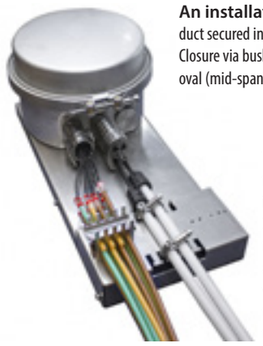
Tykoflex cold method

A safe, simple and proven cold method

TYKOFLEX COLD METHOD

Our new cold compression method

Tykoflex cold compression method has bushings for micro cables in the size range of Ø 1.8- 12,0 mm. For oval inlet in T240 splice boxes there are a variety of rubber seals. Two cables (mid-span) red rubber Ø 5.5 to 7.2 mm and four cables (2x mid-span) grey rubber Ø 5.0-7.0 mm, 6.5-8.5 mm, 7.7 to 9.5 mm and black rubber 9,5-12,0mm. Bushings can easily be mounted by inserting the cables into slots in the rubber seal. For the Ø 29 mm hole´s there are cable bushings with three rubber seals. Rubber black Ø 24x1.8-4.0 mm, black Ø 12x4.0-7.0 mm and blue 4x7,0-9,0 mm. Bushing is delivered with plugs to seal all unused inlets. Compression of the rubber by tightening the nut/nuts.

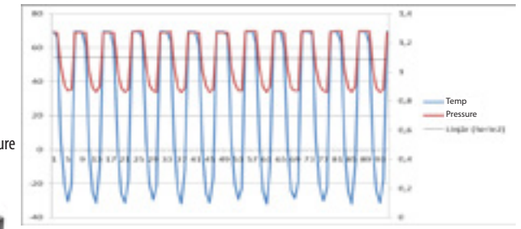


An installation example of Joint closure TMC with 7 mm duct secured in duct holder. A 2 mm micro cables connected to the Joint Closure via bushing TKN-K 1.8-4.0. 14/10 duct has micro cable connected in oval (mid-span) with TKN-O 5.0-7.0.

Tykoflex has developed a concept for the connection of micro cables in our splice closures Telecombox 240. The system consists of parts for oval inlets and 29 mm holes and a new splice closure TMC as well as a mounting plate to protect sensitive micro cables from the protective duct to the inlet.

Joint Closure TMC

Testing of the cold method

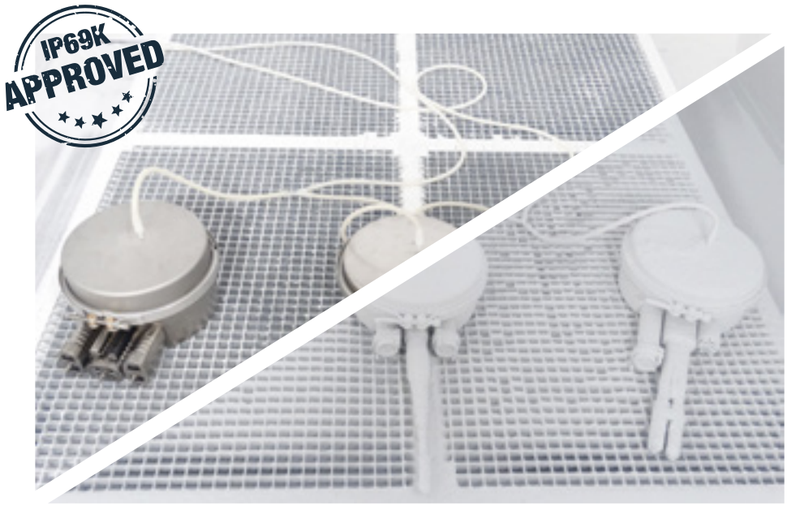


Joint Closure fitted with TKN with 20 cables Hexatronik Ø 2 mm closed with ambient pressure inside, tested in climate chamber. Temperature cycling from minus 30° to plus 70° celsius. A cycle consisting of cooling 3 hours and 3 hours of heating. Results of tests in the chart above.

Information

	Part number	Nr. of cables	Cable diameter
	11 212 851	4	Cable Ø 5,0-7,0 mm
	11 212 852	2	Cable Ø 5,5-7,2 mm
	11 212 853	4	Cable Ø 6,5-8,5 mm
	11 212 854	4	Cable Ø 6,5-8,5 mm
	11 212 855	2	Cable Ø 9,5-12 mm
	11 212 860 **11 212 870**	14 to 24	Cable Ø 1,8-4,0 mm
	11 212 861 **11 212 871**	8 to 12	Cable Ø 4,0-7,0 mm
	11 212 862 **11 212 872**	4	Cable Ø 7,0-9,0 mm

IP69K – Joint Closure T240



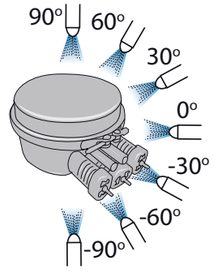
Left picture. Closure´s set-up for IP6X dust test with vacuum pump connection.

