Cable Glands & Connectors

Grommets, TET 72
Cable glands, TCF 73
Cable Glands, TCG 74
Material & Product Properties,
TET, TCF and TCG 75

Grommets, TET (IP 67)

Basic Data

Suitable for
Untapped holes of 0.5 to 4-mm thick material.

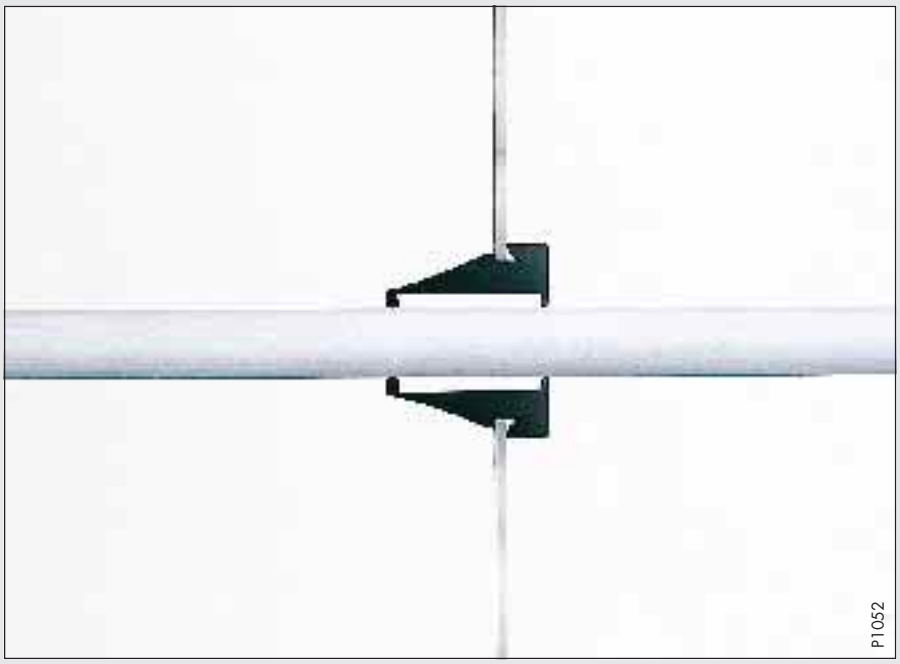
Applications
For completely dust and watertight cable and pipe inlets, for example in cars, aeroplanes, ships, electrical and hydraulic equipment, enclosed apparatus and light fittings.

Advantages
- Fast installation – seals without tightening (S 55, IP 67)
- Permits vibration in cables and pipes without detracting from the seal
- The sealing diaphragm is punctured only when the cable is drawn through – acts as a blind plug and is ready for installation
- Approved for installation in ships
- Each size has a very wide sealing range

Approval
Approved by Lloyds and the Swedish, Norwegian, Danish and Finnish national approval boards for watertight penetration.

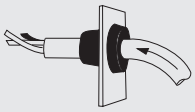
Class of enclosure
IP 67 in accordance with IEC.

Material
Ethylene propylene diene monomer (EPDM) grey. Chloroprene (CR) black.




m10880

Press the grommet into the hole.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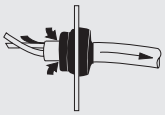
Puncture the diaphragm using the wires from which the outer sheath has been removed.


m10900

Pull the cable back gently to lock it. The grommet is ready.

Range/Technical Data

Type	Material	Hole[1] ∅ mm	Sealing range ∅ mm	Measurements, mounted A	B	Article No. T-
TET 3–5	EPDM	12.5[2]	3-5	5	20	3258 206
TET 5–7		16	5-7	7	21	3265 022
TET 7–10		19	7-10	8.5	24	3260 007
TET 10–14		23	10-14	10	28	3261 005
TET 14–20		29	14-20	12	35	3262 003
TET 20–26		38	20-26	16	46	3263 027
TET 26–35		48	26-35	20	58	3264 025
TET 3–5	CR	12.5[2]	3-5	5	20	3258 244
TET 5–7		16	5-7	7	21	3265 048
TET 7–10		19	7-10	8.5	24	3260 049
TET 10–14		23	10-14	10	28	3261 047
TET 14–20		29	14-20	12	35	3262 045
TET 20–26		38	20-26	16	46	3263 043
TET 26–35		48	26-35	20	58	3264 041

[1] Tolerance if material thickness is minimum 2 mm; +1, –0 mm.
Tolerance if material thickness is maximum 2 mm; ±1 mm.
[2] Tolerance ±0.5 mm.
Colours: EPDM, grey and CR, black.

