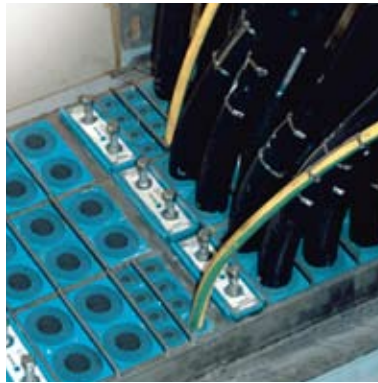
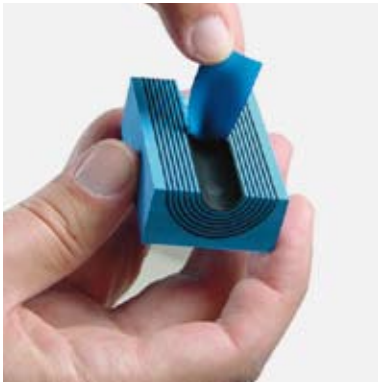


Cabins and kitchen:
Round seals in bulkheads and decks for single pipes of fog system.



Decks and bulkheads:
Combination frames for fireproof, watertight bulkheads and decks with power and signal cables.

A quality system



Multidiameter™

The smart adaptability of the Roxtec technology makes installation of cables and pipes easy and safe. Each Roxtec seal has removable layers that enable a perfect fit to different sizes of cable or pipe. Just peel off a few layers and the seal fits the desired size of a cable or pipe.

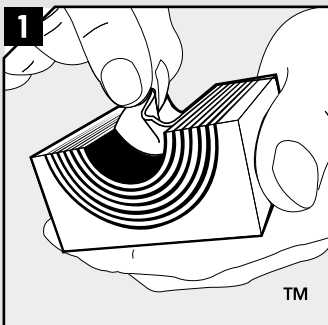
Efficient and organized

Thanks to the design and the modular build of a Roxtec transit, cables and pipes become neatly organized as they pass through the frame. A small but proper distance between each cable or pipe creates high area efficiency. It also allows for a good overview and easy maintenance.

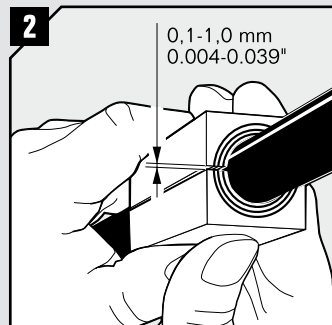
EMC sealing solutions

Roxtec's EMC transits are available for protection against EMI/RFI and for potential equalisation. Our EMC products have been verified in attenuation tests according to EN 50 147-1:1996 and in transfer impedance tests according to standard VG95.

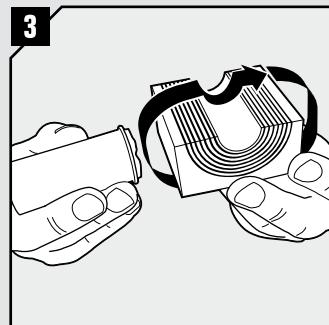
How it works



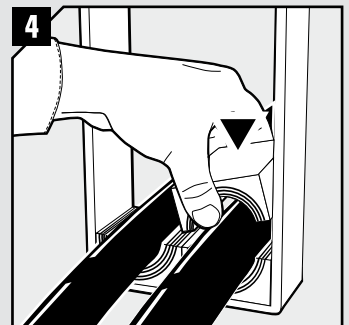
Adapt the modules to fit cables or pipes by peeling layers until you reach the gap seen in pic. 2.



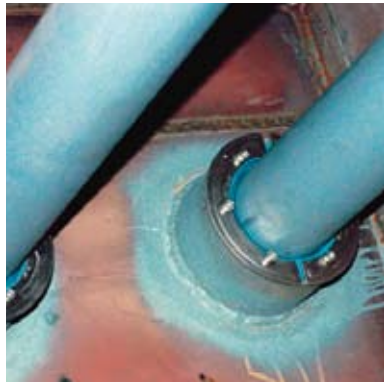
Achieve a 0.1-1.0 mm gap between the two halves when held against the cable/pipe.



Lubricate all modules for the frame thoroughly, both the inside and the outside surfaces.



Insert the modules according to your installation plan (transit plan). Usually start with the largest modules.

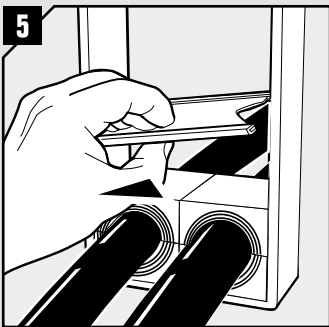


Ready for plastic pipes

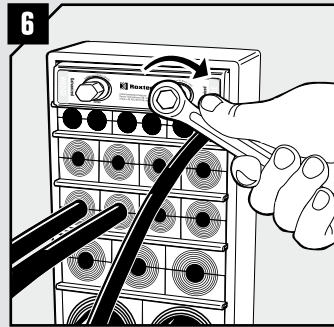
The use of plastic pipes is increasing in shipbuilding. The advantages are obvious when compared to metal pipes, with better resistance against corrosion and less weight. By using Roxtec's penetration seals you get certified fire protection in combination with sound dampening.

Advanced resources including fire lab

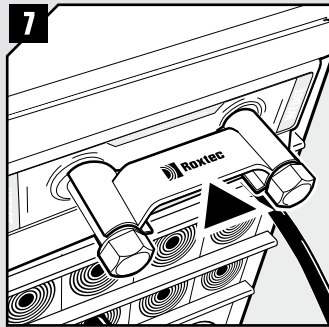
Fire tests and pressure tests are performed both in-house and externally. Our own resources with an advanced fire lab enable us to perform preliminary studies as well as individual tests in connection with customer projects whenever desired.



5 Insert a stayplate on top of every finished row of modules.



6 Insert the Wedge and tighten the screws until full stop, approx 20 Nm (15 ft.lb.).



7 Attach the Wedge Clip to the wedge bolts to check that the wedge has been properly tightened.

Basic steps in the assembly of a modular-based Roxtec sealing solution.

We are there for you



Local support for your site team

Roxtec is much more than a supplier. Our sales and support staff around the world play an active role in helping customers find their optimum solution.

Our knowledge, acquired through many years of work in the field, means we can guide you to solutions that suit your needs and applications.

Less design time through RTM and Roxtec

You can save valuable time by using the Roxtec Transit Manager (RTM). The design-aid software automatically generates layouts of packing plans, bill of materials and drawings.

Product installation training

Whenever desired we also provide product installation training through



our sales staff and technicians. We are there to support and train you on site. Call us for more information.

Website for installers

In the Installer's Section of our global website we have collected useful information aimed at staff involved in assembly and installation of the Roxtec sealing system. Instructions and videos can be viewed online or downloaded for free.

Easy to find our product worldwide

Roxtec solutions are available worldwide through our network of local suppliers. This means fast deliveries from local stocks in more than 70 markets. It also means direct support from local staff on site.



Among our customers are:

Aker Yards, A.P Møller Mærsk, Carnival Corporation, Chantiers de l'Atlantique, China Shipping Company, Color Line, Daewoo, Dalian Shipyard, Danish Navy, DFDS, Disney Cruise Lines, Fincantieri, Finnish Navy, Holland America Line, Italian Navy, Jiangnan Shipyard, Kvaerner Fjellstrand, Mitsubishi Heavy Industries, Northrop Grumman, Perini Navy, P&O European Ferries, Princess Cruises, Royal Caribbean Cruise Line, Spanish Navy, US Navy.