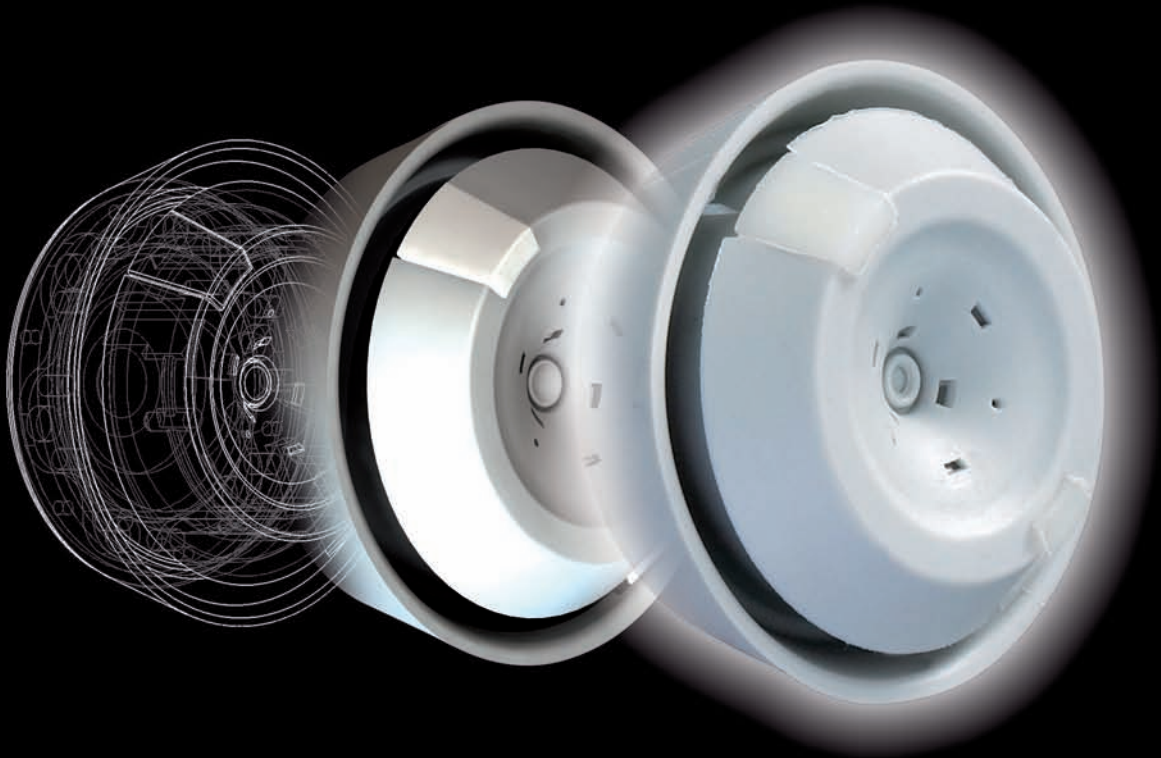


CABLE AND PIPE ENTRIES



The Company



Offices in Nässjö Sweden



Offices in Nässjö Sweden



Warehouse- and production facility in Nässjö, Sweden

Tapper Sealing Technology AB is the production and export division of Rutab, Sweden's leading supplier of cable and pipe entries. Our offices and production facility are located in Nässjö, in south central Sweden – one of the country's major logistical centers.

Rutab was founded 1987 and its first sales year was 1988. The company's primary field is electrical installation material marketed to wholesalers and OEM's. Rutab has had an eventful development, but the business idea has always been to market high quality products at economic prices with extremely swift delivery service.

The product range contains a mixture of own production, brand products and agency products. The core of our range is cable and pipe entries, where our aim is to always be a step ahead of the competition with as complete range as possible.

Both Tapper Sealing Technology and Rutab are ISO approved to ISO 9001 and ISO 14001.

Rutab and TST are since January 2007 partly owned by one of Sweden's largest industrial groups, Nordstjernan, through its investment company Engelsberg.

Production

We constantly put a lot of resources into our own product development. We are in the process of building up and developing production of our own designed products produced in rubber and plastic. One example of this effort is our Rutaseal® rubber grommets, produced with an automated production technique for rubber items, developed entirely within our own company. Another example is the new Klikseal®, a 2-component injection molded cable and pipe seal with cable anchorage, which also is produced with a completely automated production technique developed within the company.

The TSS is designed to replace cheaper and simpler sealing products available on the market. It is a very flexible end-plug/grommet for all applications, with a number of different features not available in competitor products. It is produced using techniques previously unique to rubber manufacturing.



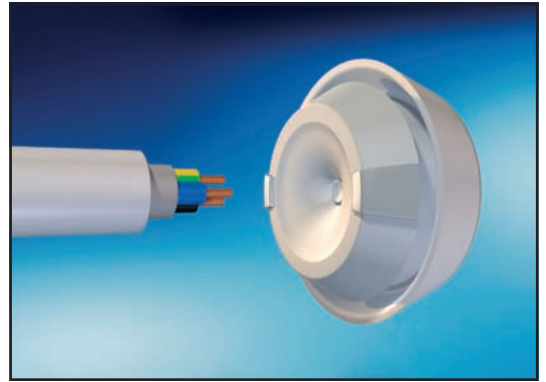
Production facility in Nässjö, Sweden

Klikseal

Klikseal is a revolutionary two-component grommet with cable anchorage – something completely new to the market. Through innovation and advanced production technology, we have designed a product that has many of the advantages found in a cable gland.

