



Caledonian

www.caledonian-cables.co.uk

Caledonian Mining Cables

AS/NZS 1802:2003 Standard

AS/NZS 2802:2000 Standard

AS/NZS 1972:2006 Standard

 **ADDISON**

www.addison-cables.com

COMPANY PROFILE

Caledonian, established in 1978, offers one of the most complete lines of fiber and copper cabling system solutions with over hundreds of different cabling system products. Our superior products provide leading edge within every cable series and for every application.

Among the national and international standards with which our cables could comply are: BS - British Standard; LPCB Fire Performance Standard, ISO Standard etc. Caledonian Cables offers a comprehensive stock of cables and cabling products through its nationwide network of resellers and distributors. Caledonian Cables has continually expanded its global presence in Europe and Asia.

Caledonian & Addison, produces a wide range of cables for communication, power and electronics in its primary plants in UK, Italy and Spain. To stay in front, we continually keep expanding our manufacturing capabilities in more low cost region such as Romania, Taiwan, Malaysia etc. This low-cost manufacturing facilities enable us provide a flexible, scalable global system that delivers superior operational performance and optimal results for our customers.

Our extensive global network of manufacturing facilities gives us significant scale and the flexibility to fulfill our customer requirements. This global presence provides design and consultancy solutions that are combined with core cable manufacturing, logistic services, and vertically integrated with our E commerce technologies, to optimize customer operations by lowering costs and reducing time to market.

Caledonian & Addison has been respected for its high standards of quality, excellent service level, competitive pricing and a unique and innovative spirit. With our latest technologies, we are both inspired and well-positioned to meet the changing needs of our customers. We have the resources to diversify and to enhance our product lines and services. We understand the need for change and with our accurate planning, we are ready for the future and the promise of new marketing opportunities. Our tradition of growth through excellence is assured.

Our Design Centers work closely with customers to constantly improve its standard range of products and technologies and to develop customized, country and industry-specific solutions. Caledonian & Addison has established an extensive network of design, manufacturing, and logistics facilities in the world's major markets to serve the growing outsourcing needs of both multinational and regional customers.





TABLE OF CONTENT

» **AS/NZS 1802:2003 Reeling & Trailing Cables**

Type 209 1.1 to 11KV	6
Type 210 1.1/1.1KV	9
Type 240 1.1 to 11KV	10
Type 241 1.1 to 11KV	13
Type 241 Superflex 1.1 to 6.6KV	16
Type 245 1.1 to 6.6KV	18
Type 260 1.1 to 11KV	20
Type 275 1.1/1.1KV	23

» **AS/NZS 2802:2000 Reeling & Trailing Cables**

Type 409 1.1 to 22KV	25
Type 412 1.1/1.1KV	28
Type 440 1.1 to 22KV	30
Type 441 (class 2) 1.1/1.1KV	33
Type 441 (class 1) 3.3 to 22KV	35
Type 450 3.3 to 33KV	38
Type 455 3.3 to 33KV	41

» **AS/NZS 1972:2006 Cables**

Type 1 1.1/1.1KV Individually Screened	44
Type 1 1.1/1.1KV Collectively Screened	45
Type 2S 1.1/1.1KV & 3.3/3.3KV Individually Screened	46



TABLE OF CONTENT

Type 2S 1.1/1.1KV & 3.3/3.3KV Collectively Screened	48
Type A & B 1.1/1.1KV	49
XLPE Insulated 6.35/11KV & 12.7/22KV	51
Paper Insulated 11/11KV	53

» **Technical Information**

Cable Type Definition	55
Reeling & Trailing Cable Electrical Characteristics	56
Reeling & Trailing Cable Mechanical & Thermal Characteristics.....	58
Reeling & Trailing Cable Material Characteristics	59
Core Identification of Reeling & Trailing Cable	62



Type 209 1.1 to 11KV

» Applications

Type 209 series cable is mainly used as a flexible feeder to machinery, more suitable as a trailing cable rather than for reeling. Smaller cables are used for drills and hand held tools and equipment.

» Standards

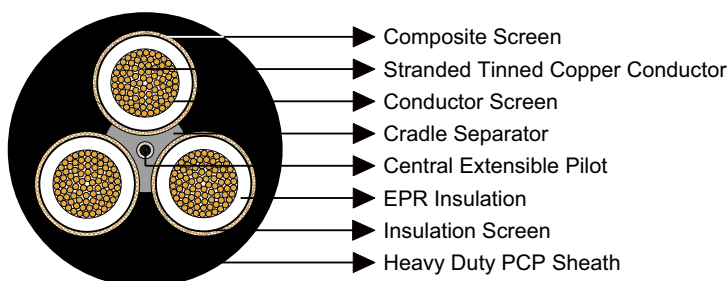
AS/NZS 1802:2003

AS/NZS 1125

AS/NZS 3808

AS/NZS 5000.1

» Construction



3×Conductors: Flexible stranded tinned annealed copper conductor.

Conductor Screen: Semiconductive compound (for cables having a voltage rating of 3.3/3.3kV and above).

Insulation: EPR.

Insulation Screen: Semiconductive elastomer.

Composite Screen (earth conductor): Tinned annealed copper braiding interwove with polyester yarn.

Cradle Separator: Semiconductive PCP.

1×Central Extensible Pilot: EPR covered flexible stranded tinned copper conductor.

Sheath: Heavy duty PCP sheath. Heavy duty CPE/CSP sheath can be offered upon request.

Caledonian Mining Cables

AS/NZS 1802:2003 Reeling & Trailing Cables



» Dimensions and Weight

Nominal Conductor Area	Strand Size	Insulation Thickness	Core Screen		Pilot Conductor		Thickness of Sheath	Nominal Overall Diameter	Nominal Weight
			Strand Size	Area of Screen	Strand Size	Thickness of Covering			
mm ²	No/mm	mm	No/mm	mm ²	No/mm	mm	mm	mm	kg/100m
Type 209.1									
6	84/0.30	1.5	7/0.25	7.2	24/0.20	0.8	3.8	30.0	129
10	77/0.40	1.5	7/0.25	8.6	24/0.20	0.8	3.8	32.6	157
16	126/0.40	1.6	7/0.25	9.6	24/0.20	0.8	4.0	35.8	197
25	209/0.40	1.6	7/0.25	11.3	24/0.20	0.8	4.3	39.7	255
35	285/0.40	1.6	7/0.25	12.4	24/0.20	0.8	4.6	43.1	312
50	380/0.40	1.7	7/0.25	14.1	40/0.20	0.8	5.0	47.7	386
70	203/0.67	1.8	7/0.25	16.5	40/0.20	0.8	5.4	52.8	503
95	259/0.67	2.0	7/0.25	18.2	40/0.20	0.8	6.0	58.6	605
120	336/0.67	2.1	7/0.25	20.3	40/0.20	0.8	6.4	64.4	741
150	427/0.67	2.3	7/0.25	22.3	40/0.20	0.8	6.9	70.2	896
185	518/0.67	2.5	7/0.30	30.2	40/0.20	0.8	7.4	77.4	1092
240	672/0.67	2.8	7/0.30	33.6	40/0.20	0.8	8.2	86.0	1365
300	854/0.67	3.0	7/0.40	50.1	40/0.20	0.8	8.8	95.1	1715
Type 209.3									
16	126/0.40	3.0	7/0.25	13.1	24/0.20	0.8	5.3	46.2	301
25	209/0.40	3.0	7/0.25	14.8	24/0.20	0.8	5.6	50.1	369
35	285/0.40	3.0	7/0.25	15.8	24/0.20	0.8	5.9	53.5	431
50	380/0.40	3.0	7/0.25	17.2	40/0.20	0.8	6.3	57.6	507
70	203/0.67	3.0	7/0.25	18.6	40/0.20	0.8	6.6	62.5	624
95	259/0.67	3.0	7/0.25	20.3	40/0.20	0.8	7.1	66.2	719
120	336/0.67	3.0	7/0.30	27.2	40/0.20	0.8	7.4	72.0	876
150	427/0.67	3.0	7/0.40	39.6	40/0.20	0.8	7.8	78.0	1072
185	518/0.67	3.0	7/0.40	42.2	40/0.20	0.8	8.2	83.4	1236
240	672/0.67	3.0	7/0.40	46.6	40/0.20	0.8	8.8	90.3	1500
300	854/0.67	3.0	7/0.50	63.2	40/0.20	0.8	9.4	98.4	1840
Type 209.6									
16	126/0.40	5.0	7/0.25	17.2	24/0.20	0.8	6.4	57.3	435
25	209/0.40	5.0	7/0.25	18.6	24/0.20	0.8	6.7	61.2	512



Nominal Conductor Area	Strand Size	Insulation Thickness	Core Screen		Pilot Conductor		Thickness of Sheath	Nominal Overall Diameter	Nominal Weight
			Strand Size	Area of Screen	Strand Size	Thickness of Covering			
mm ²	No/mm	mm	No/mm	mm ²	No/mm	mm	mm	mm	kg/100m
35	285/0.40	5.0	7/0.25	18.6	24/0.20	0.8	7.0	64.6	582
50	380/0.40	5.0	7/0.25	21.3	40/0.20	0.8	7.3	68.5	668
70	203/0.67	5.0	7/0.25	23.4	40/0.20	0.8	7.7	73.7	799
95	259/0.67	5.0	7/0.30	29.2	40/0.20	0.8	8.1	77.8	935
120	336/0.67	5.0	7/0.30	31.7	40/0.20	0.8	8.5	83.1	1090
150	427/0.67	5.0	7/0.40	45.7	40/0.20	0.8	8.9	89.1	1310
185	518/0.67	5.0	7/0.40	48.4	40/0.20	0.8	9.3	94.5	1480
240	672/0.67	5.0	7/0.40	52.8	40/0.20	0.8	9.9	101.4	1750
300	854/0.67	5.0	7/0.50	71.5	40/0.20	0.8	10.4	109.3	2120
Type 209.11									
25	209/0.40	7.6	7/0.25	23.7	24/0.20	0.8	8.1	75.6	750
35	285/0.40	7.6	7/0.30	30.2	24/0.20	0.8	8.4	79.7	858
50	380/0.40	7.6	7/0.30	31.7	40/0.20	0.8	8.7	83.6	960
70	203/0.67	7.6	7/0.30	34.1	40/0.20	0.8	9.1	88.8	1093
95	259/0.67	7.6	7/0.40	47.5	40/0.20	0.8	9.6	93.7	1267
120	336/0.67	7.6	7/0.40	51.0	40/0.20	0.8	9.9	98.8	1436
150	427/0.67	7.6	7/0.40	53.7	40/0.20	0.8	10.3	103.5	1614
185	518/0.67	7.6	7/0.40	57.2	40/0.20	0.8	10.7	108.8	1830



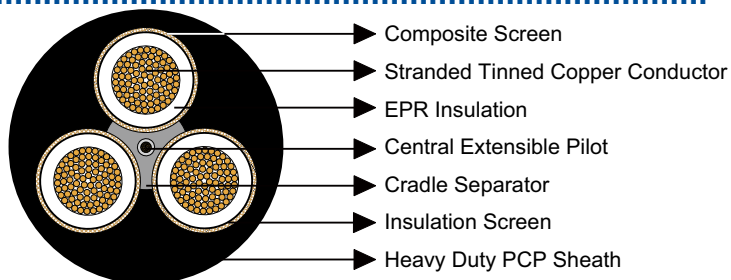
Type 210 1.1/1.1KV

» Applications

These cables are mainly used for hand-held boring machines and drills.

» Standards

AS/NZS 1802:2003
AS/NZS 1125
AS/NZS 3808
AS/NZS 5000.1



» Construction

3×Conductors: Flexible stranded tinned annealed copper conductor.

Insulation: EPR.

Insulation Screen: Semiconductive elastomer.

Composite Screen (earth conductor): Tinned annealed copper braiding interwove with polyester yarn.

Cradle Separator: Semiconductive PCP.

1×Central Extensible Pilot: EPR covered flexible stranded tinned copper conductor.

Sheath: Heavy duty PCP sheath. Heavy duty CPE/CSP sheath can be offered upon request.

» Dimensions and Weight

Nominal Conductor Area	Strand Size	Insulation Thickness	Core Screen		Pilot Conductor		Thickness of Sheath	Nominal Overall Diameter	Nominal Weight
			Strand Size	Area of Screen	Strand Size	Thickness of Covering			
mm ²	No/mm	mm	No/mm	mm ²	No/mm	mm	mm	mm	kg/100m
Type 210									
1.5	30/0.25	1.4	7/0.25	5.2	24/0.20	0.8	3.0	23.7	83
2.5	50/0.25	1.5	7/0.25	5.8	24/0.20	0.8	3.0	25.1	92



Type 240 1.1 to 11KV

» Applications

These cables are mainly used as feeder cables for power supply to machinery or longwall supply. Cable contains 3 large pilots and large Core Screens provide for low resistance earthing.

» Standards

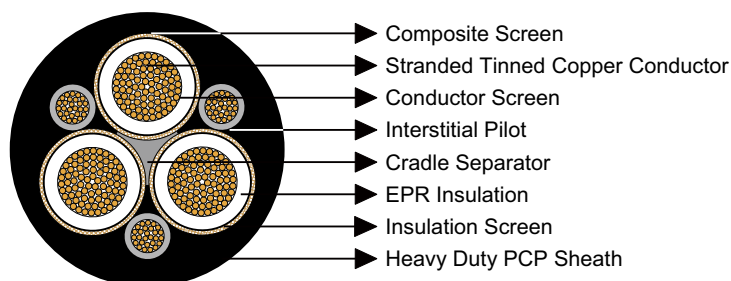
AS/NZS 1802:2003

AS/NZS 1125

AS/NZS 3808

AS/NZS 5000.1

» Construction



3×Conductors: Flexible stranded tinned annealed copper conductor.