Cable Glands, TCF (IP 54)

Without Strain Relief

Basic Data

Suitable for

Tapped und untapped holes. In untapped holes together with a locknut.

Applications

For sealing cables and pipes in distribution boards, apparatus, machines, etc.

Advantages

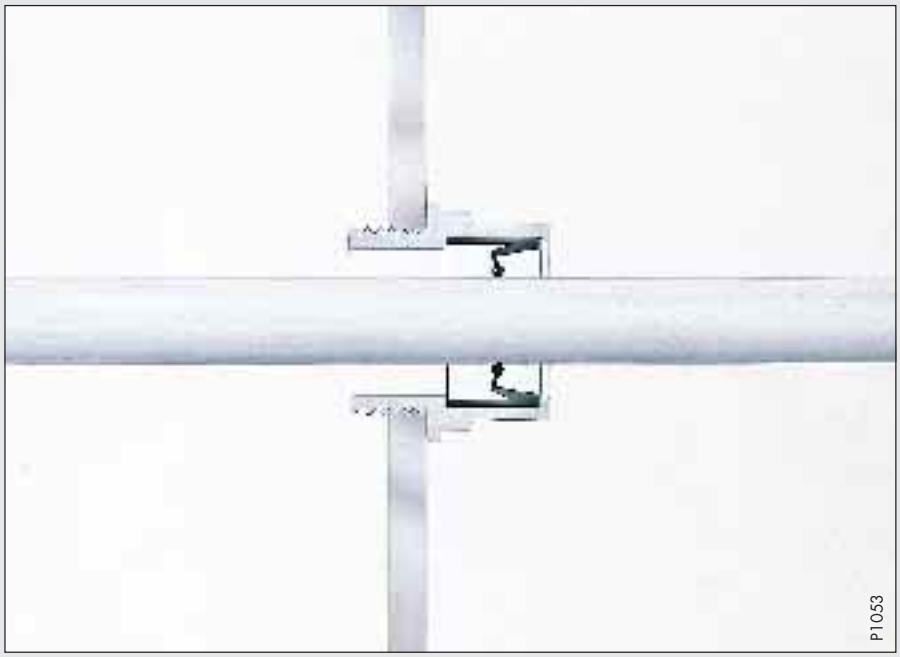
- Fast fitting – seals without tightening (S 43, IP 54)
- Permits vibration in cables and pipes without detracting from the seal
- The sealing diaphragm is punctured only when the cable is drawn through – acts as a blind plug and is ready for future installation
- Each size has a very wide sealing range – rational, economic installation and stocking

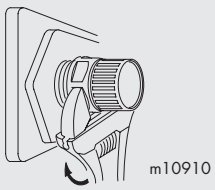
Class of enclosure

Self-extinguishing polyethylene (PEH).
Sealing diaphragm: Chloroprene (CR).

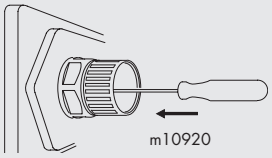
Accessories

Lock-nut for untapped holes.

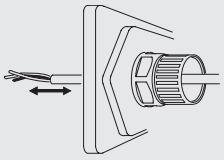




Tighten the cable gland in the hole.



Puncture the diaphragm with a pozi screwdriver.



Twist the conductors together. Insert the cable or pipe and pull it back gently to lock it.

Range

Technical Data

Locknut

Type	Qty/ Pack	Article No. T-	Pipe thread, mm	Sealing range, ∅ mm	In-situ. dimensions A mm	B mm	C mm	Qty/ Pack Type TFM	Article No. T- Type TFM
TCF-15.2	50	3271 004	15.2	5–10	14	20.5	8	50	3272 002
TCF-18.6		3271 053	18.6	5–14	15	26.5	8.5	50	3272 051
TCF-20.4		3271 103	20.4	5–14	15	26.5	8.5	50	3272 101
TCF-22.5		3271 152	22.5	5–14	15	29.5	9.5	50	3272 152
TCF-28.3	25	3271 202	28.3	9–20	18	25.5	11	25	3272 200
TCF-37		3271 251	37	15–25	22	45	11	25	3272 259

Colour: grey

Metric Thread[1)]		Nut for unthreaded mounting hole					Article No. T- Type TFM
TCF-M20	3271 079	5-14	15	24	9,5	50	3272 061
TCF M25	3271 178	9-20	18	32.5	11	25	3272 160

[1)] Metric armoured conduit thread to DIN 40430

Cable Glands, TCG (IP 54)
With Strain Relief

Basic Data

Suitable for
Tapped und untapped holes. In untapped holes together with a locknut.