Apart from the cable anchorage, **Klikseal** is compact, self-adjusting to its surrounding wall thickness (patented), click-fixed in place (patented), has a membrane seal, is waterproof, requires very little effort to install with its collapsible outer membrane (patented), and saves up to 90% of your time.

The installation of a **Klikseal** requires no tools and has a "pushout" membrane that is a permanent seal until penetrated by a cable or pipe. Each size of **Klikseal** can be used with an exceptional range of cable and pipe diameters. An M25 can be used for cables and pipes ranging from 4 mm to 14 mm. Because of its compact design, the **Klikseal** only extends 5,7 mm outside the housing on which it is mounted.



Product features Klikseal®

Height of only 17-20 mm, 5,7 mm on the outside irrespective of size. Cable glands are approx. 30-40 mm.

Handles exceptionally large range of cable and pipe diameters.

Installation time saving of up to 90%.

Integrated tension relief

Self-adjusting to wall thickness 1,5-5 mm.

Ergonomic installation

"Pushout" membrane

Fixed in both directions when mounted.

Space saving design

IP67

KLIK = No material compression during installation.

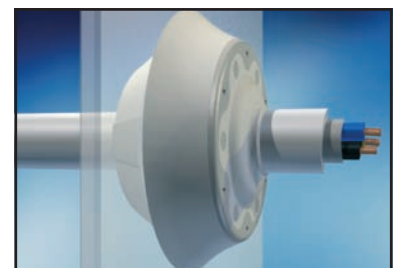
Rubber coated tension relief for protection of the cable mantle.



Center the KLIKSEAL in the opening (from the inside), push evenly with both thumbs until it "klicks" into place.



Insert the cable from the side with the polyamide tabs.



Material TPE and Polyamide 66
UL approved material
Integrated cable anchorage,
wide sealing range.
Suitable for holes in materials of
1,5 - 5 mm thickness.
Quick and simple assembly without
the use of tools.

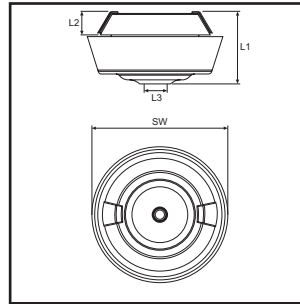
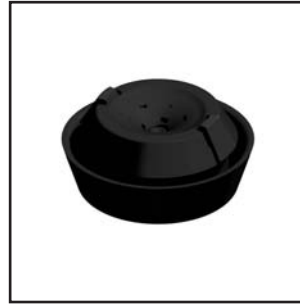
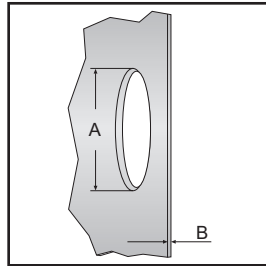
Mode of protection IP67

Temperature range -20°C....+125°C

Test standard EN60529:1991+A1
EN50262:1998
EMKO-TUI (03-SEC) FI001/84

Semko report 606620

Halogen-Free



E-number	Size	For cable/ pipe Ø mm	Anchorage type A* for Cable Ømm	A mm	B mm	B for IP67 mm	L1 mm	L2 mm	L3 mm	SW*** mm	Pcs pack
RAL 7035											
14 758 03	M20	4 - 11	7 - 11	20,5	1,5 - 5	2 - 5	17 - 20	5,7	4,0	29,3 - 34,5	50
14 758 04	M25	4 - 14	7 - 13**	25,5	1,5 - 5	2 - 5	17 - 20	5,7	5,0	34,3 - 40,0	50
14 758 05	M32	11 - 20	NA	32,5	1,5 - 5	NA	14 - 18	5,3	5,5	41,7 - 47,5	25
RAL 9005											
14 758 13	M20	4 - 11	7 - 11	20,5	1,5 - 5	2 - 5	17 - 20	5,7	4,0	29,3 - 34,5	50
14 758 14	M25	4 - 14	7 - 13**	25,5	1,5 - 5	2 - 5	17 - 20	5,7	5,0	34,3 - 40,0	50
14 758 15	M32	11 - 20	NA	32,5	1,5 - 5	NA	14 - 18	5,3	5,5	41,7 - 47,5	25
RAL 9010											
14 758 23	M20	4 - 11	7 - 11	20,5	1,5 - 5	2 - 5	17 - 20	5,7	4,0	29,3 - 34,5	50
14 758 24	M25	4 - 14	7 - 13**	25,5	1,5 - 5	2 - 5	17 - 20	5,7	5,0	34,3 - 40,0	50
14 758 25	M32	11 - 20	NA	32,5	1,5 - 5	NA	14 - 18	5,3	5,5	41,7 - 47,5	25
RAL XYZ											
TKS M20 XYZ	M20	4 - 11	7 - 11	20,5	1,5 - 5	2 - 5	17 - 20	5,7	4,0	29,3 - 34,5	50
TKS M25 XYZ	M25	4 - 14	7 - 13**	25,5	1,5 - 5	2 - 5	17 - 20	5,7	5,0	34,3 - 40,0	50
TKS M32 XYZ	M32	11 - 20	NA	32,5	1,5 - 5	NA	14 - 18	5,3	5,5	41,7 - 47,5	25

NA - Not available at time of printing.