Conductor Screen: Semiconductive compound (for cables having a voltage rating of 3.3/3.3kV and above).

Insulation: EPR.

Insulation Screen: Semiconductive elastomer.

Composite Screen (earth conductor): Tinned annealed copper braiding interwove with polyester yarn.

3×Interstitial Pilot: EPR covered flexible stranded tinned copper conductor.

Cradle Separator: Semiconductive PCP.

Sheath: Heavy duty PCP sheath. Heavy duty CPE/CSP sheath can be offered upon request.

Caledonian Mining Cables

AS/NZS 1802:2003 Reeling & Trailing Cables



» Dimensions and Weight

Nominal Conductor Area	Strand Size	Insulation Thickness	Core Screen		Pilot Conductor		Thickness of Sheath	Nominal Overall Diameter	Nominal Weight
			Strand Size	Area of Screen	Strand Size	Thickness of Covering			
mm ²	No/mm	mm	No/mm	mm ²	No/mm	mm	mm	mm	kg/100m
Type 240.1									
6	84/0.30	1.5	7/0.25	7.2	18/0.30	1.0	3.8	30.0	131
10	77/0.40	1.5	7/0.25	8.6	27/0.30	1.0	3.8	32.6	159
16	126/0.40	1.6	7/0.25	9.6	42/0.30	1.0	4.0	35.8	202
25	209/0.40	1.6	7/0.25	11.3	66/0.30	1.2	4.3	39.7	265
35	285/0.40	1.6	7/0.25	12.4	90/0.30	1.2	4.6	43.1	326
50	380/0.40	1.7	7/0.25	14.1	120/0.30	1.2	5.0	47.7	404
70	203/0.67	1.8	7/0.25	16.5	39/0.67	1.2	5.4	53.9	533
95	259/0.67	2.0	7/0.25	18.2	39/0.67	1.2	6.0	58.6	635
120	336/0.67	2.1	7/0.25	20.3	42/0.67	1.4	6.4	64.4	775
150	427/0.67	2.3	7/0.25	22.3	54/0.67	1.4	6.9	70.2	940
185	518/0.67	2.5	7/0.30	30.2	63/0.67	1.4	7.4	77.4	1150
240	672/0.67	2.8	7/0.30	33.6	77/0.67	1.6	8.2	86.0	1440
300	854/0.67	3.0	7/0.40	50.1	98/0.67	1.6	8.8	95.1	1810
Type 240.3									
16	126/0.40	3.0	7/0.25	13.1	42/0.30	1.4	5.3	46.2	306
25	209/0.40	3.0	7/0.25	14.8	66/0.30	1.4	5.6	50.1	379
35	285/0.40	3.0	7/0.25	15.8	90/0.30	1.4	5.9	53.5	444
50	380/0.40	3.0	7/0.25	17.2	120/0.30	1.4	6.3	57.6	525
70	203/0.67	3.0	7/0.25	18.6	39/0.67	1.4	6.6	62.5	656
95	259/0.67	3.0	7/0.25	20.3	39/0.67	1.4	7.1	66.2	750
120	336/0.67	3.0	7/0.30	27.2	42/0.67	1.6	7.4	72.0	910
150	427/0.67	3.0	7/0.40	39.6	54/0.67	1.6	7.8	78.0	1115
185	518/0.67	3.0	7/0.40	42.2	63/0.67	1.8	8.2	83.4	1280
240	672/0.67	3.0	7/0.40	46.6	77/0.67	1.8	8.8	90.3	1540
300	854/0.67	3.0	7/0.50	63.2	98/0.67	1.8	9.4	98.4	1920
Type 240.6									
16	126/0.40	5.0	7/0.25	17.2	42/0.30	1.4	6.4	57.3	440
25	209/0.40	5.0	7/0.25	18.6	66/0.30	1.4	6.7	61.2	521



Nominal Conductor Area	Strand Size	Insulation Thickness	Core Screen		Pilot Conductor		Thickness of Sheath	Nominal Overall Diameter	Nominal Weight
			Strand Size	Area of Screen	Strand Size	Thickness of Covering			
mm ²	No/mm	mm	No/mm	mm ²	No/mm	mm	mm	mm	kg/100m
35	285/0.40	5.0	7/0.25	18.6	90/0.30	1.6	7.0	64.6	593
50	380/0.40	5.0	7/0.25	21.3	120/0.30	1.6	7.3	68.5	685
70	203/0.67	5.0	7/0.25	23.4	39/0.67	1.6	7.7	73.7	830
95	259/0.67	5.0	7/0.30	29.2	39/0.67	1.6	8.1	77.8	954
120	336/0.67	5.0	7/0.30	31.7	42/0.67	1.8	8.5	83.1	1111
150	427/0.67	5.0	7/0.40	45.7	54/0.67	1.8	8.9	89.1	1335
185	518/0.67	5.0	7/0.40	48.4	63/0.67	1.8	9.3	94.5	1515
240	672/0.67	5.0	7/0.40	52.8	77/0.67	1.8	9.9	101.4	1810
300	854/0.67	5.0	7/0.50	71.5	98/0.67	1.8	10.4	109.3	2190
Type 240.11									
25	209/0.40	7.6	7/0.25	23.7	66/0.30	2.0	8.1	75.6	752
35	285/0.40	7.6	7/0.30	30.2	90/0.30	2.0	8.4	79.7	860
50	380/0.40	7.6	7/0.30	31.7	120/0.30	2.0	8.7	83.6	961
70	203/0.67	7.6	7/0.30	34.1	39/0.67	2.0	9.1	88.8	1125
95	259/0.67	7.6	7/0.40	47.5	39/0.67	2.0	9.6	93.7	1300
120	336/0.67	7.6	7/0.40	51.0	42/0.67	2.2	9.9	98.8	1470
150	427/0.67	7.6	7/0.40	53.7	54/0.67	2.2	10.3	103.5	1659
185	518/0.67	7.6	7/0.40	57.2	63/0.67	2.2	10.7	108.8	1880



Type 241 1.1 to 11KV

» Applications

These cables are designed for various uses, including main feeder cable for continuous miners, pump cable, and power supply cable. Overall semiconductive screen provides protective earth contact for any object breaching the sheath prior to contact with power conductors.

» Standards

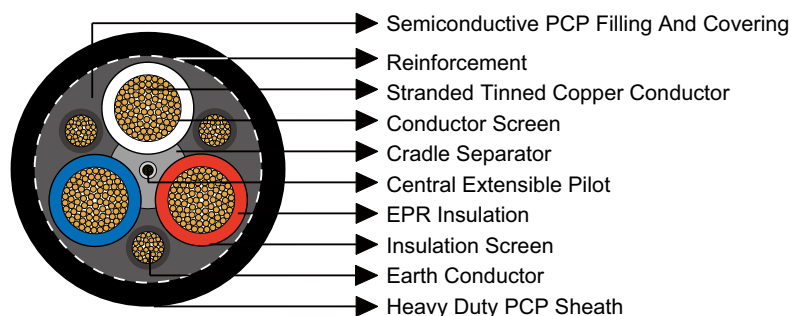
AS/NZS 1802:2003

AS/NZS 1125

AS/NZS 3808

AS/NZS 5000.1

» Construction



3×Conductors: Flexible stranded tinned annealed copper conductor.

Conductor Screen: Semiconductive compound (for cables having a voltage rating of 3.3/3.3kV and above).

Insulation: EPR.

Insulation Screen: Semiconductive elastomer.

Cradle Separator: Semiconductive PCP.

Overall Core Screen: Semiconductive PCP filling and covering.

3×Interstitial Earth Conductor: Semiconductive PCP covered flexible stranded tinned copper conductor.

1×Central Extensible Pilot: EPR covered flexible stranded tinned copper conductor.

Textile Reinforcement: Open-weave braid reinforcement.



Sheath: Heavy duty PCP sheath. Heavy duty CPE/CSP sheath can be offered upon request.

» Dimensions and Weight

Nominal Conductor Area	Strand Size	Insulation Thickness	Earth Conductor		Pilot Conductor		Thickness of Sheath Including SC PCP Layer	Nominal Overall Diameter	Nominal Weight
			Strand Size	Thickness of Covering	Strand Size	Thickness of Covering			
mm ²	No/mm	mm	No/mm	mm	No/mm	mm	mm	mm	kg/100m
Type 241.1									
6	84/0.30	1.5	18/0.30	1.0	24/0.20	0.8	3.8	28.5	106
10	77/0.40	1.5	27/0.30	1.0	24/0.20	0.8	3.8	31.1	127
16	126/0.40	1.6	42/0.30	1.0	24/0.20	0.8	3.9	34.1	164
25	209/0.40	1.6	66/0.30	1.0	24/0.20	0.8	4.2	37.9	208
35	285/0.40	1.6	90/0.30	1.0	24/0.20	0.8	4.4	41.2	254
50	380/0.40	1.7	120/0.30	1.0	40/0.20	0.8	4.9	45.9	328
70	203/0.67	1.8	39/0.67	1.0	40/0.20	0.8	5.3	52.2	480
95	259/0.67	2.0	39/0.67	1.0	40/0.20	0.8	5.8	56.7	600
120	336/0.67	2.1	42/0.67	1.2	40/0.20	0.8	6.3	62.7	710
150	427/0.67	2.3	54/0.67	1.2	40/0.20	0.8	6.7	68.3	865
185	518/0.67	2.5	63/0.67	1.4	40/0.20	0.8	7.3	74.9	1030
240	672/0.67	2.8	77/0.67	1.4	40/0.20	0.8	8.0	83.3	1300
300	854/0.67	3.0	98/0.67	1.4	40/0.20	0.8	8.7	91.2	1600
Type 241.3									
16	126/0.40	3.0	42/0.30	1.0	24/0.20	0.8	5.0	43.8	249
25	209/0.40	3.0	66/0.30	1.0	24/0.20	0.8	5.3	47.7	315
35	285/0.40	3.0	90/0.30	1.0	24/0.20	0.8	5.6	51.1	376
50	380/0.40	3.0	120/0.30	1.2	40/0.20	0.8	6.0	55.2	450
70	203/0.67	3.0	39/0.67	1.2	40/0.20	0.8	6.4	60.3	576
95	259/0.67	3.0	48/0.67	1.2	40/0.20	0.8	6.8	63.8	675
120	336/0.67	3.0	60/0.67	1.2	40/0.20	0.8	7.2	69.1	810
150	427/0.67	3.0	77/0.67	1.2	40/0.20	0.8	7.6	73.8	952
185	518/0.67	3.0	91/0.67	1.4	40/0.20	0.8	8.0	79.2	1130
240	672/0.67	3.0	112/0.67	1.4	40/0.20	0.8	8.6	86.0	1380
300	854/0.67	3.0	144/0.67	1.4	40/0.20	0.8	9.1	92.6	1660



AS/NZS 1802:2003 Reeling & Trailing Cables

Nominal Conductor Area	Strand Size	Insulation Thickness	Earth Conductor		Pilot Conductor		Thickness of Sheath Including SC PCP Layer	Nominal Overall Diameter	Nominal Weight
			Strand Size	Thickness of Covering	Strand Size	Thickness of Covering			
mm ²	No/mm	mm	No/mm	mm	No/mm	mm	mm	mm	kg/100m
Type 241.6									
16	126/0.40	5.0	42/0.30	1.4	24/0.20	0.8	6.1	54.9	365
25	209/0.40	5.0	66/0.30	1.4	24/0.20	0.8	6.4	58.8	440
35	285/0.40	5.0	90/0.30	1.4	24/0.20	0.8	6.7	62.2	509
50	380/0.40	5.0	120/0.30	1.4	40/0.20	0.8	7.1	66.2	592
70	203/0.67	5.0	39/0.67	1.4	40/0.20	0.8	7.4	71.2	727
95	259/0.67	5.0	48/0.67	1.4	40/0.20	0.8	7.9	74.8	835
120	336/0.67	5.0	60/0.67	1.4	40/0.20	0.8	8.3	80.2	990
150	427/0.67	5.0	77/0.67	1.4	40/0.20	0.8	8.6	84.6	1140
185	518/0.67	5.0	91/0.67	1.4	40/0.20	0.8	9.0	90.0	1311
240	672/0.67	5.0	119/0.67	1.4	40/0.20	0.8	9.6	96.8	1576
300	854/0.67	5.0	156/0.67	1.4	40/0.20	0.8	10.2	103.6	1900
Type 241.11									
25	209/0.40	7.6	66/0.30	1.8	24/0.20	0.8	7.8	73.2	645
35	285/0.40	7.6	90/0.30	1.8	24/0.20	0.8	8.1	76.6	724
50	380/0.40	7.6	120/0.30	1.8	40/0.20	0.8	8.5	80.6	825
70	203/0.67	7.6	39/0.67	1.8	40/0.20	0.8	8.9	85.7	975
95	259/0.67	7.6	48/0.67	1.8	40/0.20	0.8	9.3	89.1	1088
120	336/0.67	7.6	60/0.67	1.8	40/0.20	0.8	9.7	94.4	1258
150	427/0.67	7.6	77/0.67	1.8	40/0.20	0.8	10.0	98.9	1423
185	518/0.67	7.6	91/0.67	1.8	40/0.20	0.8	10.4	104.2	1610



Type 241 Superflex 1.1 to 6.6KV

» Applications

These cables are similar to Type 241 cables, except more flexible and have a smaller 'natural' bending radius, suitable for use as monorail cable where cable loops will be narrower, thus allowing more space for other equipment and reducing opportunities for getting snagged.