Applications
For sealing cables and providing strain relief for cables in switches, apparatuses, machines, etc.

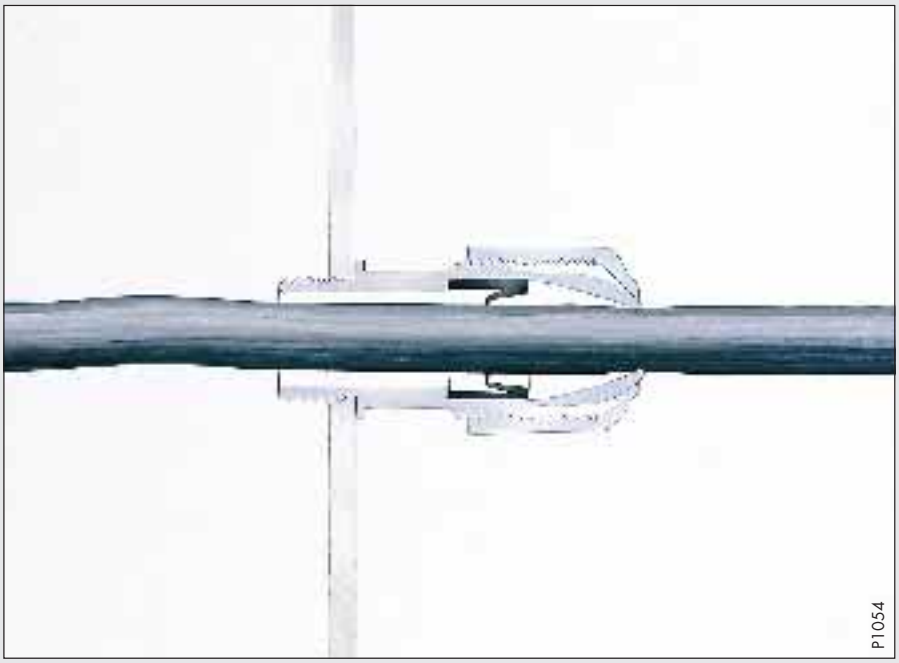
Advantages
- Seals without tightening (S 43, IP 54) and strain relief without tools
  – very quickley fitted
  – easily accessible, even in tight corners
  – he sealing ability does not deteriorate as a result of strain relief
- Each size has a very wide sealing range – rational, economic installation and stocking

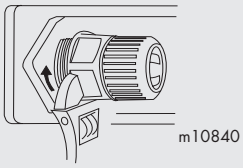
Approval
The strain relief unit has been approved by SEMKO, the Swedish Electrical Board for Testing and Approval of Electrical Equipment.

Class of enclosure
IP 54 in accordance with IEC.

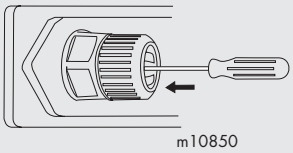
Material
Glass-fibre – reinforced polyamide (PA). For material properties see the table on page 75.

Accessories
Locknut for untapped holes.

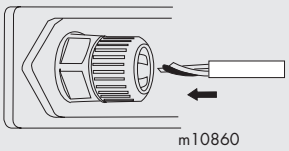




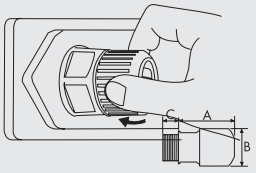
Tighten the cable gland in the hole.



Puncture the diaphragm with a pointed screwdriver.



Twist the conductors together. Insert the cable or pipe.



To achieve strain relief, tighten the upper part of the gland.