* Cable Anchorage Type A, according to EN 50262.

** 8,1 - 8,9 mm only approved for tension relief.

*** Varies depending on the thickness of material installed in.

Please observe that the measurements in the table above are preliminary for size M32, SEMKO-test to be performed.

RUTASEAL Rubber Grommets

RUTASEAL is very simple to use and demands no tools, which in turn means lower work cost. It requires no screwdriver or scissors to make the hole, which otherwise would endanger the IP Class seal. **RUTASEAL** is SEMKO tested for IP67 internally and externally. The chloroprene version is also DNV approved. **RUTASEAL** is produced in EPDM and Chloroprene in both PG and Metric. The seals are produced in black, light grey and grey. **RUTASEAL** has a very high finish and the automatic method of production guarantees the same even and high quality on all products.



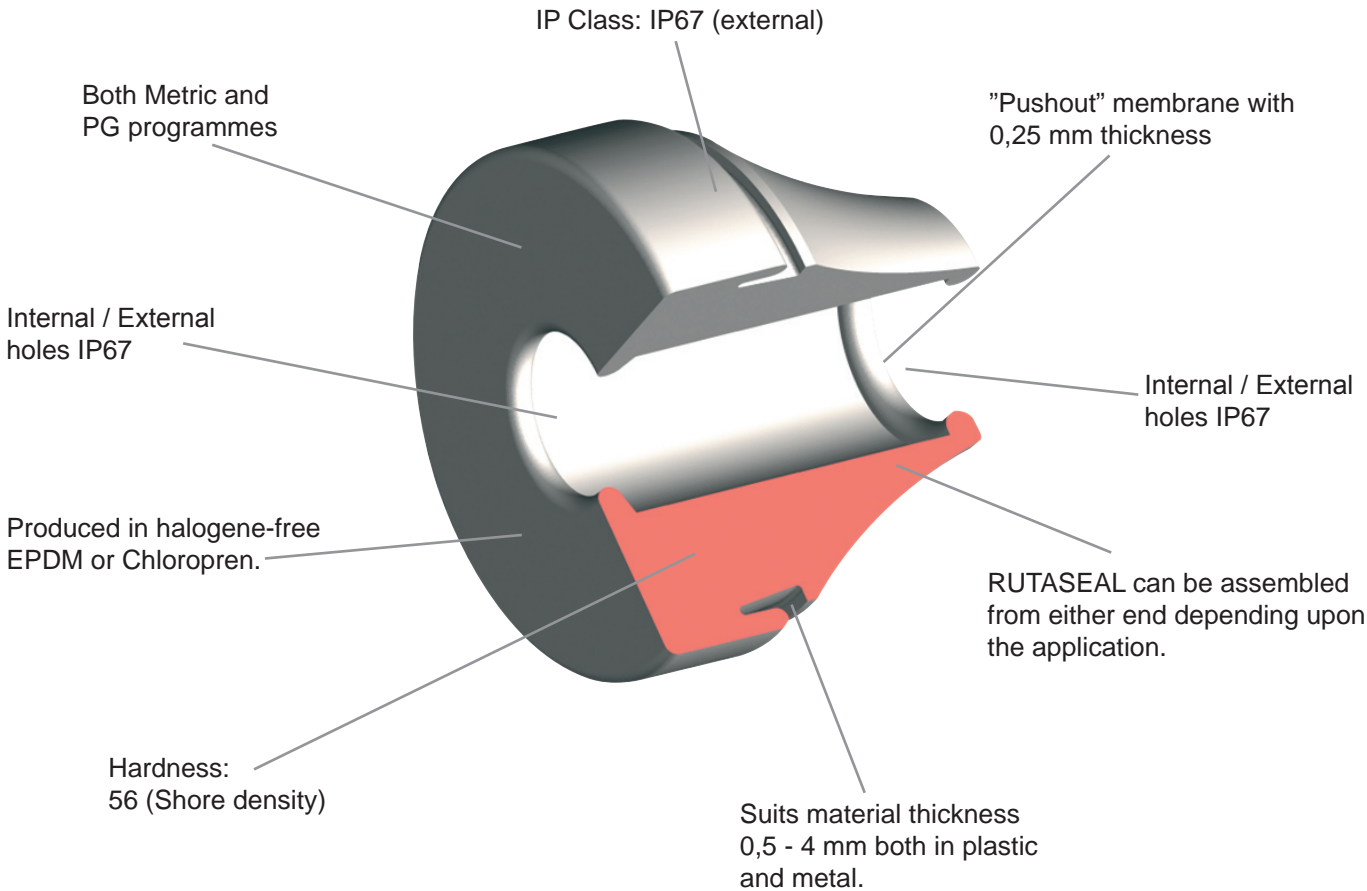
What makes Rutaseal different from other grommets?