» Standards

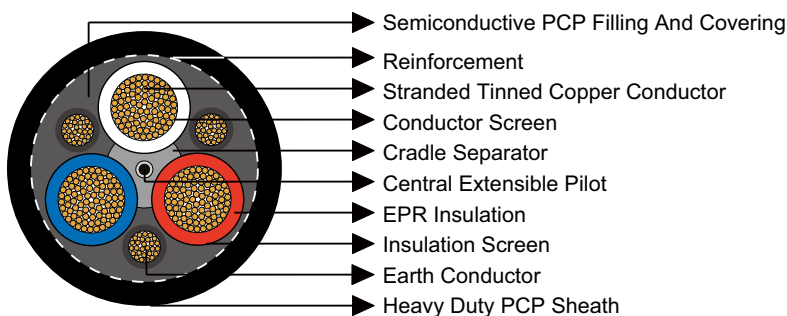
AS/NZS 1802:2003

AS/NZS 1125

AS/NZS 3808

AS/NZS 5000.1

» Construction



3×Conductors: Flexible stranded tinned annealed copper conductor.

Conductor Screen: Semiconductive compound (for cables having a voltage rating of 3.3/3.3kV and above).

Insulation: EPR.

Insulation Screen: Semiconductive elastomer.

Cradle Separator: Semiconductive PCP.

Overall Core Screen: Semiconductive PCP filling and covering.

3×Interstitial Earth Conductor: Semiconductive PCP covered flexible stranded tinned copper conductor.

1×Central Extensible Pilot: EPR covered flexible stranded tinned copper conductor.

Textile Reinforcement: Open-weave braid reinforcement.

Caledonian Mining Cables

AS/NZS 1802:2003 Reeling & Trailing Cables



Sheath: Heavy duty PCP sheath. Heavy duty CPE/CSP sheath can be offered upon request.

» Dimensions and Weight

Nominal Conductor Area	Strand Size	Insulation Thickness	Earth Conductor		Pilot Conductor		Thickness of Sheath Including SC PCP Layer	Nominal Overall Diameter	Nominal Weight
			Strand Size	Thickness of Covering	Strand Size	Thickness of Covering			
mm ²	No/mm	mm	No/mm	mm	No/mm	mm	mm	mm	kg/100m
Type 241.1									
70	361/0.50	1.8	110/0.40	1.0	40/0.20	0.8	5.3	53.0	485
95	475/0.50	2.0	85/0.40	1.0	40/0.20	0.8	5.8	58.8	595
120	608/0.50	2.1	110/0.40	1.2	40/0.20	0.8	6.3	62.5	715
150	740/0.50	2.3	135/0.40	1.2	40/0.20	0.8	6.7	67.0	840
185	925/0.50	2.5	165/0.40	1.4	40/0.20	0.8	7.3	75.1	1040
240	1221/0.50	2.8	216/0.40	1.4	40/0.20	0.8	8.0	85.7	1340
Type 241.3									
70	361/0.50	3.0	110/0.40	1.2	40/0.20	0.8	6.4	61.2	590
95	475/0.50	3.0	135/0.40	1.2	40/0.20	0.8	6.8	65.9	710
120	608/0.50	3.0	165/0.40	1.2	40/0.20	0.8	7.2	68.9	820
150	740/0.50	3.0	216/0.40	1.2	40/0.20	0.8	7.6	72.5	940
185	925/0.50	3.0	252/0.40	1.4	40/0.20	0.8	8.0	79.4	1130
240	1221/0.50	3.0	324/0.40	1.4	40/0.20	0.8	8.6	88.3	1420
Type 241.6									
70	361/0.50	5.0	110/0.40	1.4	40/0.20	0.8	7.4	72.1	750
95	475/0.50	5.0	135/0.40	1.4	40/0.20	0.8	7.9	77.0	885
120	608/0.50	5.0	165/0.40	1.4	40/0.20	0.8	8.3	79.9	1000
150	740/0.50	5.0	216/0.40	1.4	40/0.20	0.8	8.6	83.3	1130
185	925/0.50	5.0	252/0.40	1.4	40/0.20	0.8	9.0	90.2	1330
240	1221/0.50	5.0	324/0.40	1.4	40/0.20	0.8	9.6	99.1	1640



Type 245 1.1 to 6.6KV

» Applications

These very flexible cables are mainly used as longwall shearer cables, and also for continuous miners and peripheral longwall cables. Cable has 3 central pilots for earth continuity monitoring and for control circuits.

» Standards

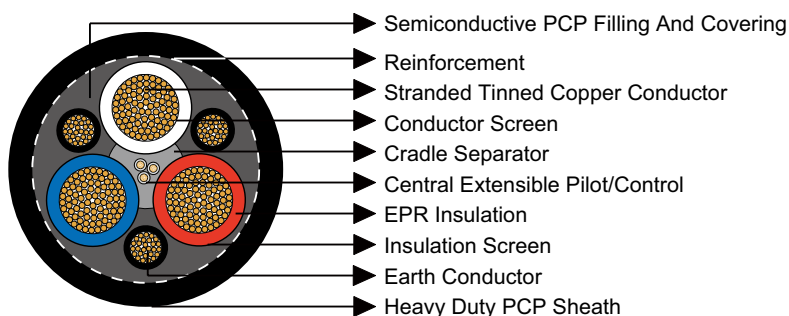
AS/NZS 1802:2003

AS/NZS 1125

AS/NZS 3808

AS/NZS 5000.1

» Construction



3×Conductors: Flexible stranded tinned annealed copper conductor.

Conductor Screen: Semiconductive compound (for cables having a voltage rating of 3.3/3.3kV and above).

Insulation: EPR.

Insulation Screen: Semiconductive elastomer.

Cradle Separator: Semiconductive PCP.

Overall Core Screen: Semiconductive PCP filling and covering.

3×Interstitial Earth Conductor: Semiconductive PCP covered flexible stranded tinned copper conductor.

3×Central Extensible Pilot: EPR covered flexible stranded tinned copper conductor.

Textile Reinforcement: Open-weave braid reinforcement.

Sheath: Heavy duty PCP sheath. Heavy duty CPE/CSP sheath can be offered upon request.

Caledonian Mining Cables

AS/NZS 1802:2003 Reeling & Trailing Cables



» Dimensions and Weight

Nominal Conductor Area	Strand Size	Insulation Thickness	Earth Conductor		Pilot Conductor		Thickness of Sheath Including SC PCP Layer	Nominal Overall Diameter	Nominal Weight
			Strand Size	Thickness of Covering	Strand Size	Thickness of Covering			
mm ²	No/mm	mm	No/mm	mm	No/mm	mm	mm	mm	kg/100m
Type 245.1									
16	133/0.40	2.0	69/0.25	1.8	28/0.25	0.8	4.1	42.6	235
25	259/0.36	1.6	91/0.25	1.8	28/0.25	0.8	4.2	43.4	269
35	287/0.40	1.6	140/0.25	1.4	28/0.25	0.8	4.4	45.6	315
50	703/0.30	1.7	120/0.30	1.0	28/0.25	0.8	4.8	48.4	390
70	988/0.30	1.8	180/0.30	1.0	28/0.25	0.8	5.1	53.9	501
95	1332/0.30	2.0	150/0.30	1.0	28/0.25	0.8	5.6	60.4	630
120	1702/0.30	2.1	195/0.30	1.2	28/0.25	0.8	6.0	65.5	765
150	2146/0.30	2.3	235/0.30	1.2	28/0.25	0.8	6.3	70.5	915
Type 245.3									
25	259/0.36	3.0	91/0.25	1.5	28/0.25	0.8	5.2	51.1	338
35	287/0.40	3.0	140/0.25	1.0	28/0.25	0.8	5.4	54.5	398
50	703/0.30	3.0	120/0.30	1.0	28/0.25	0.8	5.7	56.8	490
70	988/0.30	3.0	180/0.30	1.2	28/0.25	0.8	6.0	61.2	592
95	1332/0.30	3.0	235/0.30	1.2	28/0.25	0.8	6.4	66.6	739
120	1702/0.30	3.0	300/0.30	1.2	28/0.25	0.8	6.7	71.0	870
150	2146/0.30	3.0	375/0.30	1.2	28/0.25	0.8	7.0	75.2	1028
Type 245.6									
50	703/0.30	5.0	120/0.30	1.4	28/0.25	0.8	6.7	67.2	635
70	988/0.30	5.0	180/0.30	1.4	28/0.25	0.8	7.0	71.7	755
95	1332/0.30	5.0	235/0.30	1.4	28/0.25	0.8	7.4	77.1	905
120	1702/0.30	5.0	300/0.30	1.4	28/0.25	0.8	7.7	81.3	1050
150	2146/0.30	5.0	375/0.30	1.4	28/0.25	0.8	8.0	85.8	1210



Type 260 1.1 to 11KV

» Applications

These armoured cables are mainly used as feeder cables for power supply where mechanical protection and strength is required, and also can be the feeder to machinery and i.e. transportable mining substation (sand mining).

» Standards

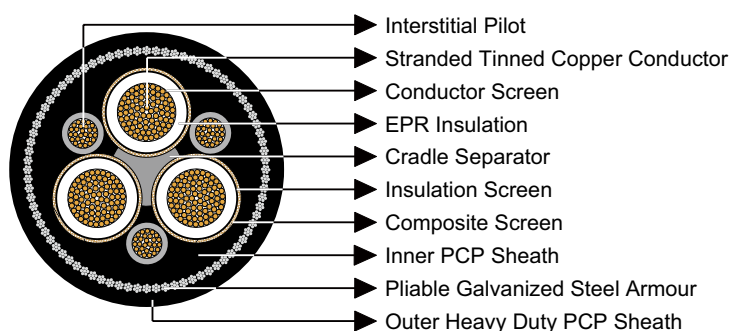
AS/NZS 1802:2003

AS/NZS 1125

AS/NZS 3808

AS/NZS 5000.1

» Construction



3×Conductors: Flexible stranded tinned annealed copper conductor.

Conductor Screen: Semiconductive compound (for cables having a voltage rating of 3.3/3.3kV and above).

Insulation: EPR.

Insulation Screen: Semiconductive elastomer.

Composite Screen (earth conductor): Tinned annealed copper braiding interwove with polyester yarn.

Cradle Separator: Semiconductive PCP.

3×Interstitial Pilot: EPR covered flexible stranded tinned copper conductor.

Inner Sheath: PCP sheath. CPE/CSP sheath can be offered upon request.

Caledonian Mining Cables

AS/NZS 1802:2003 Reeling & Trailing Cables



Pliable Armour: Galvanized low carbon (mild) steel strands.

Outer Sheath: Heavy duty PCP sheath. Heavy duty CPE/CSP sheath can be offered upon request.

» Dimensions and Weight

Nominal Conductor Area	Strand Size	Insulation Thickness	Core Screen		Pilot Conductor		Pliable Armour Size	Thickness of Sheath		Nominal Overall Diameter	Nominal Weight
			Strand Size	Area of Screen	Strand Size	Thickness of Covering		Inner	Outer		
mm ²	No/mm	mm	No/mm	mm ²	No/mm	mm	No/mm	mm	mm	mm	kg/100m
Type 260.1											
6	84/0.30	1.5	7/0.25	7.2	18/0.30	1.0	7/0.45	2.0	3.8	36.9	230
10	77/0.40	1.5	7/0.25	8.6	27/0.30	1.0	7/0.45	2.0	3.8	39.5	265
16	126/0.40	1.6	7/0.25	9.6	42/0.30	1.0	7/0.90	2.5	4.0	46.5	410
25	209/0.40	1.6	7/0.25	11.3	66/0.30	1.2	7/0.90	2.5	4.3	50.4	495
35	285/0.40	1.6	7/0.25	12.4	90/0.30	1.2	7/0.90	2.5	4.6	53.8	576
50	380/0.40	1.7	7/0.25	14.1	120/0.30	1.2	7/0.90	2.5	5.0	58.4	679
70	203/0.67	1.8	7/0.25	16.5	39/0.67	1.2	7/0.90	2.5	5.4	64.6	837
95	259/0.67	2.0	7/0.25	18.2	39/0.67	1.2	7/0.90	3.5	6.0	71.4	1003
120	336/0.67	2.1	7/0.25	20.3	42/0.67	1.4	7/0.90	3.5	6.4	77.2	1176
150	427/0.67	2.3	7/0.25	22.3	54/0.67	1.4	7/0.90	3.5	6.9	83.0	1372
185	518/0.67	2.5	7/0.30	30.2	63/0.67	1.4	7/0.90	3.5	7.4	90.0	1610
240	672/0.67	2.8	7/0.30	33.6	77/0.67	1.6	7/1.25	4.5	8.2	103.0	2150
300	854/0.67	3.0	7/0.40	50.1	98/0.67	1.6	7/1.25	4.5	8.8	112.1	2590
Type 260.3											
16	126/0.40	3.0	7/0.25	13.1	42/0.30	1.4	7/0.90	2.5	5.3	56.9	566
25	209/0.40	3.0	7/0.25	14.8	66/0.30	1.4	7/0.90	2.5	5.6	60.8	661
35	285/0.40	3.0	7/0.25	15.8	90/0.30	1.4	7/0.90	3.5	5.9	66.3	779
50	380/0.40	3.0	7/0.25	17.2	120/0.30	1.4	7/0.90	3.5	6.3	70.4	886
70	203/0.67	3.0	7/0.25	18.6	39/0.67	1.4	7/0.90	3.5	6.6	75.3	1044
95	259/0.67	3.0	7/0.25	20.3	39/0.67	1.4	7/0.90	3.5	7.1	78.9	1156
120	336/0.67	3.0	7/0.30	27.2	42/0.67	1.6	7/0.90	3.5	7.4	84.7	1350
150	427/0.67	3.0	7/0.40	39.6	54/0.67	1.6	7/1.25	4.5	7.8	95.0	1779
185	518/0.67	3.0	7/0.40	42.2	63/0.67	1.8	7/1.25	4.5	8.2	100.4	1990
240	672/0.67	3.0	7/0.40	46.6	77/0.67	1.8	7/1.25	4.5	8.8	107.3	2300



