

## **Sealing solutions against constant water pressure**

CABLE AND PIPE SEALS FOR UNDERGROUND APPLICATIONS

# Do you have problems with water ingress?



Effective cable and pipe sealing is essential when you provide important services such as power supply, infrastructure, healthcare, finance, or information technology. The risk of costly downtime and power outage due to corrosion, damage to equipment or partial discharge increases if you do not ensure a long-lasting barrier against flooding, gas, humidity and rodents.





# Keep your equipment dry



Roxtec UG™ (underground) solutions for cables and pipes are developed to protect your site against environmental ingress in both normal and flood conditions. Their ability to withstand cable bending load and forces contributes to make the seals resistant to constant water pressure – and to make them your safeguard against the risk of partial discharge.

## User-friendly efficiency

Roxtec UG™ solutions are available for multiple as well as for single cables and pipes. They are easy to install even in wet conditions and in environments with running water. Use them to maintain optimum operating conditions, eliminate humidity and prevent corrosion and rodents.

### INSTALLATION

#### Flexible solutions

- Easy to install even in running water conditions
- Multidiameter™ by Roxtec – adapts to cables and pipes of different sizes
- Built-in spare capacity for future needs

### RETENTION

#### Excellent capabilities

- Withstands pull force of up to 10 000 N and a weight load of up to 1 000 kg
- Withstands extreme cable bending
- Flexible to expand 5 mm towards opening

### PROTECTION

#### Tight and resistant

- Constant water pressure up to 0.3 bar
- Catastrophic water pressure up to 1 bar
- Gas pressure
- Corrosion and rodent safe

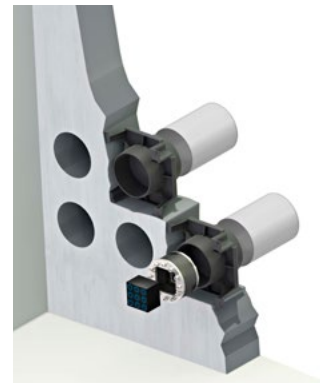
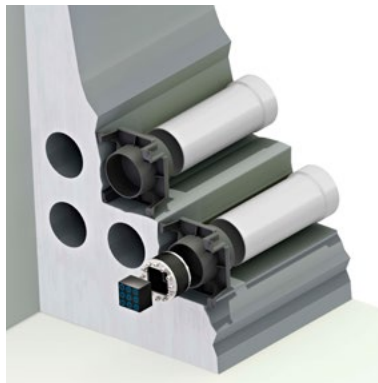


# Knock-out sleeve providing spare capacity

Use the innovative Roxtec knock-out sleeve UG™ to block the openings you might want to use for cables and pipes later on. It helps you effectively plan your ducted openings, with the added benefit that any spare or unused duct is sealed without additional cost. You only need to buy a seal for the openings that have cables routed through them. Traditionally many buildings become flooded during construction before the services are routed and sealed. We offer you a simple solution to make sure the building is completely dry both during and after construction.

## Think first

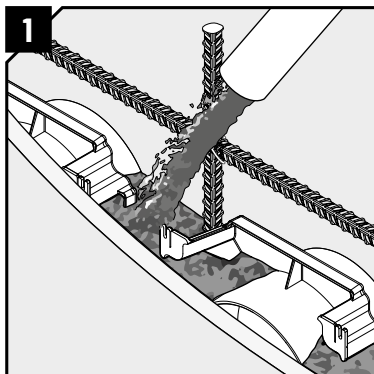
Why not include knock-out sleeves in the early phase of the design work for a new building? Decide if you want the seal on the inside or the outside of the wall and turn the



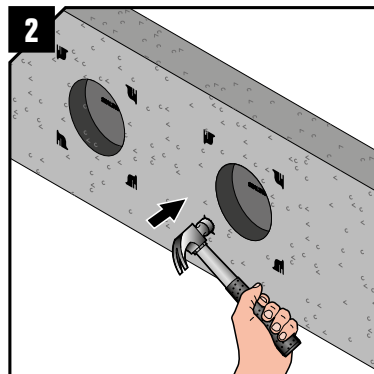
legs of the knock-out sleeve to the seal side. Then cast the sleeves into the foundation, and just knock them out when needed. Ensure consistent results in terms of position and formation of holes instead of having trouble with ducting or deformed ducts. As responsible builder, you know it feels great to leave a proven dry building to a reassured owner.