1. Totally automated production in all phases.
2. Production method guarantees an exact quality on all types at all times, also giving a very aesthetically pleasing product.
3. No tool is required at application, thereby lower workcost. No screwdriver required to make a hole, which often makes an uneven hole adventuring proofing. No scissors to cut off a teat, which often gives wrong size for guaranteed proofing.
4. Complete programme of PG and Metric sizes. Available in black, grey or light grey, and in Chloroprene for applications in tougher environments.
5. A superior grommet, both economically and in quality.
6. SEMKO approved for IP67, both internally (entry and exit) and externally.
7. DNV approval for chloroprene version.
8. Our new packaging-line allows for customer specified package -size and -labels, should standard sizes and labels not fit your needs.

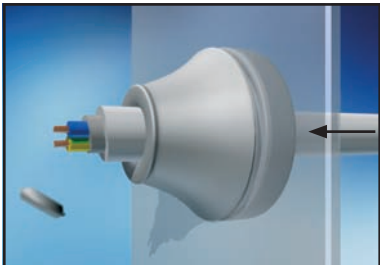
Why choose a rubber grommet instead of a plastic cable gland?

1. Less affected by weather, UV-light and ozone – less inclined to dry up, crack and come lose.
2. More resistant to acids (Phosphoric, Saltpeter, Hydrochloric & Sulphuric).
3. Handles larger temperature span than most glands.
4. Quick and easy installation from one side only — not necessary to be able to reach opposite side of installation to attach locknut.
5. Ideal where space is restricted - less protrusion and space needed.
6. Ergonomically better, no negative effect on wrists since it does not need to be screwed into place.
7. Superior to cable gland up to IP67, except where strain relief is at a premium. Less work and time needed for installation compared to a cable gland - thus lower cost.
8. The opening is always sealed until the membrane is pushed out – no need for stop plugs or blind plugs in the mean time, which creates extra costs.
9. More economic solution.

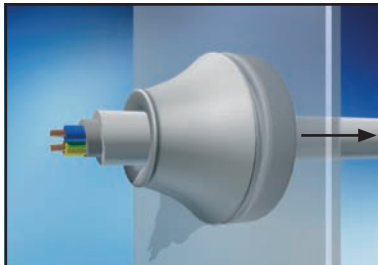
Product features Rutaseal® & Rutaseal Light®



Push the grommet into the hole.

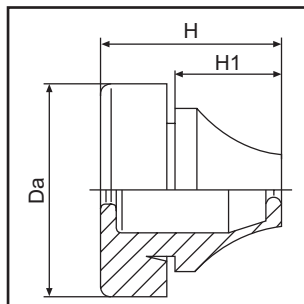


Pierce the grommet with the cable.



The grommet is the locked in position by pulling it back about a centimetre.

RUTASEAL® EPDM Metric



Material

EPDM
Resistant to chemicals and weatherproof.

Suitable for holes in materials of 0,5 - 4 mm thickness.
Quick and simple assembly without the use of tools.

Mode of protection

IP67 acc. to EN 60529

Temperature range

-40°C...+110°C

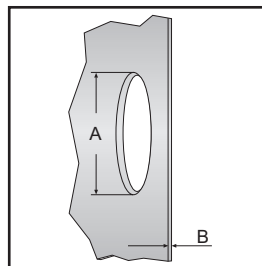
Test standard

SEMKO 44:1984

Semko report

0211038/01-07

Halogen-Free



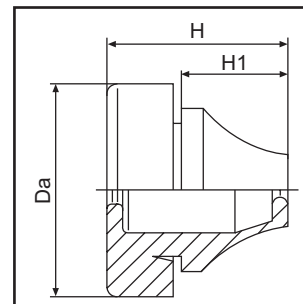
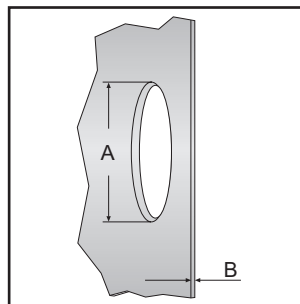
E-number	Size	For cable/ pipe Ø mm	A mm	B mm	Da mm	H mm	H1 mm	Pcs pack
RAL 7001								
14 582 33	M12	4 - 7	12,5	0,5 - 2	20	12,8	5,6	50
14 582 34	M16	5 - 9	16,5	1 - 4	21	17,7	11	50
14 582 35	M20	8 - 13	20,5	1 - 4	25,5	20	13,4	50
14 582 36	M25	11 - 17	25,5	1 - 4	30,5	21,3	15,3	50
14 582 37	M32	15 - 20	32,5	1 - 4	38,5	24,6	18,6	25
14 582 38	M40	19 - 28	40,5	1 - 4	48,5	29,5	21,7	25
14 582 39	M50	27 - 35	50,5	1 - 4	60,5	34,8	25	10
RAL 9005								
14 582 93	M12	4 - 7	12,5	0,5 - 2	20	12,8	5,6	50
14 582 94	M16	5 - 9	16,5	1 - 4	21	17,7	11	50
14 582 95	M20	8 - 13	20,5	1 - 4	25,5	20	13,4	50
14 582 96	M25	11 - 17	25,5	1 - 4	30,5	21,3	15,3	50
14 582 97	M32	15 - 20	32,5	1 - 4	38,5	24,6	18,6	25
14 582 98	M40	19 - 28	40,5	1 - 4	48,5	29,5	21,7	25
14 582 99	M50	27 - 35	50,5	1 - 4	60,5	34,8	25	10
RAL 7035								
14 583 03	M12	4 - 7	12,5	0,5 - 2	20	12,8	5,6	50
14 583 04	M16	5 - 9	16,5	1 - 4	21	17,7	11	50
14 583 05	M20	8 - 13	20,5	1 - 4	25,5	20	13,4	50
14 583 06	M25	11 - 17	25,5	1 - 4	30,5	21,3	15,3	50
14 583 07	M32	15 - 20	32,5	1 - 4	38,5	24,6	18,6	25
14 583 08	M40	19 - 28	40,5	1 - 4	48,5	29,5	21,7	25
14 583 09	M50	27 - 35	50,5	1 - 4	60,5	34,8	25	10