Nominal Conductor Area	Strand Size	Insulation Thickness	Core Screen		Pilot Conductor		Pliable Armour Size	Thickness of Sheath		Nominal Overall Diameter	Nominal Weight
			Strand Size	Area of Screen	Strand Size	Thickness of Covering		Inner	Outer		
mm ²	No/mm	mm	No/mm	mm ²	No/mm	mm	No/mm	mm	mm	mm	kg/100m
300	854/0.67	3.0	7/0.50	63.2	98/0.67	1.8	7/1.25	4.5	9.4	115.4	2710
Type 260.6											
16	126/0.40	5.0	7/0.25	17.2	42/0.30	1.4	7/0.90	3.5	6.4	70.1	796
25	209/0.40	5.0	7/0.25	18.6	66/0.30	1.4	7/0.90	3.5	6.7	74.0	897
35	285/0.40	5.0	7/0.25	18.6	90/0.30	1.6	7/0.90	3.5	7.0	77.4	990
50	380/0.40	5.0	7/0.25	21.3	120/0.30	1.6	7/0.90	3.5	7.3	81.2	1102
70	203/0.67	5.0	7/0.25	23.4	39/0.67	1.6	7/1.25	4.5	7.7	90.7	1456
95	259/0.67	5.0	7/0.30	29.2	39/0.67	1.6	7/1.25	4.5	8.1	94.8	1610
120	336/0.67	5.0	7/0.30	31.7	42/0.67	1.8	7/1.25	4.5	8.5	100.2	1807
150	427/0.67	5.0	7/0.40	45.7	54/0.67	1.8	7/1.25	4.5	8.9	106.2	2080
185	518/0.67	5.0	7/0.40	48.4	63/0.67	1.8	7/1.25	4.5	9.3	111.5	2300
240	672/0.67	5.0	7/0.40	52.8	77/0.67	1.8	7/1.25	4.5	9.9	118.4	2630
300	854/0.67	5.0	7/0.50	71.5	98/0.67	1.8	7/1.25	4.5	10.4	126.3	3060
Type 260.11											
25	209/0.40	7.6	7/0.25	23.7	66/0.30	2.0	7/1.25	4.5	8.1	92.7	1380
35	285/0.40	7.6	7/0.30	30.2	90/0.30	2.0	7/1.25	4.5	8.4	96.7	1528
50	380/0.40	7.6	7/0.30	31.7	120/0.30	2.0	7/1.25	4.5	8.7	100.6	1664
70	203/0.67	7.6	7/0.30	34.1	39/0.67	2.0	7/1.25	4.5	9.1	105.8	1867
95	259/0.67	7.6	7/0.40	47.5	39/0.67	2.0	7/1.25	4.5	9.6	110.7	2080
120	336/0.67	7.6	7/0.40	51.0	42/0.67	2.2	7/1.25	4.5	9.9	115.8	2290
150	427/0.67	7.6	7/0.40	53.7	54/0.67	2.2	7/1.25	4.5	10.3	120.5	2510
185	518/0.67	7.6	7/0.40	57.2	63/0.67	2.2	7/1.25	4.5	10.7	125.9	2750



Type 275 1.1/1.1KV

» Applications

These cables are mainly used as a flexible feeder for shuttle cars and pump. Earth cores designed to reduce instances of wire breaks during reeling while under tension.

» Standards

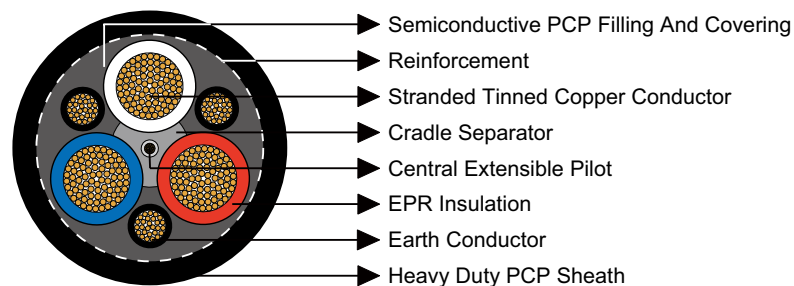
AS/NZS 1802:2003

AS/NZS 1125

AS/NZS 3808

AS/NZS 5000.1

» Construction



3×Conductors: Flexible stranded tinned annealed copper conductor.

Insulation: EPR.

Cradle Separator: Semiconductive PCP.

Overall Core Screen: Semiconductive PCP filling and covering.

3×Interstitial Earth Conductor: Semiconductive PCP covered flexible stranded tinned copper conductor.

1×Central Extensible Pilot: EPR covered flexible stranded tinned copper conductor.

Textile Reinforcement: Open-weave braid reinforcement.

Sheath: Heavy duty PCP sheath. Heavy duty CPE/CSP sheath can be offered upon request.



» Dimensions and Weight

Nominal Conductor Area	Strand Size	Insulation Thickness	Earth Conductor		Pilot Conductor		Thickness of Sheath Including SC PCP Layer	Nominal Overall Diameter	Nominal Weight
			Strand Size	Thickness of Covering	Strand Size	Thickness of Covering			
mm ²	No/mm	mm	No/mm	mm	No/mm	mm	mm	mm	kg/100m
Type 275									
16	126/0.40	1.6	60/0.30	1.0	24/0.20	0.8	3.8	30.2	145
25	209/0.40	1.6	100/0.30	1.0	24/0.20	0.8	4.0	33.9	204
35	285/0.40	1.6	140/0.30	1.0	24/0.20	0.8	4.3	37.9	270
50	380/0.40	1.7	99/0.40	1.0	40/0.20	0.8	4.7	41.6	333



Type 409 1.1 to 22KV

» Applications

Type 409 series cable is mainly used as a flexible feeder to machinery, more suitable as a trailing cable rather than for reeling. Smaller cables are used for drills and hand held tools and equipment, while larger ones are used for power supply to draglines, shovels and drills.

» Standards

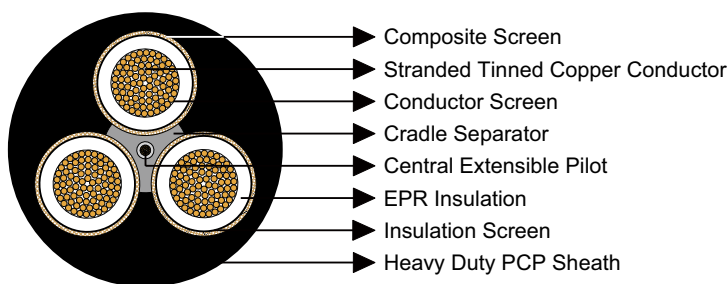
AS/NZS 2802:2000

AS/NZS 1125

AS/NZS 3808

AS/NZS 5000.1

» Construction



3×Conductors: Flexible stranded tinned annealed copper conductor.

Conductor Screen: Semiconductive compound (for cables having a voltage rating of 3.3/3.3kV and above).

Insulation: EPR.

Insulation Screen: Semiconductive elastomer.

Composite Screen (earth conductor): Tinned annealed copper braiding interwove with polyester yarn.

Cradle Separator: Semiconductive PCP.

1×Central Extensible Pilot: EPR covered flexible stranded tinned copper conductor.

Sheath: Heavy duty PCP sheath. Heavy duty CPE/CSP sheath can be offered upon request.



» Dimensions and Weight

Nominal Conductor Area	Strand Size	Insulation Thickness	Core Screen		Pilot Conductor		Thickness of Sheath	Nominal Overall Diameter	Nominal Weight
			Strand Size	Area of Screen	Strand Size	Thickness of Covering			
mm ²	No/mm	mm	No/mm	mm ²	No/mm	mm	mm	mm	kg/100m
Type 409.1 Class2									
6	84/0.30	1.5	7/0.25	7.2	24/0.20	0.8	3.8	30.0	129
10	77/0.40	1.5	7/0.25	8.6	24/0.20	0.8	3.8	32.6	157
16	126/0.40	1.6	7/0.25	9.6	24/0.20	0.8	4.0	35.8	197
25	209/0.40	1.6	7/0.25	11.3	24/0.20	0.8	4.3	39.7	255
35	285/0.40	1.6	7/0.25	12.4	24/0.20	0.8	4.6	43.1	312
50	380/0.40	1.7	7/0.25	14.1	40/0.20	0.8	5.0	47.7	386
70	203/0.67	1.8	7/0.25	16.5	40/0.20	0.8	5.4	53.9	503
95	259/0.67	2.0	7/0.30	21.8	40/0.20	0.8	6.0	59.3	622
120	336/0.67	2.1	7/0.30	24.7	40/0.20	0.8	6.4	65.1	760
150	427/0.67	2.3	7/0.40	36.1	40/0.20	0.8	6.9	72.1	960
185	518/0.67	2.5	7/0.40	40.5	40/0.20	0.8	7.4	78.6	1160
240	672/0.67	2.8	7/0.50	57.7	40/0.20	0.8	8.2	88.6	1490
300	854/0.67	3.0	7/0.50	63.2	40/0.20	0.8	8.8	96.3	1800
Type 409.3 Class2									
16	126/0.40	3.0	7/0.25	13.1	24/0.20	0.8	5.3	46.2	301
25	209/0.40	3.0	7/0.25	14.8	24/0.20	0.8	5.6	50.1	371
35	285/0.40	3.0	7/0.25	15.8	24/0.20	0.8	5.9	53.5	430
50	380/0.40	3.0	7/0.25	17.2	40/0.20	0.8	6.3	57.6	511
70	203/0.67	3.0	7/0.25	18.6	40/0.20	0.8	6.6	62.5	624
95	259/0.67	3.0	7/0.25	20.3	40/0.20	0.8	7.1	66.2	724
120	336/0.67	3.0	7/0.30	27.2	40/0.20	0.8	7.4	72.0	880
150	427/0.67	3.0	7/0.40	39.6	40/0.20	0.8	7.8	78.0	1079
185	518/0.67	3.0	7/0.40	42.2	40/0.20	0.8	8.2	83.4	1251
240	672/0.67	3.0	7/0.40	46.6	40/0.20	0.8	8.8	90.3	1502
300	854/0.67	3.0	7/0.50	63.2	40/0.20	0.8	9.4	98.4	1840
Type 409.6 Class2									
16	126/0.40	5.0	7/0.25	17.2	24/0.20	0.8	6.4	57.3	440
25	209/0.40	5.0	7/0.25	18.6	24/0.20	0.8	6.7	61.2	516



AS/NZS 2802:2000 Reeling & Trailing Cables

Nominal Conductor Area	Strand Size	Insulation Thickness	Core Screen		Pilot Conductor		Thickness of Sheath	Nominal Overall Diameter	Nominal Weight
			Strand Size	Area of Screen	Strand Size	Thickness of Covering			
mm ²	No/mm	mm	No/mm	mm ²	No/mm	mm	mm	mm	kg/100m
35	285/0.40	5.0	7/0.25	18.6	24/0.20	0.8	7.0	64.6	584
50	380/0.40	5.0	7/0.25	21.3	40/0.20	0.8	7.3	68.5	669
70	203/0.67	5.0	7/0.25	23.4	40/0.20	0.8	7.7	73.7	804
95	259/0.67	5.0	7/0.30	29.2	40/0.20	0.8	8.1	77.8	934
120	336/0.67	5.0	7/0.30	31.7	40/0.20	0.8	8.5	83.1	1090
150	427/0.67	5.0	7/0.40	45.7	40/0.20	0.8	8.9	89.1	1310
185	518/0.67	5.0	7/0.40	48.4	40/0.20	0.8	9.3	94.5	1479
240	672/0.67	5.0	7/0.40	52.8	40/0.20	0.8	9.9	101.4	1749
300	854/0.67	5.0	7/0.50	71.5	40/0.20	0.8	10.4	109.3	2120
Type 409.11 Class2									
25	209/0.40	7.6	7/0.25	23.7	24/0.20	0.8	8.1	75.6	750
35	285/0.40	7.6	7/0.30	30.2	24/0.20	0.8	8.4	79.7	859
50	380/0.40	7.6	7/0.30	31.7	40/0.20	0.8	8.7	83.6	954
70	203/0.67	7.6	7/0.30	34.1	40/0.20	0.8	9.1	88.8	1105
95	259/0.67	7.6	7/0.40	47.5	40/0.20	0.8	9.6	93.7	1290
120	336/0.67	7.6	7/0.40	51.0	40/0.20	0.8	9.9	98.8	1460
150	427/0.67	7.6	7/0.40	53.7	40/0.20	0.8	10.3	103.5	1636
185	518/0.67	7.6	7/0.40	57.2	40/0.20	0.8	10.7	108.8	1830
Type 409.22 Class2									
35	285/0.40	10.5	7/0.40	55.4	24/0.20	0.8	10.0	105.0	1405
50	380/0.40	10.5	7/0.40	58.1	40/0.20	0.8	10.3	108.9	1525
70	203/0.67	10.5	7/0.40	60.7	40/0.20	0.8	10.7	114.0	1710



Type 412 1.1/1.1KV

» Applications

These cables with green/yellow earths and pliable armour for mechanical protection may be used in applications where damage is likely and armour can reduce cases of costly downtime, suitable installed as feeder cables in sand mining operations.