Range

Technical data

Locknut

Type	Qty/ pack	Article T-	Pipe thread, mm	Sealing range, ∅ mm	In-situ. dimensions A mm	B mm	C mm	Qty/ Pack Type TFM	Article No. T- Type TFM
TCG-5.2	20	3270 006	15.2	5–10	33	23	9	50	3272 002
TCG-8.6		3270 055	18.6	5–14	35	29	10	50	3272 051
TCG-20.4		3270 105	20.4	5–14	35	29	10	50	3272 101
TCG-22.5		3270 154	22.5	5–14	35	29	105	50	3272 152
TCG-28.3		3270 204	28.3	9–20	37	35.5	12	25	3272 200
TCG-37		3270 253	37	15–25	46	43	12	25	3272 259
Colour: grey									

Metric Thread [1]							Type TFM	
TCG-M20	3270 071	–	5–14	35	28.5	10	50	3272 061
TCG-M25	3270 170	–	9–20	51	34.5	12	25	3272 160

[1] Metric armoured conduit thread to DIN 40430.

Material and Product Properties
TET, TCF and TCG

Grade **Type designation** **Colour**	**EPDM** **TET** **Grey**	**CR** **TET-C** **Black**	**PEH**[1)] **TCF** **Grey**	**PA (Glass Fibre Reinforced)**[1)] **TCG Grey**
Weather resistance	Weather and temperature resistant. Can be used both indoors and outdoors.	Weather and temperature resistant. Can be used both indoors and outdoors.	Weather and temperature resistant. Can be used both indoors and outdoors.	Weather and temperature resistant. Can be used both indoors and outdoors.
Temperature resistance	For continuous use between -40°C and +100°C. (Cf. natural rubber: Max. +70°C). Somewhat higher temperatures for short periods of time (+130°C for approx. 1 hour).	For continuous use between -25°C and +95°C. Somewhat higher temperature for short periods of time.	For continuous use between -25°C and +80°C.	For continuous use between -25°C and +80°C.
Ageing in heat	After 168 hours at +70°C. Property changes: Hardness +2 ° Shore (+3%) Ultimate tensile strength -9% Elongation at break -17% After 72 hours at +100°C. Property changes: Hardness +7 ° Shore (+11%) Ultimate tensile strength -19% Elongation at break -22%	After 72 hours at +100°C. Property changes: Hardness +6 ° Shore (+10%) Ultimate tensile strength -8% Elongation at break -16% After 72 hours at +125°C. Property changes: Hardness +13 ° Shore (+13%) Ultimate tensile strength -12% Elongation at break -35%		
Fire resistance	Not self-extinguishing. Burning rate approx. 2 cm/min. Conforms to requirements for use in car bodies.	Self-extinguishing. Tested as per IEC standard. Approved for installation on ships.	Tested to glowire standard DIN 57471 section 2 (75), VDE 0471 section 2/4.75 and EdF HN 60EO1 with 750°C.	Not self-extinguishing.
Chemical resistance	Normally resistant to: Detergents Highly oxidizing chemicals such as: Ammonia Dilute phosphoric acid Dilute cromic acid Dilute nitric acid Dilute hydrochloric Dilute sulphuric acid Other chemicals such as Film developer Glycol Cutting fluid (emulsion) Only slightly affected by: Concentrated acids at room temperature	Normally resistant to: Aliphatic hydrocarbons Alkalies Alcohols Dilute acids Only slightly affected by: Acetone Ammonia Freon Glycol Sodium hydroxide	Normally resistant to: Aliphatic hydrocarbons Alkalies Alcohols Dilute acids Only slightly affected by: Acetone Ammonia Freon Glycol Sodium hydroxide	Normally resistant to: Aliphatic hydrocarbons Alkalies Alcohols Dilute acids Only slightly affected by: Acetone Ammonia Glycol Sodium hydroxide
Oil resistance		Good resistance to mineral oils. Other petroleum products such as grease and wax have very little effect. But should not be used in direct contact with petrol (gasoline).	Good resistance to mineral oils. Other petroleum products such as grease and wax have very little effect. But should not be used in direct contact with petrol (gasoline).	Good resistance to mineral oils. Other petroleum products such as grease and wax have very little effect. But should not be used in direct contact with petrol (gasoline).

1) Seal: Clorophene (CR). Tests: See TET-C.

All figures given in the table above are indicated values on laboratory tests. Factors such as temperature, length of exposure, concentration etc., have great effect on the properties of the materials. Feel free to contact us if you are not certain which grade you should choose.