RUTASEAL® Chloroprene Metric

Material Chloroprene
Resistant to chemicals, ageing and weatherproof.

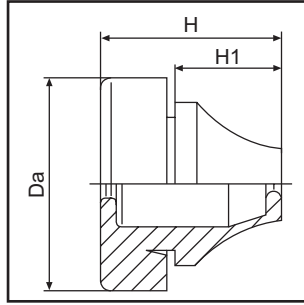
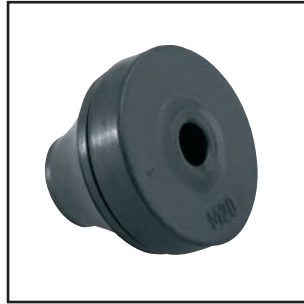
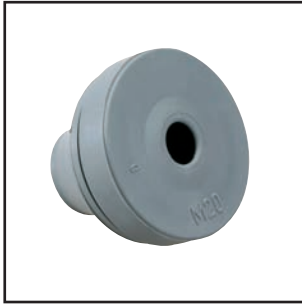
Suitable for holes in materials of 0,5 - 4 mm thickness.
Quick and simple assembly without the use of tools.

Mode of protection IP67 acc. to EN 60529
Temperature range -30°C...+100°C
Test standard EMKO TUI (03-SEC) FI 001/84
Semko report 410375
DNV report E-8009



E-number	Size	For cable/ pipe Ø mm	A mm	B mm	Da mm	H mm	H1 mm	Pcs pack
RAL 9005								
14 582 53	M12	4 - 7	12,5	0,5 - 2	20	12,8	5,6	50
14 582 54	M16	5 - 9	16,5	1 - 4	21	17,7	11	50
14 582 55	M20	8 - 13	20,5	1 - 4	25,5	20	13,4	50
14 582 56	M25	11 - 17	25,5	1 - 4	30,5	21,3	15,3	50
14 582 57	M32	15 - 20	32,5	1 - 4	38,5	24,6	18,6	25
14 582 58	M40	19 - 28	40,5	1 - 4	48,5	29,5	21,7	25
14 582 59	M50	27 - 35	50,5	1 - 4	60,5	34,8	25	10

RUTASEAL LIGHT® EPDM Metric



Material

EPDM
Resistant to chemicals and weatherproof.

Suitable for holes in materials of 1 - 4 mm thickness.
Quick and simple assembly without the use of tools.

Mode of protection

IP67 acc. to EN 60529

Temperature range

-40°C...+110°C

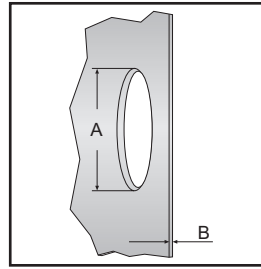
Test standard

SEMKO 44:1984

Semko report

300965

Halogen-Free



E-number	Size	For cable/ pipe Ø mm	A mm	B mm	Da mm	H mm	H1 mm	Pcs pack
RAL 7001								
14 583 26	M16	5 - 9	16,5	1 - 4	21	17,5	11	50
14 583 27	M20	8 - 13	20,5	1 - 4	25,5	19,6	13,4	50
14 583 28	M25	11 - 17	25,5	1 - 4	30,5	20,9	15,3	50
RAL 9005								
14 583 30	M16	5 - 9	16,5	1 - 4	21	17,5	11	50
14 583 31	M20	8 - 13	20,5	1 - 4	25,5	19,6	13,4	50
14 583 32	M25	11 - 17	25,5	1 - 4	30,5	20,9	15,3	50
RAL 7035								
14 583 34	M16	5 - 9	16,5	1 - 4	21	17,5	11	50
14 583 35	M20	8 - 13	20,5	1 - 4	25,5	19,6	13,4	50
14 583 36	M25	11 - 17	25,5	1 - 4	30,5	20,9	15,3	50



RUTASEAL®



**RUTASEAL
LIGHT®**

Rutaseal Light is designed for strip lighting manufacturers and similar applications. Less material makes it lighter and easier to install, while providing IP67 protection.