» Standards

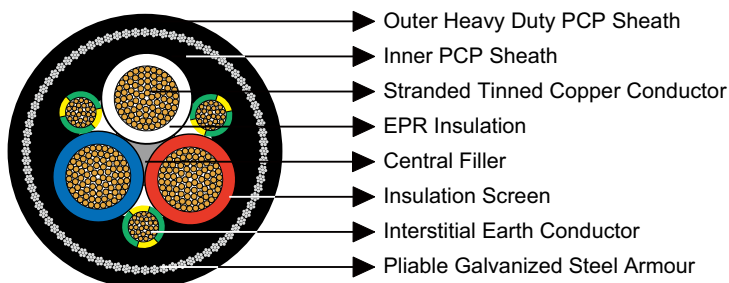
AS/NZS 2802:2000

AS/NZS 1125

AS/NZS 3808

AS/NZS 5000.1

» Construction



3×Conductors: Flexible stranded tinned annealed copper conductor.

Insulation: EPR.

Insulation Screen: Semiconductive elastomer.

Filler: Elastomer centre filler.

3×Interstitial Earth Conductor: EPR covered flexible stranded tinned copper conductor.

Inner Sheath: PCP sheath. CPE/CSP sheath can be offered upon request.

Pliable Armour: Galvanized low carbon (mild) steel strands.

Outer Sheath: Heavy duty PCP sheath. Heavy duty CPE/CSP sheath can be offered upon request.

Caledonian Mining Cables

AS/NZS 2802:2000 Reeling & Trailing Cables



» Dimensions and Weight

Nominal Conductor Area	Strand Size	Insulation Thickness	Earth Conductor		Pliable Armour Size	Thickness of Sheath		Nominal Overall Diameter	Nominal Weight
			Strand Size	Thickness of Covering		Inner	Outer		
mm ²	No/mm	mm	No/mm	mm	No/mm	mm	mm	mm	kg/100m
Type 412.1 Class2									
16	126/0.40	1.6	81/0.30	0.6	7/0.90	2.5	3.8	38.3	265
25	209/0.40	1.6	81/0.30	0.6	7/0.90	2.5	3.8	38.4	294
35	285/0.40	1.6	81/0.30	0.6	7/0.90	2.5	4.0	44.6	402
50	380/0.40	1.7	120/0.30	0.8	7/0.90	2.5	4.4	49.2	500
70	203/0.67	1.8	39/0.67	0.8	7/0.90	2.5	4.8	55.4	655
95	259/0.67	2.0	48/0.67	0.8	7/0.90	2.5	5.4	60.1	775
120	336/0.67	2.1	60/0.67	1.0	7/0.90	3.5	5.8	68.1	990
150	427/0.67	2.3	77/0.67	1.0	7/0.90	3.5	6.3	73.8	1186
185	518/0.67	2.5	91/0.67	1.0	7/0.90	3.5	6.8	80.2	1360
240	672/0.67	2.8	119/0.67	1.2	7/0.90	3.5	7.5	88.7	1670
300	854/0.67	3.0	156/0.67	1.2	7/1.25	4.5	8.2	100.9	2200



Type 440 1.1 to 22KV

» Applications

These cables are mainly used as flexible feeder trailing cables for power supply to machinery and equipment, include 3 large pilots and a central semiconductive cradle for support and protection of power cores.

» Standards

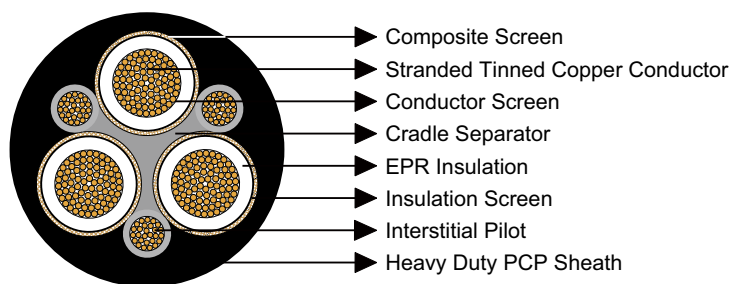
AS/NZS 2802:2000

AS/NZS 1125

AS/NZS 3808

AS/NZS 5000.1

» Construction



3×Conductors: Flexible stranded tinned annealed copper conductor.

Conductor Screen: Semiconductive compound (for cables having a voltage rating of 3.3/3.3kV and above).

Insulation: EPR.

Insulation Screen: Semiconductive elastomer.

Composite Screen (earth conductor): Tinned annealed copper braiding interwove with polyester yarn.

Cradle Separator: Semiconductive PCP.

3×Interstitial Pilot: EPR covered flexible stranded tinned copper conductor.

Sheath: Heavy duty PCP sheath. Heavy duty CPE/CSP sheath can be offered upon request.

Caledonian Mining Cables

AS/NZS 2802:2000 Reeling & Trailing Cables



» Dimensions and Weight

Nominal Conductor Area	Strand Size	Insulation Thickness	Core Screen		Pilot Conductor		Thickness of Sheath	Nominal Overall Diameter	Nominal Weight
			Strand Size	Area of Screen	Strand Size	Thickness of Covering			
mm ²	No/mm	mm	No/mm	mm ²	No/mm	mm	mm	mm	kg/100m
Type 440.1 Class2									
6	84/0.30	1.5	7/0.25	7.2	18/0.30	1.0	3.8	30.0	135
10	77/0.40	1.5	7/0.25	8.6	27/0.30	1.0	3.8	32.6	166
16	126/0.40	1.6	7/0.25	9.6	42/0.30	1.0	4.0	35.8	204
25	209/0.40	1.6	7/0.25	11.3	66/0.30	1.2	4.3	39.7	269
35	285/0.40	1.6	7/0.25	12.4	90/0.30	1.2	4.6	43.1	324
50	380/0.40	1.7	7/0.25	14.1	120/0.30	1.2	5.0	47.7	403
70	203/0.67	1.8	7/0.25	16.5	39/0.67	1.2	5.4	53.9	539
95	259/0.67	2.0	7/0.30	21.8	39/0.67	1.2	6.0	59.3	659
120	336/0.67	2.1	7/0.30	24.7	42/0.67	1.4	6.4	65.1	802
150	427/0.67	2.3	7/0.40	36.1	54/0.67	1.4	6.9	72.1	1018
185	518/0.67	2.5	7/0.40	40.5	63/0.67	1.4	7.4	78.6	1198
240	672/0.67	2.8	7/0.50	57.7	77/0.67	1.6	8.2	88.6	1549
300	854/0.67	3.0	7/0.50	63.2	98/0.67	1.6	8.8	96.3	1870
Type 440.3 Class2									
16	126/0.40	3.0	7/0.25	13.1	42/0.30	1.4	5.3	46.2	304
25	209/0.40	3.0	7/0.25	14.8	66/0.30	1.4	5.6	50.1	379
35	285/0.40	3.0	7/0.25	15.8	90/0.30	1.4	5.9	53.5	446
50	380/0.40	3.0	7/0.25	17.2	120/0.30	1.4	6.3	57.6	524
70	203/0.67	3.0	7/0.25	18.6	39/0.67	1.4	6.6	62.5	659
95	259/0.67	3.0	7/0.25	20.3	39/0.67	1.6	7.1	66.2	754
120	336/0.67	3.0	7/0.30	27.2	42/0.67	1.6	7.4	72.0	914
150	427/0.67	3.0	7/0.40	39.6	54/0.67	1.6	7.8	78.0	1119
185	518/0.67	3.0	7/0.40	42.2	63/0.67	1.6	8.2	83.4	1289
240	672/0.67	3.0	7/0.40	46.6	77/0.67	1.6	8.8	90.3	1559
300	854/0.67	3.0	7/0.50	63.2	98/0.67	1.6	9.4	98.4	1920
Type 440.6 Class2									
16	126/0.40	5.0	7/0.25	17.2	42/0.30	1.4	6.4	57.3	444
25	209/0.40	5.0	7/0.25	18.6	66/0.30	1.6	6.7	61.2	523



Nominal Conductor Area	Strand Size	Insulation Thickness	Core Screen		Pilot Conductor		Thickness of Sheath	Nominal Overall Diameter	Nominal Weight
			Strand Size	Area of Screen	Strand Size	Thickness of Covering			
mm ²	No/mm	mm	No/mm	mm ²	No/mm	mm	mm	mm	kg/100m
35	285/0.40	5.0	7/0.25	18.6	90/0.30	1.6	7.0	64.6	599
50	380/0.40	5.0	7/0.25	21.3	120/0.30	1.6	7.3	68.5	689
70	203/0.67	5.0	7/0.25	23.4	39/0.67	1.6	7.7	73.7	834
95	259/0.67	5.0	7/0.30	29.2	39/0.67	1.8	8.1	77.8	964
120	336/0.67	5.0	7/0.30	31.7	42/0.67	1.8	8.5	83.1	1119
150	427/0.67	5.0	7/0.40	45.7	54/0.67	1.8	8.9	89.1	1349
185	518/0.67	5.0	7/0.40	48.4	63/0.67	1.8	9.3	94.5	1529
240	672/0.67	5.0	7/0.40	52.8	77/0.67	1.8	9.9	101.4	1810
300	854/0.67	5.0	7/0.50	71.5	98/0.67	1.8	10.4	109.3	2190
Type 440.11 Class2									
25	209/0.40	7.6	7/0.25	23.7	66/0.30	2.0	8.1	75.6	759
35	285/0.40	7.6	7/0.30	30.2	90/0.30	2.0	8.4	79.7	869
50	380/0.40	7.6	7/0.30	31.7	120/0.30	2.0	8.7	83.6	974
70	203/0.67	7.6	7/0.30	34.1	39/0.67	2.0	9.1	88.8	1139
95	259/0.67	7.6	7/0.40	47.5	39/0.67	2.2	9.6	93.7	1319
120	336/0.67	7.6	7/0.40	51.0	42/0.67	2.2	9.9	98.8	1489
150	427/0.67	7.6	7/0.40	53.7	54/0.67	2.2	10.3	103.5	1679
185	518/0.67	7.6	7/0.40	57.2	63/0.67	2.2	10.7	108.8	1880
Type 440.22 Class2									
35	285/0.40	10.5	7/0.40	53.2	90/0.30	2.5	10.0	105.0	1270
50	380/0.40	10.5	7/0.40	54.1	120/0.30	2.5	10.3	108.9	1392
70	203/0.67	10.5	7/0.40	58.0	39/0.67	2.5	10.7	111.2	1558



Type 441 (class 2) 1.1/1.1KV

» Applications

These Class 2 cables are designed for many uses, suitable for trailing and also suitable for reeling applications, have one central pilot and a semiconductive cradle supporting and protecting the power cores, which makes these cables less likely to be damaged from crushing and squashing.

» Standards

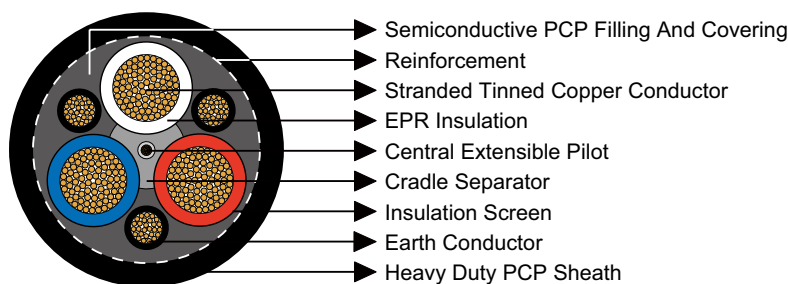
AS/NZS 2802:2000

AS/NZS 1125

AS/NZS 3808

AS/NZS 5000.1

» Construction



3×Conductors: Flexible stranded tinned annealed copper conductor.

Insulation: EPR.

Insulation Screen: Semiconductive elastomer.

Cradle Separator: Semiconductive PCP.

Overall Core Screen: Semiconductive PCP filling and covering.

3×Interstitial Earth Conductor: Semiconductive PCP covered flexible stranded tinned copper conductor.

1×Central Extensible Pilot: EPR covered flexible stranded tinned copper conductor.

Textile Reinforcement: Open-weave braid reinforcement.

Sheath: Heavy duty PCP sheath. Heavy duty CPE/CSP sheath can be offered upon request.



» Dimensions and Weight

Nominal Conductor Area	Strand Size	Insulation Thickness	Earth Conductor		Pilot Conductor		Thickness of Sheath	Nominal Overall Diameter	Nominal Weight
			Strand Size	Thickness of Covering	Strand Size	Thickness of Covering			
mm ²	No/mm	mm	No/mm	mm	No/mm	mm	mm	mm	kg/100m
Type 441.1 Class2									
6	84/0.30	1.5	33/0.30	0.8	24/0.20	0.8	3.8	28.5	111
10	77/0.40	1.5	51/0.30	0.8	24/0.20	0.8	3.8	31.1	136
16	126/0.40	1.6	81/0.30	1.0	24/0.20	0.8	3.9	34.1	176
25	209/0.40	1.6	81/0.30	1.0	24/0.20	0.8	4.2	37.9	231
35	285/0.40	1.6	81/0.30	1.0	24/0.20	0.8	4.4	41.2	274
50	380/0.40	1.7	120/0.30	1.0	40/0.20	0.8	4.9	45.9	349
70	203/0.67	1.8	39/0.67	1.0	40/0.20	0.8	5.3	52.2	481
95	259/0.67	2.0	48/0.67	1.0	40/0.20	0.8	5.8	56.7	579
120	336/0.67	2.1	60/0.67	1.0	40/0.20	0.8	6.3	62.7	724
150	427/0.67	2.3	77/0.67	1.2	40/0.20	0.8	6.7	68.3	881
185	518/0.67	2.5	91/0.67	1.2	40/0.20	0.8	7.3	74.9	1049
240	672/0.67	2.8	119/0.67	1.2	40/0.20	0.8	8.0	83.3	1329
300	854/0.67	3.0	156/0.67	1.4	40/0.20	0.8	8.7	91.2	1629



Type 441 (class 1) 3.3 to 22KV

» Applications

Type 441 Class 1 series cable has lower insulation and sheath radials than Class 2 cables, designed for many uses, suitable for trailing and also suitable for reeling applications, have one central pilot and a semiconductive cradle supporting and protecting the power cores, which makes these cables less likely to be damaged from crushing and squashing.

