

Technical Data Sheet

Performance Specification R RS and H UG

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Solution descriptions

Roxtec R UG™

Transit including modules with Multidiameter™ in flexible configuration for multiple cables and pipes.



Roxtec RS UG™

Two-part seal for installation around single cables or pipes



Roxtec H3 UG™

Three-part seal that is ideal for cables in trefoil formation.



Roxtec H3+1 UG™

Four-part seal ideal for power cables in trefoil formation together with a grounding cable.



Application information

The Roxtec underground solutions are designed to be used in foundations together with Roxtec knock-out sleeves (KOS) but can also be installed into existing core drilled holes or conduits and works as a long-lasting barrier against flooding, gas, humidity and rodents. It can even be installed in wet conditions or environments with running water

Product data

Rubber compound. Roxylon™ EPDM rubber

Halogen free. Yes

Asbestos free. Yes

Reach and RoHs compliant. Yes

Front and back fitting quality. Non-magnetic acid proof stainless steel

Fasteners. Non-magnetic acid proof stainless steel

Storage. To be stored in its original packaging at room temperature.

Environment, health and safety

The product is not classified as hazardous according to the European CLP Regulation or the globally harmonized system of classification and labelling of chemicals.

Disclaimer

The products manufactured by Roxtec International AB are sold in accordance with Roxtec International AB's general conditions of sale and delivery. The information provided does not release you – the receiver of provided information and/or purchaser of these products – from the obligation to determine independently the suitability of these products for the intended processes and/or installations and/or uses.

Performance verification

Background

The Roxtec UG™ underground solutions are designed to work during constant exposure to water under shifting temperatures when installed with cables and pipes.

To ensure the performance of the Roxtec UG™ seals, Roxtec International AB have performed extensive testing of seals installed with cables or mandrels in various diameters covering the complete range of the seal.

External tests / 3rd part witnessed tests

A representative selection of sizes installed in steel sleeves have been tested at RISE (Research Institutes of Sweden) passing an IP68 rating (dust tight and watertight to a pressure level of 1,0 bar for 24 hours).

Roxtec knock-out sleeves (KOS) with intact knock-out plate (without seals) as well as KOS with installed seals and seals installed directly into core drilled holes have all been exposed to a water pressure of 1,0 bar for 24 hours, witnessed by DNV GL.

Internal tests

Seals are installed and tested in steel sleeves covering the allowed aperture range. The listed tests are performed on the same test object, in a sequenced test series. The seals and services are re-installed after the retention test prior to the ground settlement test.

Tests are performed at our internal test facilities located at Roxtec HQ in Sweden.

- Gas tightness

The seal exposed to helium gas at a set pressure of 0,3 bar for 24 hours.

- Flooding

The seal is pre-heated to +40°C, then rapidly exposed to cold tap water (approximately 10°C), with pressure level set to 0,5 bar and pressure maintained for 24 hours.

- Temperature cycling

The seal is temperature cycled between +4°C to +40°C for 66 hours during which it is exposed to a constant water pressure of 0,3 bar.

- Catastrophic water pressure

The seal is exposed to a pressure of 1,0 bar for 24 hours

- Cable retention

Maximum tested retention force until visible cable displacement.

- Cable radial load

A water pressure of 0,5 bar is set and installed cables are then stressed to simulate ground settling or an immediate cable offset angle near the seal.

Performance data**Summary**

IP rating	IP 68 (1 bar / 24 hrs)
Gas pressure (test with Helium in steel sleeve)	0,3 bar (24 hrs)
Flooding	0,5 bar (24 hrs & 40 - 10°C)
Constant water pressure	0,3 bar (66 hrs & 4 - 40°C cycling)
Catastrophic water pressure	1 bar (24 hrs)
Cable retention	See below table
Cable radial load	0,5 bar water + cable movement

Retention

Seal size / range	Cable/pipe range (mm)	Cable retention
RS 70 - 80 UG	9 - 33	Up to 1700 N
RS 90 - 100 UG	24 - 53	Up to 3300 N
RS 100 - 110 UG	39 - 63	Up to 4500 N
RS 125 - 135 UG	55 - 88	Up to 5700 N
RS 135 - 145 UG	65 - 98	Up to 6600 N
RS 150 - 160 UG	80 - 113	Up to 8000 N
RS 185 - 195 UG	114 - 148	Up to 10000 N
RS 200 - 210 UG	130 - 163	Up to 11000 N
RS 225 - 235 UG	146 - 179	Up to 14000 N
RS 250 - 260 UG	171 - 204	Up to >15000 N*
H3 135 UG	23 - 43	Up to 2200 N
H3 150 UG	24 - 52	Up to 2500 N
H3 185 UG	48 - 64	Up to 2800 N
H3 200 UG	48 - 68	Up to 3300 N

H3+1 150 UG	3x(24-52)+1x(10-23)	Up to 2500 N
H3+1 200 UG	3x(39-68)+1x(10-23)	Up to 3300 N

R 100 UG	23 - 43	Up to 560 N
R 150 UG	24 - 52	Up to 1130 N
R 200 UG	48 - 68	Up to 2470 N

*The maximum pull force (15kN) of the test equipment was reached before maximum retention of the seals were exceeded.

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<https://www.roxtec.com/en/about-roxtec/legal/general-terms-of-sales/>