Material

EPDM

Resistant to chemicals and weatherproof.

 Suitable for holes in materials of 0,5 - 4 mm thickness.
 Quick and simple assembly without the use of tools.

Mode of protection

IP67 acc. to EN 60529

Temperature range

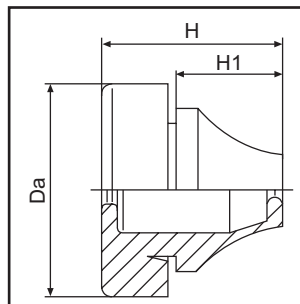
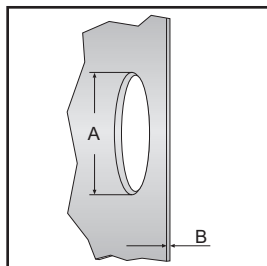
-40°C...+110°C

Test standard

EMKO TUI (03-SEC) FI 001/84

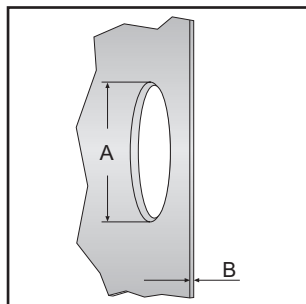
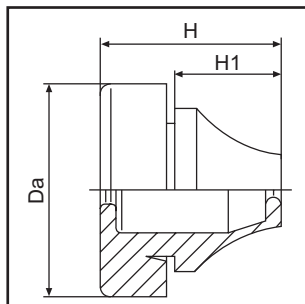
Semko report

410375

Halogen-Free


E-number	Size	For cable/ pipe Ø mm	A mm	B mm	Da mm	H mm	H1 mm	Pcs pack
RAL 7001								
14 582 20	PG7/12,5	3 - 5	13	0,5 - 2	20	12,6	5,4	50
14 582 21	PG9/15,2	5 - 7	16	1 - 4	21	17,8	10,3	50
14 582 22	PG11/18,6	7 - 10	19	1 - 4	24	19,8	12,7	50
14 582 23	PG16/22,5	10 - 14	23	1 - 4	28	21,6	14,7	50
14 582 24	PG21/28,3	14 - 20	29	1 - 4	35	24,6	17,6	25
14 582 25	PG29/37,0	20 - 26	38	1 - 4	46	28,5	20	25
14 582 26	PG36/47,0	26 - 35	48	1 - 4	58	34,9	23,9	10
RAL 9005								
RS-PG7S	PG7/12,5	3 - 5	13	0,5 - 2	20	12,6	5,4	50
RS-PG9S	PG9/15,2	5 - 7	16	1 - 4	21	17,8	10,3	50
RS-PG11S	PG11/18,6	7 - 10	19	1 - 4	24	19,8	12,7	50
RS-PG16S	PG16/22,5	10 - 14	23	1 - 4	28	21,6	14,7	50
RS-PG21S	PG21/28,3	14 - 20	29	1 - 4	35	24,6	17,6	25
RS-PG29S	PG29/37,0	20 - 26	38	1 - 4	46	28,5	20	25
RS-PG36S	PG36/47,0	26 - 35	48	1 - 4	58	34,9	23,9	10
RAL 7035								
14 582 12	PG7/12,5	3 - 5	13	0,5 - 2	20	12,6	5,4	50
14 582 13	PG9/15,2	5 - 7	16	1 - 4	21	17,8	10,3	50
14 582 14	PG11/18,6	7 - 10	19	1 - 4	24	19,8	12,7	50
14 582 15	PG16/22,5	10 - 14	23	1 - 4	28	21,6	14,7	50
14 582 16	PG21/28,3	14 - 20	29	1 - 4	35	24,6	17,6	25
14 582 17	PG29/37,0	20 - 26	38	1 - 4	46	28,5	20	25
14 582 18	PG36/47,0	26 - 35	48	1 - 4	58	34,9	23,9	10

RUTASEAL® Chloroprene PG



Material

Chloroprene
Resistant to chemicals, ageing and weatherproof.

Suitable for holes in materials of 0,5 - 4 mm thickness.
Quick and simple assembly without the use of tools.

Mode of protection

IP67 acc. to EN 60529

Temperature range

-30°C...+100°C

Test standard

EMKO TUI (03-SEC) FI 001/84

Semko report

410375

DNV report

E-8009

E-number	Size	For cable/ pipe Ø mm	A mm	B mm	Da mm	H mm	H1 mm	Pcs pack
RAL 9005								
14 582 42	PG7/12,5	3 - 5	13	0,5 - 2	20	12,6	5,4	50
14 582 43	PG9/15,2	5 - 7	16	1 - 4	21	17,8	10,3	50
14 582 44	PG11/18,6	7 - 10	19	1 - 4	24	19,8	12,7	50
14 582 45	PG16/22,5	10 - 14	23	1 - 4	28	21,6	14,7	50
14 582 46	PG21/28,3	14 - 20	29	1 - 4	35	24,6	17,6	25
14 582 47	PG29/37,0	20 - 26	38	1 - 4	46	28,5	20	25
14 582 48	PG36/47,0	26 - 35	48	1 - 4	58	34,9	23,9	10

TSS

The **TSS** is the latest addition to the TST product range.