» Standards

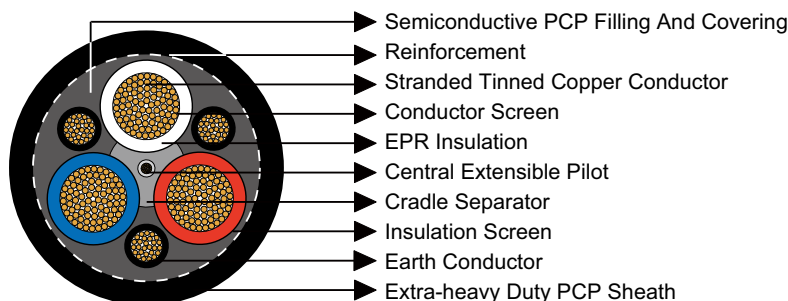
AS/NZS 2802:2000

AS/NZS 1125

AS/NZS 3808

AS/NZS 5000.1

» Construction



3×Conductors: Flexible stranded tinned annealed copper conductor.

Conductor Screen: Semiconductive compound (for cables having a voltage rating of 3.3/3.3kV and above).

Insulation: EPR.

Insulation Screen: Semiconductive elastomer.

Cradle Separator: Semiconductive PCP.

Overall Core Screen: Semiconductive PCP filling and covering.

3×Interstitial Earth Conductor: Semiconductive PCP covered flexible stranded tinned copper conductor.

1×Central Extensible Pilot: EPR covered flexible stranded tinned copper conductor.



Textile Reinforcement: Open-weave braid reinforcement.

Sheath: Extra-heavy duty PCP sheath. Extra-heavy duty CPE/CSP sheath can be offered upon request.

» Dimensions and Weight

Nominal Conductor Area	Strand Size	Insulation Thickness	Earth Conductor		Pilot Conductor		Thickness of Sheath	Nominal Overall Diameter	Nominal Weight
			Strand Size	Thickness of Covering	Strand Size	Thickness of Covering			
mm ²	No/mm	mm	No/mm	mm	No/mm	mm	mm	mm	kg/100m
Type 441.3 Class1									
16	126/0.40	2.2	81/0.30	1.0	24/0.20	0.8	4.6	43.0	241
25	209/0.40	2.2	81/0.30	1.0	24/0.20	0.8	4.9	46.9	304
35	285/0.40	2.2	81/0.30	1.0	24/0.20	0.8	5.2	50.3	359
50	380/0.40	2.4	120/0.30	1.0	40/0.20	0.8	5.7	55.5	446
70	203/0.67	2.4	39/0.67	1.0	40/0.20	0.8	6.0	60.4	571
95	259/0.67	2.4	48/0.67	1.2	40/0.20	0.8	6.4	63.6	659
120	336/0.67	2.4	60/0.67	1.2	40/0.20	0.8	6.5	68.6	794
150	427/0.67	2.4	77/0.67	1.2	40/0.20	0.8	6.6	72.7	931
185	518/0.67	2.4	91/0.67	1.4	40/0.20	0.8	6.7	77.4	1080
240	672/0.67	2.4	119/0.67	1.4	40/0.20	0.8	6.9	83.4	1310
300	854/0.67	2.4	156/0.67	1.4	40/0.20	0.8	7.0	89.2	1570
Type 441.6 Class1									
16	126/0.40	3.0	81/0.30	1.0	24/0.20	0.8	5.0	47.4	276
25	209/0.40	3.0	81/0.30	1.0	24/0.20	0.8	5.3	51.2	350
35	285/0.40	3.0	81/0.30	1.0	24/0.20	0.8	5.6	54.6	405
50	380/0.40	3.0	120/0.30	1.2	40/0.20	0.8	6.0	58.7	485
70	203/0.67	3.0	39/0.67	1.2	40/0.20	0.8	6.3	63.7	634
95	259/0.67	3.0	48/0.67	1.2	40/0.20	0.8	6.4	66.5	700
120	336/0.67	3.0	60/0.67	1.2	40/0.20	0.8	6.6	71.4	835
150	427/0.67	3.0	77/0.67	1.2	40/0.20	0.8	6.7	75.5	975
185	518/0.67	3.0	91/0.67	1.4	40/0.20	0.8	6.8	80.3	1130
240	672/0.67	3.0	119/0.67	1.4	40/0.20	0.8	7.0	86.2	1360
300	854/0.67	3.0	156/0.67	1.4	40/0.20	0.8	7.1	92.0	1650
Type 441.11 Class1									
25	209/0.40	5.0	81/0.30	1.2	24/0.20	0.8	6.3	62.2	481



AS/NZS 2802:2000 Reeling & Trailing Cables

Nominal Conductor Area	Strand Size	Insulation Thickness	Earth Conductor		Pilot Conductor		Thickness of Sheath	Nominal Overall Diameter	Nominal Weight
			Strand Size	Thickness of Covering	Strand Size	Thickness of Covering			
mm ²	No/mm	mm	No/mm	mm	No/mm	mm	mm	mm	kg/100m
35	285/0.40	5.0	81/0.30	1.4	24/0.20	0.8	6.4	65.2	542
50	380/0.40	5.0	120/0.30	1.4	40/0.20	0.8	6.5	68.6	620
70	203/0.67	5.0	39/0.67	1.4	40/0.20	0.8	6.6	73.1	750
95	259/0.67	5.0	48/0.67	1.4	40/0.20	0.8	6.8	76.2	850
120	336/0.67	5.0	60/0.67	1.4	40/0.20	0.8	6.9	80.9	986
150	427/0.67	5.0	77/0.67	1.4	40/0.20	0.8	7.0	85.0	1129
185	518/0.67	5.0	91/0.67	1.4	40/0.20	0.8	7.1	89.6	1289
240	672/0.67	5.0	119/0.67	1.4	40/0.20	0.8	7.3	95.7	1539
Type 441.22 Class1									
35	285/0.40	7.6	81/0.30	1.8	24/0.20	0.8	6.9	77.9	733
50	380/0.40	7.6	120/0.30	1.8	40/0.20	0.8	7.0	81.4	820
70	203/0.67	7.6	39/0.67	1.8	40/0.20	0.8	7.1	85.8	960
95	259/0.67	7.6	48/0.67	1.8	40/0.20	0.8	7.2	88.6	1070
120	336/0.67	7.6	60/0.67	1.8	40/0.20	0.8	7.3	93.4	1220
150	427/0.67	7.6	77/0.67	1.8	40/0.20	0.8	7.4	97.5	1380
185	518/0.67	7.6	91/0.67	1.8	40/0.20	0.8	7.6	102.4	1545



Type 450 3.3 to 33KV

» Applications

These cables are suitable for supply of power to a wide range of applications, from dragline cable to slow reeling applications, where copper screened cable is required but light weight and smaller dimensions are also desired.

» Standards

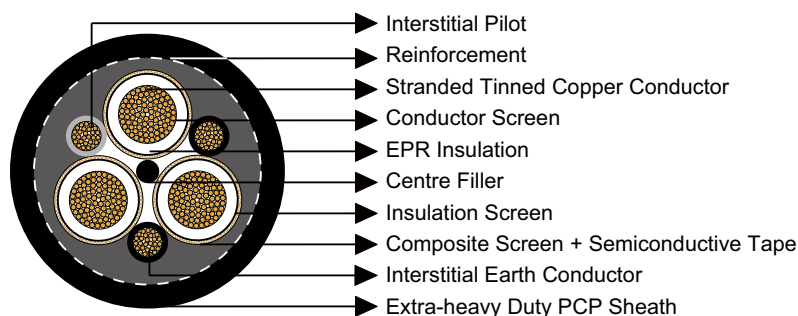
AS/NZS 2802:2000

AS/NZS 1125

AS/NZS 3808

AS/NZS 5000.1

» Construction



3×Conductors: Flexible stranded tinned annealed copper conductor.

Conductor Screen: Semiconductive compound (for cables having a voltage rating of 3.3/3.3kV and above).

Insulation: EPR.

Insulation Screen: Semiconductive elastomer.

Composite Screen: Tinned annealed copper braiding interwove with polyester yarn, covered with semiconductive tape.

Filler: Elastomer centre filler.

2×Interstitial Earth Conductor: CSP covered flexible stranded tinned copper conductor.

1×Interstitial Pilot: EPR covered flexible stranded tinned copper conductor.

Caledonian Mining Cables

AS/NZS 2802:2000 Reeling & Trailing Cables



Textile Reinforcement: Open-weave braid reinforcement.

Sheath: Extra-heavy duty PCP sheath. Extra-heavy duty CPE/CSP sheath can be offered upon request.

» Dimensions and Weight

Nominal Conductor Area	Strand Size	Insulation Thickness	Core Screen		Pilot/Earth Conductor		Thickness of Sheath	Nominal Overall Diameter	Nominal Weight
			Strand Size	Area of Screen	Strand Size	Thickness of Covering			
mm ²	No/mm	mm	No/mm	mm ²	No/mm	mm	mm	mm	kg/100m
Type 450.3 Class1									
16	126/0.40	2.2	128/0.25	6.3	120/0.30	1.4	4.5	42.8	266
25	209/0.40	2.2	118/0.30	8.3	120/0.30	1.4	4.8	46.9	338
35	285/0.40	2.2	127/0.30	9.0	120/0.30	1.4	5.1	50.3	392
50	380/0.40	2.4	141/0.30	10.0	183/0.30	1.4	5.6	55.5	487
70	203/0.67	2.4	117/0.40	14.7	54/0.67	1.4	6.0	61.1	637
95	259/0.67	2.4	123/0.40	15.5	70/0.67	1.6	6.3	64.3	734
120	336/0.67	2.4	135/0.40	17.0	84/0.67	1.6	6.4	69.0	867
150	427/0.67	2.4	144/0.40	18.1	112/0.67	1.6	6.6	73.3	1022
185	518/0.67	2.4	144/0.40	18.1	132/0.67	1.6	6.7	78.1	1175
240	672/0.67	2.4	136/0.50	26.7	168/0.67	1.6	6.9	84.5	1440
300	854/0.67	2.4	144/0.50	28.3	228/0.67	1.6	7.0	90.4	1741
Type 450.6 Class1									
16	126/0.40	3.0	118/0.30	8.3	120/0.30	1.4	5.0	47.6	317
25	209/0.40	3.0	129/0.30	9.1	120/0.30	1.6	5.2	51.2	382
35	285/0.40	3.0	139/0.30	9.8	120/0.30	1.6	5.5	54.7	443
50	380/0.40	3.0	149/0.30	10.5	177/0.30	1.6	5.9	58.8	534
70	203/0.67	3.0	123/0.40	15.5	54/0.67	1.6	6.3	64.3	682
95	259/0.67	3.0	130/0.40	16.3	70/0.67	1.8	6.4	67.1	771
120	336/0.67	3.0	141/0.40	17.7	84/0.67	1.8	6.5	71.9	912
150	427/0.67	3.0	144/0.40	18.1	112/0.67	1.8	6.6	76.0	1073
185	518/0.67	3.0	144/0.40	18.1	132/0.67	1.8	6.8	80.9	1222
240	672/0.67	3.0	141/0.50	27.7	168/0.67	1.8	7.0	87.4	1502
300	854/0.67	3.0	144/0.50	28.3	228/0.67	1.8	7.1	93.2	1790
Type 450.11 Class1									
25	209/0.40	5.0	120/0.40	15.1	120/0.30	2.0	6.3	62.8	542