## How it works

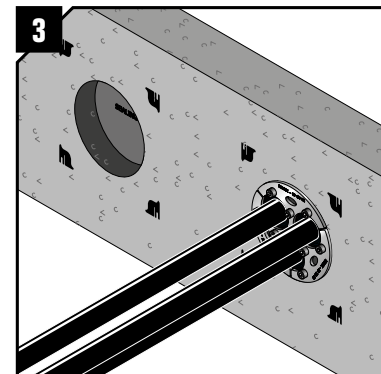
The example shows how to install a Roxtec seal into a knock-out sleeve.



Pour concrete into the mould.

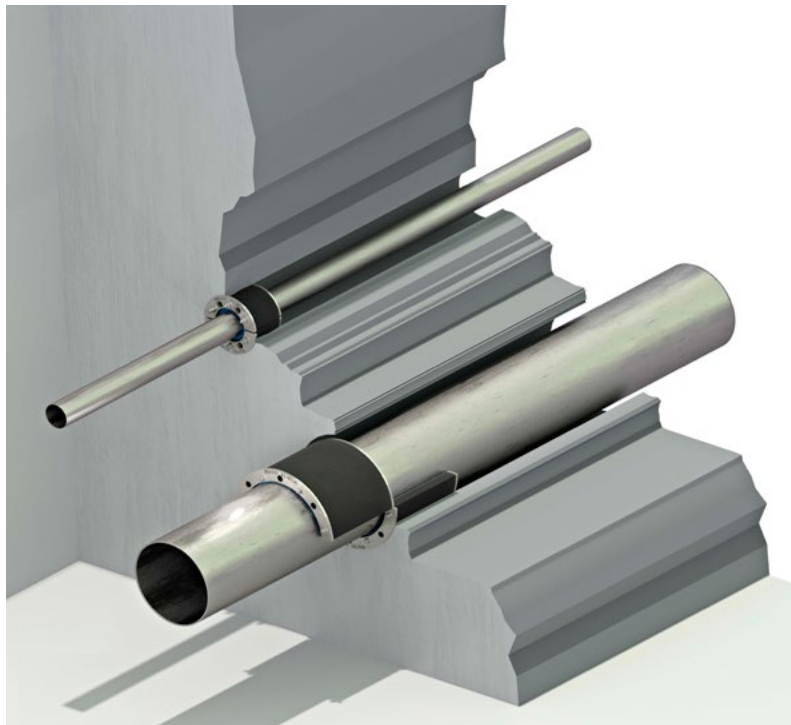


Knock out the lid.



Insert the Roxtec seal.

# Easy to use



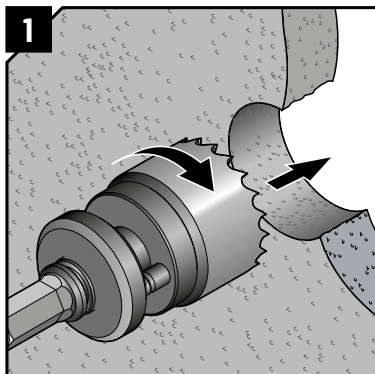
Roxtec UG™ solutions are perfect for use around existing cables and pipes. The seals do not only fit into the knock-out sleeve, but also into conduits and core drilled holes. The soft yet firm rubber of the Roxtec UG™ seals adapts perfectly to uneven openings and oval ducts.

## Smooth operation

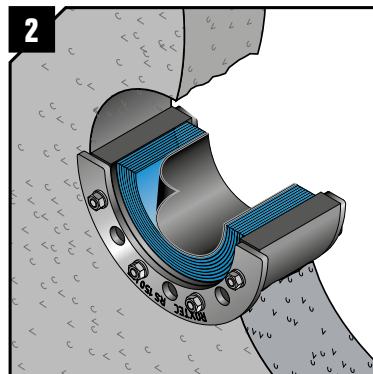
Roxtec UG™ seals are practical for retrofit applications as they can be installed in running water conditions. Thanks to their retention and flexibility, our openable seals do not suffer from failure in the same way as traditional sealing methods do when the cables or pipes move and expand. Roxtec truly stands for cost-efficiency and long-term reliability.

## How it works

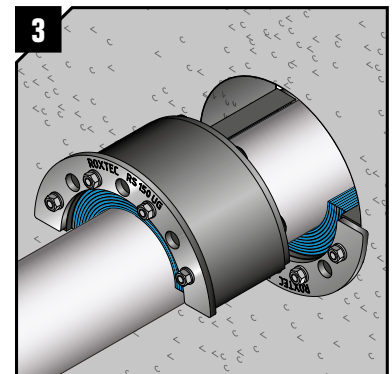
The example shows how to install a Roxtec RS UG™ seal.