Test procedure

- Protected against close-range high pressure, high temperature spray downs
- Test duration: 30 seconds in each of 7 angles (3 minutes total)
- Pressure: 10 MPa (100 bar)
- At a distance of 0.125 m
- Water temperature: 80 °C

Classification of degree of protection provided by enclosure

Standard: EN 60529:1991 + A1:2000 + A2:2013
IEC 60529:1989 + A1:1999 + A2:2013
ISO 20653:2013
IP-class: IP68 (2.0 bar/24 h)/IP69, IP69K



Technical description

The largest dimension of Telecombox T240 exceeds 250 mm and the test was performed with the test parameters for large enclosures.
The test objects were exposed to high-pressure water from all directions during 3 min.
The water pressure was approximately 100 bar and the spray distance was 125 mm.
The temperature of the fresh water was 80º C.

Test equipment

High-pressure washer:	KEW 52C3KA
Nozzle:	RISE inventory No. BX41793
Sliding calliper:	RISE inventory No. 501806
Water flow meter:	RISE inventory No. 501880
Frequency counter:	RISE inventory No. 503436
Thermometer:	RISE inventory No. BX41792
Stopwatch:	RISE inventory No. 501336

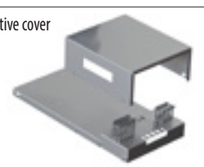
Measuring uncertainties

Spray distance:	± 25 mm
Water temperature:	± 5 °C
Time:	± 3.5 s

Set-up for IPX8 immersion test, water container pressurized to 2 bar.

Closure´s tested with all variants of bushing technology for the Telecombox T240 system.

Joint Closures TMC, TS, TSG, TUT and TB

Lid height	240/50	240/70	240/150	240/200	Description	Pack
Maximum numbres of cassettes	**4**	**6**	**10**	**16**		
Article TMC	**11 100 701**	**-703**	**-705**	**-707**	Joint Closure TMC is delivered with an oval (standing) cable entry and holes for two optional cable inlets or blind plugs. The holes fits all standard, TKT, and TKN-K 24x 1.8-4.0/4.0-7.0 bushings.	1
TS	**11 100 401**	**-403**	**-405**	**-407**	Joint Closure TS is delivered with an oval cable inlet and holes for two optional cable inlets or blind plugs. The holes fits all standard, TKT and TKN-L 24x 1.8-4.0/4.0-7.0 bushings.	1
TSG	**11 100 501**	**-503**	**-505**	**-507**	The closure is delivered with an oval cable entry and 4 fixed 16 mm and 2 fixed 25 mm cable inlets. On the 16 mm tubes TKT-S 3x7 can be used for a cold branching of micro cables 3-7 mm in diameter. Total 4x3 + 2x3 = 18 micro cables. Cable inlet tubes are sealed when delivered and to be used when needed.	1
TUT	**11 100 191**	**-193**	**-195**	**-197**	Joint Closure TUT can be equipped with various accessories for line splicing, branch and distribution point (loop). The holes fit all standard, TKT, and TKN-K 24x 1.8-4.0/4.0-7.0 bushings.	1
TB	**11 100 961** 240/150 with 5x29 mm hole´s for cable bushing		**-961**		Joint closure TB5 240/150 with oval inlet and 5x holes for optional cable entry or blind. Joint closure TB8 240/150 with oval inlet and 8x holes for optional cable entry or blind. All standard bushing for heat shrink and TKT, TKN-O and TKN-K fits in the 29 mm holes.	1
	11 100 963 240/150 with 8x29 mm hole´s for cablebushing		**-963**			1
Bracket with protective cover 	**11 214 032**				Bracket with protective cover. Duct holders for 5 or 7 mm ducts. Cover for protection of micro cables routed from ducts to bushing/inlet.	1
Bracket for mounting plate	**11 214 033**				Bracket for plate 11 214 032	2
Duct holder for mounting plate	**11 408 245**				Duct holder 24x Ø 5 mm	1
Duct holder for mounting plate	**11 408 247**				Duct holder 24x Ø 7 mm	1