Nominal Conductor Area	Strand Size	Insulation Thickness	Core Screen		Pilot/Earth Conductor		Thickness of Sheath	Nominal Overall Diameter	Nominal Weight
			Strand Size	Area of Screen	Strand Size	Thickness of Covering			
mm ²	No/mm	mm	No/mm	mm ²	No/mm	mm	mm	mm	kg/100m
35	285/0.40	5.0	127/0.40	16.0	120/0.30	2.0	6.4	65.8	601
50	380/0.40	5.0	135/0.40	17.0	183/0.30	2.0	6.5	69.3	692
70	203/0.67	5.0	144/0.40	18.1	54/0.67	2.0	6.6	73.8	826
95	259/0.67	5.0	144/0.40	18.1	70/0.67	2.2	6.7	76.6	926
120	336/0.67	5.0	144/0.40	18.1	84/0.67	2.2	6.9	81.6	1082
150	427/0.67	5.0	139/0.50	27.3	112/0.67	2.2	7.0	86.1	1263
185	518/0.67	5.0	144/0.50	28.3	132/0.67	2.2	7.1	90.8	1433
240	627/0.67	5.0	144/0.50	28.3	168/0.67	2.2	7.3	96.8	1690
300	854/0.67	5.0	144/0.50	28.3	228/0.67	2.2	7.4	102.7	2000
Type 450.22 Class1									
35	285/0.40	7.6	144/0.40	18.1	120/0.30	2.5	6.8	78.4	805
50	380/0.40	7.6	144/0.40	18.1	183/0.30	2.5	6.9	81.8	900
70	203/0.67	7.6	140/0.50	27.5	54/0.67	2.5	7.0	86.8	1070
95	259/0.67	7.6	144/0.50	28.3	70/0.67	2.5	7.2	89.8	1180
120	336/0.67	7.6	144/0.50	28.3	84/0.67	2.5	7.3	94.5	1350
150	427/0.67	7.6	144/0.50	28.3	112/0.67	2.5	7.4	98.6	1520
185	518/0.67	7.6	144/0.50	28.3	132/0.67	2.5	7.5	103.4	1700
240	627/0.67	7.6	144/0.50	28.3	168/0.67	2.5	7.7	109.4	1980
300	854/0.67	7.6	144/0.50	28.3	228/0.67	2.5	7.9	115.4	2310
Type 450.33 Class1									
50	380/0.40	10.5	144/0.50	28.3	183/0.30	2.5	7.4	96.9	1222
70	203/0.67	10.5	144/0.50	28.3	54/0.67	2.5	7.5	101.4	1385
95	259/0.67	10.5	144/0.50	28.3	70/0.67	2.5	7.7	104.4	1505
120	336/0.67	10.5	144/0.50	28.3	84/0.67	2.5	7.8	109.2	1680
185	518/0.67	10.5	144/0.50	28.3	132/0.67	2.5	8.0	118.0	2060
240	627/0.67	10.5	144/0.50	28.3	168/0.67	2.5	8.2	124.0	2360
300	854/0.67	10.5	144/0.50	28.3	228/0.67	2.5	8.4	130.1	2710



Type 455 3.3 to 33KV

» Applications

These cables are designed with reduced insulation and sheath thickness, no cradle, 2 earth and 1 pilot core (each earth and pilot are the same size) in the outer interstices. These cables are suitable for reeling and trailing applications where minimal diameter and mass is desired, particularly suited to stacker-reclaimer applications.

» Standards

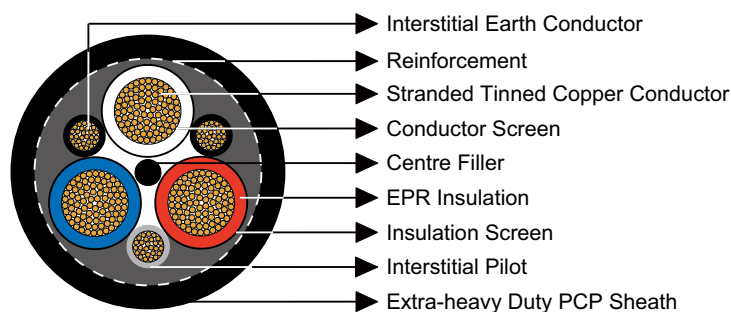
AS/NZS 2802:2000

AS/NZS 1125

AS/NZS 3808

AS/NZS 5000.1

» Construction



3×Conductors: Flexible stranded tinned annealed copper conductor.

Conductor Screen: Semiconductive compound (for cables having a voltage rating of 3.3/3.3kV and above).

Insulation: EPR.

Insulation Screen: Semiconductive elastomer.

Filler: Elastomer centre filler.

2×Interstitial Earth Conductor: CSP covered flexible stranded tinned copper conductor.

1×Interstitial Pilot: EPR covered flexible stranded tinned copper conductor.

Textile Reinforcement: Open-weave braid reinforcement.

Sheath: Extra-heavy duty PCP sheath. Extra-heavy duty CPE/CSP sheath can be offered upon request.



» Dimensions and Weight

Nominal Conductor Area	Strand Size	Insulation Thickness	Pilot/Earth Conductor		Thickness of Sheath	Nominal Overall Diameter	Nominal Weight
			Strand Size	Thickness of Covering			
mm ²	No/mm	mm	No/mm	mm	mm	mm	kg/100m
Type 455.3 Class1							
16	126/0.40	2.2	120/0.30	1.4	4.2	39.4	224
25	209/0.40	2.2	120/0.30	1.4	4.5	43.3	281
35	285/0.40	2.2	120/0.30	1.4	4.8	46.7	336
50	380/0.40	2.4	183/0.30	1.4	5.3	51.9	424
70	203/0.67	2.4	54/0.67	1.4	5.7	57.0	556
95	259/0.67	2.4	70/0.67	1.6	6.1	60.5	646
120	336/0.67	2.4	84/0.67	1.6	6.4	65.6	786
150	427/0.67	2.4	112/0.67	1.6	6.5	69.7	931
185	518/0.67	2.4	132/0.67	1.6	6.6	74.5	1072
240	672/0.67	2.4	168/0.67	1.6	6.8	80.5	1310
300	854/0.67	2.4	228/0.67	1.6	6.9	86.3	1600
Type 455.6 Class1							
16	126/0.40	3.0	120/0.30	1.4	4.7	43.9	266
25	209/0.40	3.0	120/0.30	1.6	5.0	47.8	332
35	285/0.40	3.0	120/0.30	1.6	5.3	51.3	387
50	380/0.40	3.0	183/0.30	1.6	5.6	55.1	466
70	203/0.67	3.0	54/0.67	1.6	6.0	60.3	597
95	259/0.67	3.0	70/0.67	1.8	6.3	63.5	692
120	336/0.67	3.0	84/0.67	1.8	6.5	68.5	826
150	427/0.67	3.0	112/0.67	1.8	6.6	72.6	977
185	518/0.67	3.0	132/0.67	1.8	6.7	77.3	1122
240	672/0.67	3.0	168/0.67	1.8	6.9	83.3	1361
300	854/0.67	3.0	228/0.67	1.8	7.0	89.1	1652
Type 455.11 Class1							
16	126/0.40	5.0	120/0.30	2.0	5.8	55.1	392
25	209/0.40	5.0	120/0.30	2.0	6.1	59.0	462
35	285/0.40	5.0	120/0.30	2.0	6.3	62.2	527
50	380/0.40	5.0	183/0.30	2.0	6.4	65.6	607
70	203/0.67	5.0	54/0.67	2.0	6.5	70.2	742
95	259/0.67	5.0	70/0.67	2.2	6.7	73.2	837
120	336/0.67	5.0	84/0.67	2.2	6.8	77.9	982
150	427/0.67	5.0	112/0.67	2.2	6.9	82.0	1143
185	518/0.67	5.0	132/0.67	2.2	7.0	86.8	1305
240	672/0.67	5.0	168/0.67	2.2	7.2	92.8	1553
Type 455.22 Class1							
16	126/0.40	7.6	120/0.30	2.5	6.6	68.5	578
25	209/0.40	7.6	120/0.30	2.5	6.6	71.7	653
35	285/0.40	7.6	120/0.30	2.5	6.7	74.7	719



AS/NZS 2802:2000 Reeling & Trailing Cables

Nominal Conductor Area	Strand Size	Insulation Thickness	Pilot/Earth Conductor		Thickness of Sheath	Nominal Overall Diameter	Nominal Weight
			Strand Size	Thickness of Covering			
mm ²	No/mm	mm	No/mm	mm	mm	mm	kg/100m
50	380/0.40	7.6	183/0.30	2.5	6.8	78.2	810
70	203/0.67	7.6	54/0.67	2.5	7.0	82.9	956
95	259/0.67	7.6	70/0.67	2.5	7.1	85.7	1061
120	336/0.67	7.6	84/0.67	2.5	7.2	90.5	1221
150	427/0.67	7.6	112/0.67	2.5	7.3	94.6	1392
185	518/0.67	7.6	132/0.67	2.5	7.4	99.3	1564
Type 455.33 Class1							
16	126/0.40	10.5	120/0.30	2.5	7.0	83.0	822
25	209/0.40	10.5	120/0.30	2.5	7.1	86.4	920
35	285/0.40	10.5	120/0.30	2.5	7.2	89.4	993
50	380/0.40	10.5	183/0.30	2.5	7.3	92.8	1092
70	203/0.67	10.5	54/0.67	2.5	7.4	97.4	1254
95	259/0.67	10.5	70/0.67	2.5	7.6	100.4	1372
120	336/0.67	10.5	84/0.67	2.5	7.7	105.1	1543
150	427/0.67	10.5	112/0.67	2.5	7.8	109.2	1720



Type 1 1.1/1.1KV Individually Screened

» Applications

These individually copper screened cables are used for wiring of machines, or between machines and equipment where PVC is suitable.

» Standards

AS/NZS 1972:2006

AS/NZS 1125

AS/NZS 3808

» Construction

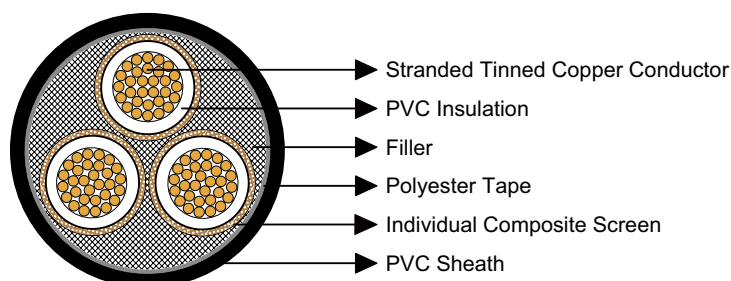
Conductors: Stranded copper conductor.

Insulation: PVC.

Individual Composite Screen (earth conductor): Tinned annealed copper braiding interwove with polyester yarn.

Binding: Polyester tape.

Sheath: PVC sheath.



» Dimensions and Weight

Number of Cores	Nominal Conductor Area	Strand Size	Insulation Thickness	Core Screen		Thickness of Sheath	Nominal Overall Diameter	Nominal Weight
				Strand Size	Area of Screen			
	mm ²	No/mm	mm	mm	mm ²	mm	mm	kg/100m
Type 1 - Individually Screened								
3	1.5	30/0.25	0.8	0.20	3.5	0.8	10.1	16
4	1.5	30/0.25	0.8	0.20	4.6	0.8	11.1	21
3	10	77/0.40	1.0	0.20	6.8	1.0	18.6	59
4	10	77/0.40	1.0	0.20	9.0	1.0	20.5	75
3	16	126/0.40	1.0	0.20	7.9	1.3	21.6	84
4	16	126/0.40	1.0	0.20	10.6	1.3	23.7	110



Type 1 1.1/1.1KV Collectively Screened

» Applications

These collectively copper screened cables are used for wiring of machines, or between machines and equipment where PVC is suitable.

» Standards

AS/NZS 1972:2006

AS/NZS 1125

AS/NZS 3808

» Construction

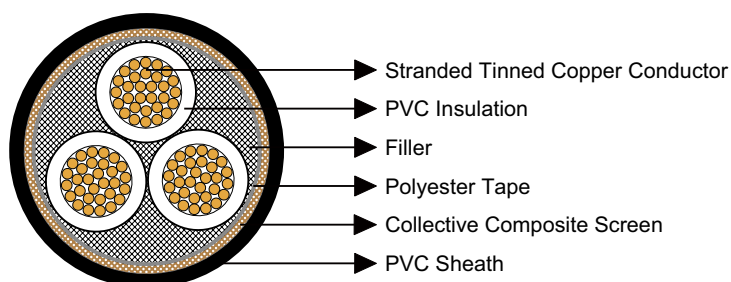
Conductors: Stranded copper conductor.

Insulation: PVC.

Bedding: Polyester tape.

Collective Composite Screen (earth conductor): Tinned annealed copper braiding interwove with polyester yarn.

Sheath: PVC sheath.



» Dimensions and Weight

Number of Cores	Nominal Conductor Area	Strand Size	Insulation Thickness	Core Screen		Thickness of Sheath	Nominal Overall Diameter	Nominal Weight
				Strand Size	Area of Screen			
	mm ²	No/mm	mm	mm	mm ²	mm	mm	kg/100m
Type 1 – Collectively Screened								
2	1.5	30/0.25	0.8	0.20	2.3	0.8	9.2	12
3	1.5	30/0.25	0.8	0.20	2.5	0.8	9.7	15
4	1.5	30/0.25	0.8	0.20	2.6	0.8	10.5	18
6	1.5	30/0.25	0.8	0.20	3.4	0.8	12.6	25
16	1.5	30/0.25	0.8	0.20	5.1	1.0	18.7	55
30	1.5	30/0.25	0.8	0.25	8.8	1.3	24.6	96



Type 2S 1.1/1.1KV & 3.3/3.3KV Individually Screened

» Applications

These individually copper screened cables are used for wiring of machines or between machines and equipment where a rubber cable is desired. These cables are also used for longwall lighting circuits, and may contain pilot and control cores or twisted pair and screened cores.

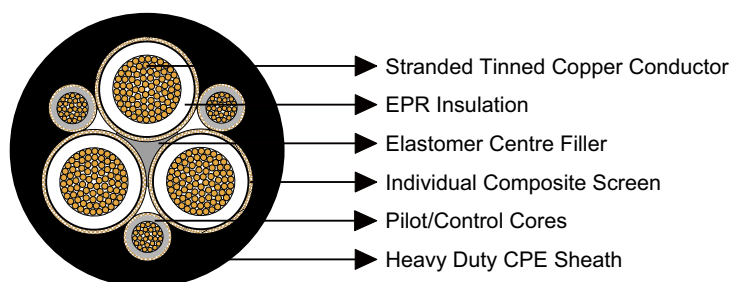
» Standards

AS/NZS 1972:2006

AS/NZS 1125

AS/NZS 3808

» Construction



Conductors: Stranded tinned annealed copper conductor.