1 Make an aperture with a core drill.



2 Insert the first RS UG half.



3 Insert the second RS UG half.

# Numerous application areas

Roxtec UG™ solutions are ideal when you want to seal cables and pipes entering buildings via concrete foundations. You can use them in vaults, duct banks or cable trenches within everything from power transmission and distribution systems, electrical substations and fiber networks through to railway systems, airports and hospitals. The smart design of the underground cable and pipe sealing solutions also simplify retrofit installations.

## CABLE TYPES

- Power
- High voltage power
- Signaling
- Telecom

## PIPE TYPES

- District heating
- District cooling
- Water
- Wastewater
- Plastic, steel and isolated pipes





Roxtec UG™ seals are ideal for cables entering via foundations. They provide excellent cable retention, eliminate flooding and prevent humidity from damaging equipment.



Roxtec H3 UG™ seals are designed for cables in trefoil formations. The design simplifies retrofit installations.



The Roxtec knock-out sleeve provides spare capacity and ensure tightness prior to cable routing.



The Roxtec RS UG™ seal is designed for single cables and pipes entering buildings via foundations.





# Extensive testing

Roxtec UG™ solutions are IP 68 rated. We have tested them for constant as well as catastrophic water pressure in our advanced test laboratory at the Roxtec Technical Center in Karlskrona, Sweden. Each product must pass several different tests before we promise that they provide excellent cable retention and protection against ageing, temperature changes, cable load, humidity and rodents.

## Real world scenario

When we test our products during development or customization, we make sure that the situation

is as realistic as possible. Our experienced test team prepares a demanding environment fit for purpose for testing underground cable and pipe seals for typical challenges such as expanding and contracting materials, pull-out forces and extreme cable bending.



# Customized seals

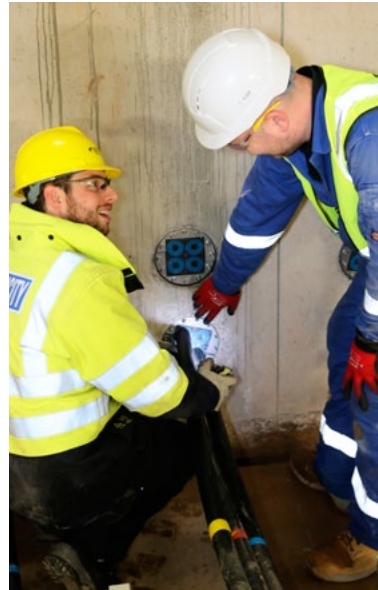


If you have specific needs or face challenges that require special UG™ seals, our engineering team is ready to help you by creating customized solutions. We have often rapidly delivered tailor-made seals based upon modifications of our existing and already well-proven products.



# Trainings and site support

We provide product installation training all over the world through our skilled sales people and technicians. We are also eager to support you and your teams and contractors onsite; just call us for more information.



## Roxtec knock-out sleeves UG™

Ensures tightness prior to cable routing and provides spare capacity for future expansion thanks to the knock-out plate feature.



### Plastic

Article	W (mm/")	Accommodates seal	Accommodates conduit (mm/")	Art. no
KOS 100/110 UG	200/7.874	R 100 UG RS 100 UG	110/4.331	111825
KOS 150/160 UG	250/9.843	R 150 UG RS 150 UG H3 150 UG	160/6.299	111824
KOS 200/200 UG	300/11.811	R 200 UG H3 200 UG	200/7.874	111826

# Roxtec RS UG™ seal

Designed for single cables and pipes and easily adaptable to the size of the cable or pipe. Openable. Aperture tolerance of +5mm.



## Acid proof stainless steel

Article	Number of cables	For cable/pipe Ø (mm/")	For aperture dimension Ø (mm/")	Art. no
RS 70 UG	1	0+9-33/0.354-1.299	70-75/2.756-2.953	153387
RS 90 UG	1	0+24-53/0.945-2.087	90-95/3.543-3.740	153388
RS 100 UG	1	0+39-63/1.535-2.480	100-105/3.937-4.134	153389
RS 135 UG	1	0+65-98/2.560-3.858	135-140/5.315-5.512	153390
RS 100 UG woc	1	39-63/1.535-2.480	100-105/3.937-4.134	165108
RS 135 UG woc	1	65-98/2.560-3.858	135-140/5.315-5.512	165180
RS 150 UG woc	1	80-113/3.150-4.449	150-155/5.906-6.103	153391
RS 185 UG woc	1	115-148/4.528-5.827	185-190/7.283-7.480	153392

Note: woc = without core.

