



# HEAT-SHRINKABLE HALOGEN-FREE CABLE BREAKOUTS

## FOR POWER CABLES UP TO 1 KV

### KEY FEATURES

- High electrical characteristics and mechanical strength for low voltage applications
- Medium wall, Cross-linked polyolefin. UV stabilized against irradiation and weathering
- Halogen and Silicon-free material content, non-corrosive, non-toxic, free of lead and alluminium
- Inline coated with hot melt adhesive inside body and fingers
- Compliant to RoHS and REACH regulations
- Color black, > 2,5:1 shrink ratio
- Unlimited shelf-life

TE Connectivity's (TE) Raychem heat-shrinkable medium-wall product lines of cable breakouts are designed for insulation and cable crutch protection on low voltage cable accessories, such as low voltage terminations. They are also used in sealing against moisture and mechanical protection in low voltage splices, especially in transition joints.

During heating, the cable breakouts shrink to the original smaller diameter, fitting tightly over a wide range of cable sizes and cable accessories because of their high shrink ratio. At the same time the breakout sealant coating at the fingers and the body inner walls give a reliable moisture seal on a high variety of substrate materials used on energy cables.

TE Connectivity's (TE) Raychem heat-shrinkable cable breakout products are fast and easy to install and have proven their long-term reliability in operation, as well as in harsh climatic conditions and polluted environments.

The cable breakout product line is available in many different sizes, for 2-core up to 5-core cable, covering a wide range of core and cable diameters.

The material content of the Breakouts is halogen-free and stabilized against UV irradiation. The breakout products have an unlimited shelf life when stored under normal conditions.

**Customers can count on consistent, high quality products, driven by TE's proven innovation and backed by our extraordinary customer support.**

## Heat-Shrinkable Halogen-Free Cable Breakouts



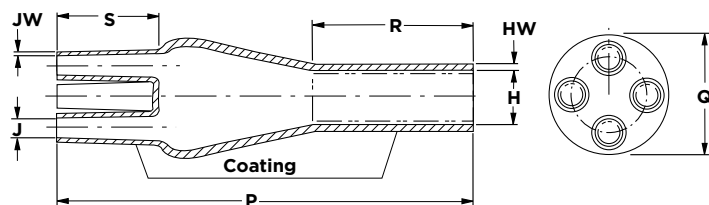
### TESTING

Cable Breakout Properties	Test Method	Material Requirements
Tensile Strength	ISO 37	10.5 MPa min
Ultimate Elongation	ISO 37	300% min
Secant Modulus at 23°C ± 2°C	ISO 527/1-3	130 Mpa max
Hardness	ISO 868	40 - 60 shore D
Accelerated ageing 7 days at 150°C ± 2°C Tensile Strength Ultimate Elongation	ISO 188 ISO 37 ISO 37	8.5 MPa min 100% min
Low Temperature Flexibility	ASTM D2671 Procedure C	No cracking at 4 hours at -40°C ± 3°C
Volume Resistivity	IEC 60093	1 x 10 <sup>12</sup> Ω cm min
Water Absorption 24 hours at 23°C ± 2°C	ISO 62 method 1	0.5% max
<b>Resistance to Liquids Transformer Oil to VDE 0370</b>		
7 days at 23°C ± 2°C	ISO 1817	
Tensile Strength	ISO 37	8.5 MPa min
Ultimate Elongation	ISO 37	240% min.

### PRODUCT SELECTION INFORMATION - DIMENSIONS ARE SHOWN IN mm

Description	Number of Cores	H		J		P	R	S	Q	HW	JW
		Supplied min	Recovered max	Supplied min	Recovered max	Recovered +/- 10%	Recovered +/- 10%	Recovered +/- 10%	Recovered +/- 10%	Recovered +/- 20%	Recovered +/- 20%
302K333/S	2	28	9.2	15	4.1	90	-	25	15	3.2	1.6
302K224/S	2	48	32	22	7	172	-	70	34	2.0	2.0
302K466/S	2	86	42	40	17	200	-	75	45	2.5	2.5
402W533/S	3	38	13	16	4.2	103	45	28	22	2.7	1.5
402W516/S	3	63	22	26	9	180	85	40	35	3.5	1.5
402W525/S	3	85	33	32	12	180	130	50	38	3.0	2.5
402W526/S	3	100	28	44	13	205	90	45	42	3.5	2.5
402W548/S	3	115	45	52	22	240	100	60	64	4.0	2.5
402W545/S	3	124	60	51	24	239	188	51	65	3.0	3.2
402W539/S	3	170	60	60	30	252	90	66	85	4.2	2.6
502S013/S	4	23	9.5	7	2	60	-	17	13	2.0	1.2
502K033/S	4	45	16.5	14	3.4	98	71	25	-	2.5	1.9
502K046/S	4	45	19	20	7	165	75	40	45	3.5	2.0
502K016/S	4	80	27	25	9	217	100	44	50	3.5	2.0
502K026/S	4	100	31	40	13.5	223	103	51	50.4	3.5	2.5
502R810/S	3 + 1*	170	60	50*	23*	255	90	65	109	4.0	3.5
603W035/S	4 + 1**	68	26	30**	7**	182	75	40	45	3.2	2.5
603W040/S	4 + 1***	85	26	33***	7***	182	75	40	45	3.2	2.5
903K015/S	7 + 1****	50	25	23****	6.5****	163.5	97.5	33	53.5	3.5	2.2

\*One of 4 outlets dim = 43 / 19; \*\*One of 5 outlets dim = 43 / 19; \*\*\*One of 5 outlets dim = 43 / 19; \*\*\*\*One of 8 outlets dim = 43 / 19



### FOR MORE INFORMATION: TE Technical Support Centers

USA:	+ 1 800 327 6996
Canada:	+ 1 (905) 475-6222
Mexico:	+ 52 (0) 55-1106-0800
Latin/S. America:	+ 54 (0) 11-4733-2200
France:	+ 33 380 583 200
UK:	+ 44 0870 870 7500
Germany:	+ 49 896 089 903
Spain:	+ 34 916 630 400
Italy:	+ 39 333 250 0915
Benelux:	+ 32 16 508 695
Russia:	+ 7 495-790 790 2-200
China:	+ 86 (0) 400-820-6015

[te.com/energy](http://te.com/energy)

© 2018 TE Connectivity Ltd. family of companies. All Rights Reserved. EPP-0115-7/18-EN

Raychem, TE Connectivity and TE connectivity (logo) are trademarks. Other logos, product and/or company names might be trademarks of their respective owners. While TE has made every reasonable effort to ensure the accuracy of the information in this brochure, TE does not guarantee that it is error-free, nor does TE make any other representation, warranty or guarantee that the information is accurate, correct, reliable or current. TE reserves the right to make any adjustments to the information contained herein at any time without notice. TE expressly disclaims all implied warranties regarding the information contained herein, including, but not limited to, any implied warranties of merchantability or fitness for a particular purpose. The dimensions in this catalog are for reference purposes only and are subject to change without notice. Specifications are subject to change without notice. Consult TE for the latest dimensions and design specifications.