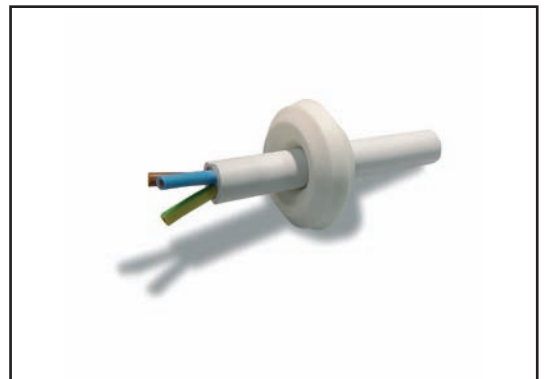
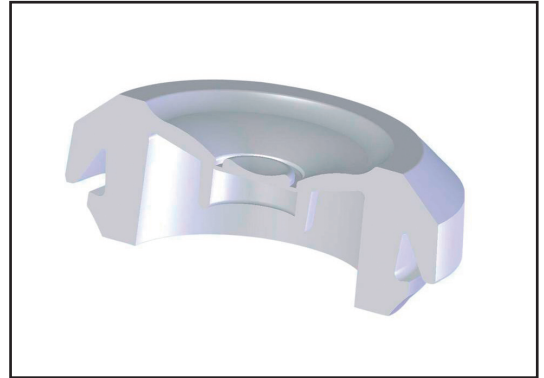
What makes the **TSS** different from existing products on the market are the built-in features that you normally do not find in this otherwise relatively simple product.

TSS handles an exceptionally large cable span.

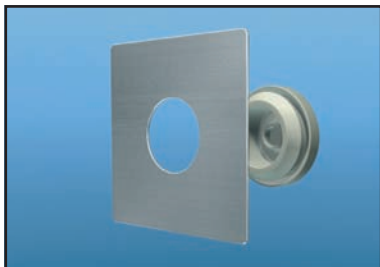
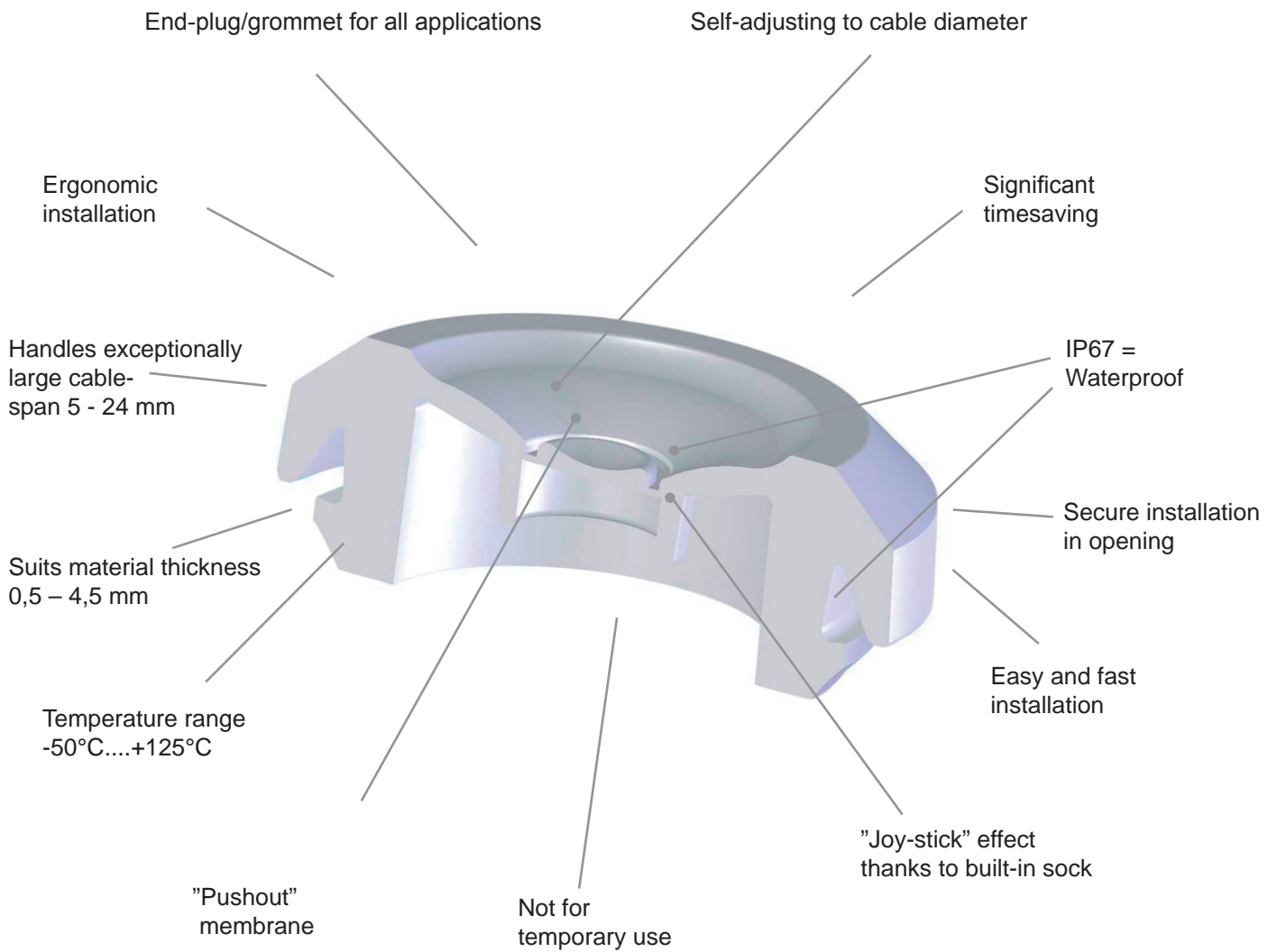
With the "**pushout**" membrane you always have a round opening and are guaranteed to have IP67.