Versions with small front fittings for insertion in i.e. angled drilled holes available upon request.

# Roxtec H3 UG™ seal

Openable for retrofit purposes and ready for direct routing of cables in trefoil formations. Aperture tolerance of +5mm.



## Acid proof stainless steel

Article	Number of cables	For cable/pipe Ø (mm/")	For aperture dimension Ø (mm/")	Art. no
H3 135 UG	3	23-43/0.906-1.693	135-140/5.315-5.512	126281
H3 150 UG	3	24-52/0.945-2.047	150-155/5.905-6.102	151561
H3 185 UG	3	48-64/1.890-2.520	185-190/7.283-7.480	126283
H3 200 UG	3	48-68/1.890-2.677	200-205/7.874-8.071	117842
H3 135 UG woc	3	23-43/0.906-1.693	135-140/5.315-5.512	151306
H3 150 UG woc	3	24-52/0.945-2.047	150-155/5.905-6.102	155188
H3 185 UG woc	3	48-64/1.890-2.520	185-190/7.283-7.480	151308
H3 200 UG woc	3	48-68/1.890-2.677	200-205/7.874-8.071	108697

Note: woc = without core.

Versions with small front fittings for insertion in i.e. angled drilled holes available upon request.

# Roxtec R UG™ kits

Include frames and modules that are easy to adapt to cables and pipes of different sizes. Openable. Aperture tolerance of +2 mm.



## Acid proof stainless steel

Article	For aperture dimension Ø (mm/")	Multidiameter range and number of cables					Art. no
		0+4-13 mm 0+0.157-0.512" (RM 20 UG)	0+4-13 mm 0+0.157-0.512" (RM 20w40 UG)	0+10-23.5 mm 0+0.394-0.925" (RM 30 UG)	0+9.5-31 mm 0+0.374-1.220" (RM 40 UG)	0+24-52 mm 0+0.945-2.047" (RM 60 UG)	
R 100/4 UG	100-102/3.937-4.016			4 cables/pipes			156874
R 100/6 UG	100-102/3.937-4.016	1 cables/pipes	4 cables/pipes		1 cables/pipes		156875
R 150/6 UG	150-152/5.906-5.984			5 cables/pipes		1 cables/pipes	120859
R 150/9 UG	150-152/5.906-5.984			9 cables/pipes			117821
R 200/4 UG	200-202/7.874-7.953					4 cables/pipes	117822
R 200/7 UG	200-202/7.874-7.953			4 cables/pipes		3 cables/pipes	117854
R 200/15 UG	200-202/7.874-7.953		8 cables/pipes		7 cables/pipes		117855

Versions with small front fittings for insertion in i.e. angled drilled holes available upon request.

# Roxtec End User Inlet (EUI)

Designed for use with new or existing fiber or hybrid cables in concrete walls or floors. Can be modified to be insertable if needed.



Article	Number of cables	For cable Ø		For hole Ø		Art. No (10-pack)
		(mm)	(inch)	(mm)	(inch)	
EUI 4-6	1	4-6	0.16-0.24	25	1	117348
EUI 6-8	1	6-8	0.24-0.32	25	1	117349
EUI 8-10	1	8-10	0.32-0.39	32	1¼	117350
EUI 10-12	1	10-12	0.39-0.47	32	1¼	117351
EUI 12-14	1	12-14	0.47-0.55	32	1¼	117352
EUI 14-16	1	14-16	0.55-0.63	32	1¼	117353





# Learn more online

If you need more product information, we recommend you to visit [roxtec.com/ug](http://roxtec.com/ug), where you can find useful and practical information such as installation instructions and educational videos on our solutions for underground applications and about each product in the Roxtec UG™ family.

GET STARTED ON  
[roxtec.com](http://roxtec.com)



## Roxtec Transit Designer™

The Roxtec Transit Designer is a free, web-based engineering tool. It makes it easy for you to reduce project risks as it simplifies product selection as well as the entire process of designing, purchasing and installing cable and pipe transits. To start using it, sign up on [www.roxtec.com](http://www.roxtec.com).



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