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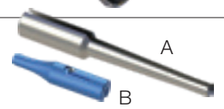
	TMC	TS	TSG	T	TB	Part Nr.	Description	Pack
Cable entry TKN-O 2x 5,5-7,2	•	•	•		•	**11 212 852**	Cable entry 2x 5.5 to 7.2 TKN -O red rubber seal 2 holes. A blind plug is included.	1
Cable entry TKN-O 5,0-7,0/6,5-8,5/7,7-9,5	•	•	•		•	**11 212 851**	Cable entry TKN-O 4x 5.0-7.0 grey rubber seal 4 holes. Three plugs are included.	1
						11 212 853	Cable entry TKN-O 4x 6.5-8.5 grey rubber seal 4 holes. Three plugs are included.	1
						11 212 854	Cable entry TKN-O 4x 7.7 to 9.5 grey rubber seal 4 holes. Three plugs are included.	1
						11 212 855	Cable entry TKN-O 2x9,5-12,0 black rubber seal 2 holes. Two plugs are included.	1
Cable entry TKN-L 1,8-4,0/4,0-7,0/7,0-9,0		•				**11 212 860**	Cable entry TKN-L 1.8-4.0 black rubber seal 24 holes. 24 plugs included. A maximun of 24 cables with a size of 1.8-3.0 mm. A maximum of 14 cables with a size of 3.1-4.0 mm. 10 holes in the outer ring are sealed with blind plugs.	1
						11 212 861	Cable entry TKN-L 4.0-7.0 black rubber seal 12 holes. 12 plugs included.	1
						11 212 862	Cable entry TKN-L 4x7,0-9,0mm Cable entryTKN-L 7,0-9,0 blue rubber seal 4 holes. 4 plugs included.	1
Cable entry TKN-K 1,8-4,0/4,0-7,0/7,0-9,0	•			•	•	**11 212 870**	Cable entry TKN-K 1.8-4.0 black rubber seal 24 holes. 24 plugs included. A maximun of 24 cables with a size of 1.8-3.0 mm. A maximum of 14 cables with a size of 3.1-4.0 mm. 10 holes in the outer ring are sealed with blind plugss.	1
						11 212 871	Cable entry TKN-K 4.0-7.0 black rubber seal 12 holes. 12 plugs included.	1
						11 212 872	Cable entry TKN-K 4x7,0-9,0mm Cable entry TKN-K 7,0-9,0 blue rubber seal 4 holes. 4 plugs included.	1

Cable bushings of stainless steel and accessories

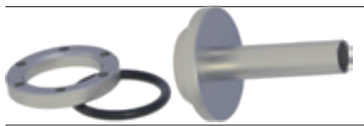
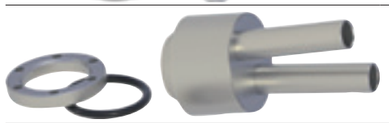
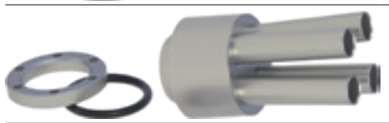
Cable bushing TKT - cold sealing

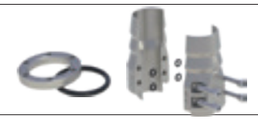
For cables and ducts 3-7 mm, with complete sealing kit,
Mastic tape and instruction manual. All branchings are presealed at delivery.

	Part No.	Description	Pack
	11 212 845	TKT S 3x7 stainless steel. Three branchings for 3-7 mm cables. Mountable on cable entry pipe 18 mm outer diameter. (for example, TSG). 3 plastic and 3 metal nipples and Mastic tape included.	1
	11 212 846	TKT S 3x7 plastic. Three branchings for 3-7 mm cables. Mountable on cable entry pipe 18 mm outer diameter (for example, TSG). 3 plastic nipples and Mastic tape included.	1
	11 212 840	TKT 7x7 stainless steel. Seven branchings for 3-7 mm cables. TKT is a cable bushing for open cable bushing ports 28.3 mm. 7 metal nipples and Mastic tape included.	1
	11 212 842	TKT 7x7 plastic. Seven branchings for 3-7 mm cables. TKT is a cable bushing for open cable bushing ports 28.3 mm. 7 plastic nipples and Mastic tape included.	1
	11 212 850	TKT-S 1x11 mm Mountable on cable entry pipe 18 mm outer diameter. (for example, TSG). Mastic tape included.	1
	11 212 847	Spare part TKT metal nipple. For branching in cable bushing TKT 11 212 8/ 40/ 42/ 45 and 46.	1
	**11 216 073**	TKT spanner for opening and closing of TKT nipples.10 mm (A). Including TKT Adapter (B).	1

Cable bushing, heat shrink sealing

With flange nut and O-ring. For mounting on closure with open cable bushing ports 28.3 mm. Kit including emery cloth, heat protection aluminium tape and shrink tubes for all pipes. Use flange nut spanner 11 216 020 B, for mounting of cable bushings and blind plugs.