The **TSS** is equipped with a sock that closes tight around the cable and allows for it to be moved around like a "**joy-stick**" in the opening without endangering the IP-classification. So it works extremely well with cables passing through at an angle.

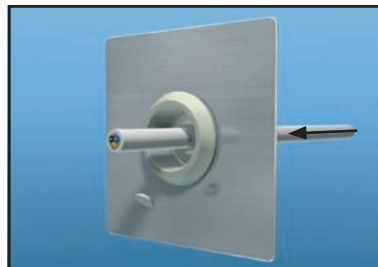
These are some of the features that creates a lot of value added in the **TSS**, and makes it a unique product.



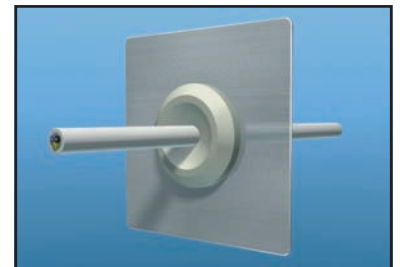
Product features TSS



Push the grommet into the hole.



Pierce the grommet with the cable.



Material TPE - Thermoplastic Elastomer - UL approved material

Mode of protection IP67

Temperature range -50°C...+125°C

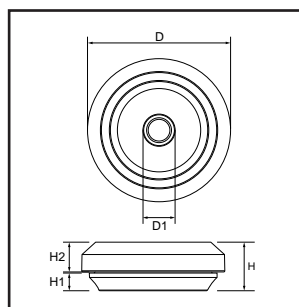
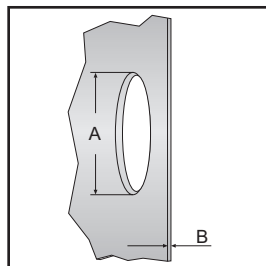
Test standard IEC 60529, IP67

Semko report M16 - 708555-1
M20 - 708555-2
M25 - 708555-3
M32 - 708555-4

Halogen-Free

Suitable for holes in material of 0,5 - 4,5 mm thickness.

- Quick and simple assembly without the use of tools
- Handles exceptionally large cable span
- An end-plug for all applications



E-number	Size	For cable/ pipe Ø mm	A mm	B mm	H mm	H1 mm	H2* mm	D* mm	D1 mm	Pcs pack
RAL 7035										
14 757 11	M16	5 - 10	16,5	0,5 - 3	11	4	6,75	23,5	4	50
14 757 12	M20	6 - 13	20,5	0,5 - 3	11	4	6,75	27,5	5	50
14 757 13	M25	8 - 17	25,5	0,5 - 3,5	11	4	6,75	32,5	7	50
14 757 14	M32	12 - 24	32,5	0,5 - 4,5	11	4	6,75	39,5	11	25
RAL 9005										
14 757 16	M16	5 - 10	16,5	0,5 - 3	11	4	6,75	23,5	4	50
14 757 17	M20	6 - 13	20,5	0,5 - 3	11	4	6,75	27,5	5	50
14 757 18	M25	8 - 17	25,5	0,5 - 3,5	11	4	6,75	32,5	7	50
14 757 19	M32	12 - 24	32,5	0,5 - 4,5	11	4	6,75	39,5	11	25
RAL 9010										
14 757 21	M16	5 - 10	16,5	0,5 - 3	11	4	6,75	23,5	4	50
14 757 22	M20	6 - 13	20,5	0,5 - 3	11	4	6,75	27,5	5	50
14 757 23	M25	8 - 17	25,5	0,5 - 3,5	11	4	6,75	32,5	7	50
14 757 24	M32	12 - 24	32,5	0,5 - 4,5	11	4	6,75	39,5	11	25
RAL XYZ										
TSS M16 XYZ	M16	5 - 10	16,5	0,5 - 3	11	4	6,75	23,5	4	50
TSS M20 XYZ	M20	6 - 13	20,5	0,5 - 3	11	4	6,75	27,5	5	50
TSS M25 XYZ	M25	8 - 17	25,5	0,5 - 3,5	11	4	6,75	32,5	7	50
TSS M32 XYZ	M32	12 - 24	32,5	0,5 - 4,5	11	4	6,75	39,5	11	25

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