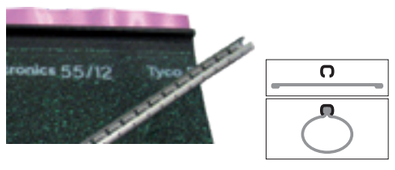
	Part No.	Description	Pack
	**11 212 050**	1x10, for cable with inner diameter 5.5-10 mm. Heat shrink 16/5, L=100 mm.	1
	**11 212 060**	2x10, for cable with inner diameter 5.5-10 mm. 2x heat shrink 16/5, L=100 mm.	1
	11 212 070	3x12, for cable with inner diameter 5.5-12 mm. 3x heat shrink 16/5, L=100 mm.	1
	**11 212 040**	4x10, for cable with inner diameter 5.5-10 mm. 4x heat shrink 16/5, L=100 mm.	1
	11 212 018	6x6, for cable with inner diameter 3.5-6 mm. 6x heat shrink 10/3, L=100 mm.	1

	Part No.	Description	Pack
	11 212 100	2x18 oval for two cables 9-18 mm diameter. Heat shrink 50/16, L=200 mm. Insert clip.	1
	11 212 132	1x24, with diameter adapter for 9-24 mm cable diameter. Heat shrink 34/8, L=200 mm.	1
	11 212 133	1x24 self bonding tape with diameter adapter for 9-24 mm cable diameter. Mastic tape and heat shrink MWTM 35/12 U, L=200 mm.	1
	11 212 145	1x30, for cable diameter 17-30 mm. Heat shrink 50/16, L=200 mm.	1
	**11 212 350**	Split cable bushing, 2x16 oval pipes for two cables 7-18 mm diameter. Ability to add new cable parallel with old cable in existing entry, without disturbing traffic. Heat shrink 55/12, L=170 mm divisible.	1
	11 209 825	Flexible stainless steel cable bushing 1x25 with L=500mm, incl. diameter adapter 9-25 mm cable diameter.	1

Blind plug SS for sealing of open cable bushing ports.

	Part No.	Description	Pack
	11 208 010	Blind plug with flange nut and O-ring. Use Flange nut spanner 11216020 B, for mounting of cable bushings and blind plugs.	1

Heat shrink tubes for sealing of cables in cable entry pipes and for other sealings. Max/min diameter - length.

	Part No.	Description	Pack
	11 219 110	Heat shrink tube Ø3-10 mm, 100 mm.	1
	11 219 123	Heat shrink tube Ø5-16 mm, 100 mm.	1
	11 219 149	Heat shrink tube Ø8-25 mm, 200 mm.	1
	11 219 159	Heat shrink tube Ø8-34 mm, 200 mm.	1
	11 219 169	Heat shrink tube Ø12-35 mm, 200 mm.	1
	11 219 189	Heat shrink tube Ø16-50 mm, 200 mm.	1
	11 219 192	Heat shrink tube Ø19-63 mm, 200 mm.	1
	**11 218 307**	Heat protection aluminium tape 20 m.	1
	11 219 300	Zip shrink tube 55/12-170 mm.	1
	11 219 016	Shrinkable end cap Ø4-10 mm for 6x6 mm pipe.	1
	11 219 025	Shrinkable end cap Ø8-20 mm for 1x10, 2x10, 4x10, 3x12 mm.	1
	11 219 030	Shrinkable end cap Ø15-35 mm for 30-16 mm.	1
	11 219 035	Shrinkable end cap Ø25-50 mm for oval entry.	1

About Tykoflex
Tykoflex is an engineering company with our own product development, head office and manufacturing facility in Tyresö, just outside of Stockholm. Our main product ranges are enclosures for splicing optical fibre and fittings for pipe and hose systems. Besides a wide standard range of products, we can offer flexible production and customized solutions to suit all our customers' needs. For more information please visit www.tykoflex.se

T240 fulfils international and European standards for outdoor closures.
IEC 61753-111-7
IEC 61753-111-8
IEC 61753-111-9
EN 60529:1991 + A1:2000 + A2:2013
IEC 60529:1989 + A1:1999 + A2:2013
ISO 20653:2013
IP68 (2.0 bar/24 h)/IP69, IP69K

qValify ISO 14001

qValify ISO 9001

IP69K APPROVED

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