Insulation: EPR.

Filling: Elastomer centre filler.

Pilot/Control Cores: EPR covered and composite screened flexible stranded tinned copper conductor.

Individual Composite Screen (earth conductor): Tinned annealed copper braiding interwove with polyester yarn.

Sheath: Heavy duty CPE sheath.

Caledonian Mining Cables

AS/NZS 1972:2006 Cables



» Dimensions and Weight

Number of Core	Nominal Conductor Area	Strand Size	Insulation Thickness	Core Screen		Pilot Conductor			Nominal Sheath Thickness	Nominal Overall Diameter	Nominal Weight
				Strand Size	Area of Screen	Number of Pilots	Strand Size	Thickness of Covering			
	mm ²	No/mm	mm	mm	mm ²		No/mm	mm	mm	mm	kg/100m
Type 2S 1.1/1kV Individually Screened											
3	10	77/0.40	1.2	0.2	7.9	3	–	–	1.8	22.1	69
4	10	77/0.40	1.2	0.2	7.9	4	–	–	1.8	23.0	93
2	16	126/0.40	1.2	0.2	9.0	2	–	–	1.8	22.0	81
3	16	126/0.40	1.2	0.2	9.0	3	–	–	1.8	23.4	100
4	16	126/0.40	1.2	0.2	9.0	4	–	–	1.8	26.8	135
3	10	77/0.40	1.2	0.2	7.9	3	30/0.20	1.0	1.8	22.5	87
2	16	126/0.40	1.2	0.2	9.0	2	30/0.20	1.0	1.8	22.7	88
3	16	126/0.40	1.2	0.2	9.0	3	30/0.20	1.0	1.8	27.7	130
3	25	209/0.40	1.4	0.2	11.3	3	30/0.20	1.0	1.8	29.2	165
3	35	285/0.40	1.4	0.2	12.4	3	30/0.20	1.0	1.8	31.6	200
3	50	380/0.40	1.6	0.25	17.5	3	30/0.20	1.0	1.9	36.1	260
Type 2S 1.1/1kV Individually and Collectively Screened											
30	1.5	30/0.25	1.0	0.3	14.0	–	–	–	1.9	32.6	170
Type 2S 3.3/3.3kV Individually Screened											
3	10	77/0.40	3.0	0.2	11.3	3	30/0.25	1.0	1.8	28.9	130
3	16	126/0.40	3.0	0.2	12.4	3	30/0.25	1.0	1.8	31.3	160
3	25	209/0.40	3.0	0.2	13.6	3	30/0.25	1.0	1.9	34.8	210
3	35	285/0.40	3.0	0.2	15.3	3	30/0.25	1.0	2.0	37.8	250
3	50	380/0.40	3.0	0.2	17.0	3	30/0.25	1.0	2.1	41.3	305
3	70	203/0.67	3.0	0.3	30.5	3	30/0.25	1.0	2.2	46.8	415
3	95	259/0.67	3.0	0.3	30.5	3	30/0.25	1.0	2.3	49.6	490
3	120	336/0.67	3.0	0.4	47.5	3	30/0.25	1.0	2.5	55.0	620



Type 2S 1.1/1.1KV & 3.3/3.3KV Collectively Screened

» Applications

These collectively copper screened cables are used for wiring of machines or between machines and equipment where a rubber cable is desired. These cables are also used for longwall lighting circuits, and may contain pilot and control cores or twisted pair and screened cores.

» Standards

AS/NZS 1972:2006

AS/NZS 1125

AS/NZS 3808

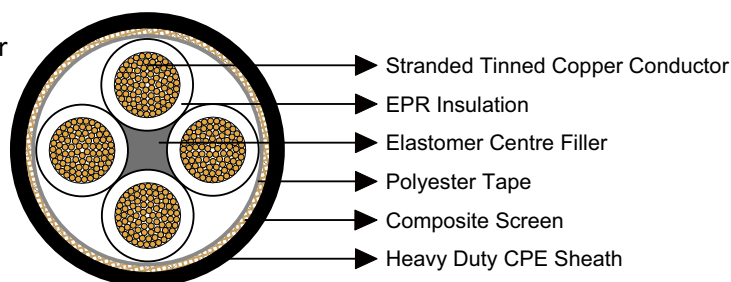
» Construction

Conductors: Stranded tinned annealed copper conductor.

Insulation: EPR.

Filling: Elastomer centre filler.

Bedding: Polyester tape.



Composite Screen (earth conductor): Tinned annealed copper braiding interwove with polyester yarn.

Sheath: Heavy duty CPE sheath.

» Dimensions and Weight

Number of Core	Nominal Conductor Area	Strand Size	Insulation Thickness	Core Screen		Nominal Sheath Thickness	Nominal Overall Diameter	Nominal Weight
				Strand Size	Area of Screen			
	mm ²	No/mm	mm	mm	mm ²	mm	mm	kg/100m
Type 2S 1.1/1kV Collectively Screened								
2	1.5	30/0.25	1.0	0.20	5.3	1.8	14.7	17
4	1.5	30/0.25	1.0	0.20	12.1	1.8	19.9	26
6	1.5	30/0.25	1.0	0.20	22.6	1.8	25.7	35
16	1.5	30/0.25	1.0	0.25	113.1	1.8	47.1	71
20	1.5	30/0.25	1.0	0.25	159.0	1.8	53.2	82



Type A & B 1.1/1.1KV

» Applications

These cables are used as 1.1kV cables to distribute power within the mine, suitable for use in underground coal mines. For Type A cables, optional 3 pilots can be selected.

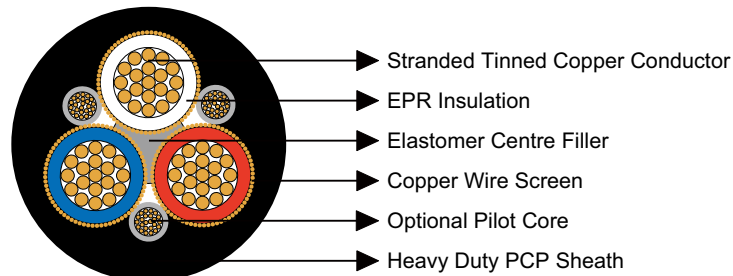
» Standards

AS/NZS 1972:2006

AS/NZS 1125

AS/NZS 3808

» Construction



Conductors: Stranded tinned annealed copper conductor.

Insulation: EPR.

Filling: Elastomer centre filler.

Optional Pilot Core (Type A only): CPE composite insulated and covered pilot conductor.

Screen (earth conductor): Copper wire.

Sheath: Heavy duty PCP sheath.



» Dimensions and Weight

Nominal Conductor Area	Strand Size	Insulation Thickness	Core Screen		Pilot Conductor		Nominal Sheath Thickness	Nominal Overall Diameter	Nominal Weight
			Strand Size	Area of Screen	Strand Size	Thickness of Covering			
mm ²	No/mm	mm	mm	mm ²	No/mm	mm	mm	mm	kg/100m
Type A & B									
16	7/1.70	1.4	48/0.40	6.0	24/0.20	1.6	2.5	24.6	120
25	19/1.35	1.4	57/0.40	7.2	32/0.20	1.8	2.5	28.0	170
35	19/1.53	1.5	63/0.40	7.9	30/0.25	1.8	2.5	30.4	205
50	19/1.78	1.7	72/0.40	9.0	50/0.25	2.0	3.0	34.9	270
70	19/2.14	1.8	67/0.50	13.2	80/0.25	2.0	3.3	40.2	370
95	19/2.52	2.0	77/0.50	15.1	80/0.25	2.0	3.8	46.1	490
120	37/2.03	2.2	65/0.67	22.9	80/0.25	2.0	3.8	51.1	615
150	37/2.25	2.3	70/0.67	24.7	80/0.25	2.0	4.4	56.0	740
185	37/2.52	2.5	78/0.67	27.5	80/0.25	2.0	5.1	62.3	915
240	61/2.25	2.7	45/1.35	64.4	80/0.25	2.0	5.7	72.9	1290



XLPE Insulated 6.35/11KV & 12.7/22KV

» Applications

These cables are used as HV feeder cables in fixed conditions.

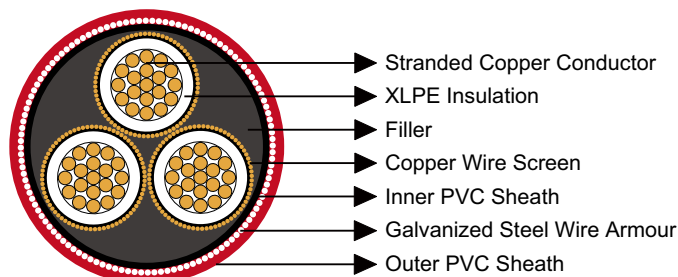
» Standards

AS/NZS 1972:2006

AS/NZS 1125

AS/NZS 3808

» Construction



Conductors: Stranded plain copper conductor.

Insulation: XLPE.

Individual Screen (earth conductor): Copper wire.

Inner Sheath: PVC sheath.

Armour: Galvanized steel wire armour.

Outer Sheath: PVC sheath to AS/NZS 1429.1.

» Dimensions and Weight

Nominal Conductor Area	Nominal Conductor Diameter	Insulation Thickness	Core Screen		Armour Wire Diameter	Nominal Sheath Thickness	Nominal Overall Diameter	Nominal Weight
			Strand Size	Area of Screen				
mm ²	mm	mm	mm	mm ²	mm	mm	mm	kg/100m
6.35/11kV								
16	4.8	3.4	10/0.85	5.7	2.00	2.4	46.6	330



Nominal Conductor Area	Nominal Conductor Diameter	Insulation Thickness	Core Screen		Armour Wire Diameter	Nominal Sheath Thickness	Nominal Overall Diameter	Nominal Weight
			Strand Size	Area of Screen				
mm ²	mm	mm	mm	mm ²	mm	mm	mm	kg/100m
25	5.8	3.4	10/0.85	5.7	2.50	2.5	50.1	415
35	6.8	3.4	11/0.85	6.2	2.50	2.6	52.8	475
50	8.0	3.4	15/0.85	8.5	2.50	2.7	55.7	540
70	9.6	3.4	21/0.85	11.9	2.50	2.8	59.6	645
95	11.5	3.4	29/0.85	16.5	2.50	2.9	63.9	775
120	13.1	3.4	36/0.85	20.4	2.50	3.1	67.9	905
150	14.5	3.4	44/0.85	25.0	2.50	3.2	71.5	1030
185	16.1	3.4	22/1.35	31.5	3.15	3.3	78.6	1280
240	18.5	3.4	29/1.35	41.5	3.15	3.5	84.7	1550
300	20.7	3.4	37/1.35	53.0	3.15	3.7	90.4	1820
400	23.6	3.4	47/1.35	67.3	3.15	4.0	97.9	2230
12.7/22kV								
35	6.8	5.5	14/0.85	7.9	2.5	2.9	63.2	600
50	8.0	5.5	15/0.85	8.5	2.5	3.0	66.0	665
70	9.6	5.5	21/0.85	11.9	2.5	3.1	69.9	775
95	11.5	5.5	29/0.85	16.5	2.5	3.3	74.4	920
120	13.1	5.5	36/0.85	20.4	3.15	3.4	79.5	1140
150	14.5	5.5	44/0.85	25.0	3.15	3.5	83.1	1280
185	16.1	5.5	22/1.35	31.5	3.15	3.7	89.1	1450
240	18.5	5.5	29/1.35	41.5	3.15	3.9	95.0	1720
300	20.7	5.5	37/1.35	53.0	3.15	4.1	101.1	2010
400	23.6	5.5	47/1.35	67.3	3.15	4.3	108.2	2420



Paper Insulated 11/11KV

» Applications

These cables are used as HV feeder cables in fixed conditions.

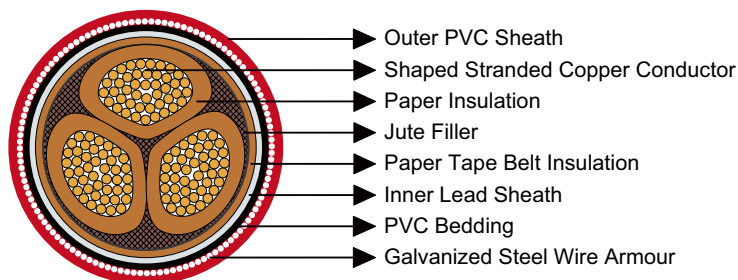
» Standards

AS/NZS 1972:2006

AS/NZS 1125

AS/NZS 3808

» Construction



Conductors: Sector shaped stranded copper conductor.

Insulation: Paper tape.

Filling: Jute fillers.

Insulation: Paper tape belt insulation.

Inner Sheath: Lead sheath.

Bedding: PVC sheath.

Armour: Galvanized steel wire armour.

Outer Sheath: PVC sheath to AS/NZS 1026.



» Dimensions and Weight

Nominal Conductor Area	Minimum Insulation Thickness		Nominal Lead Sheath Thickness	Armour Wire Diameter	Nominal Sheath Thickness	Nominal Overall Diameter	Nominal Weight
	Between Conductors	Between Conductors and Lead Sheath					
mm ²	mm	mm	mm	mm	mm	mm	kg/100m
25	5.6	5.4	1.8	2.5	2.4	47.9	630
35	5.6	5.4	1.8	2.5	2.5	50.3	695
50	5.6	5.4	1.8	2.5	2.5	50.1	725
70	5.6	5.4	1.9	2.5	2.6	53.5	855
95	5.6	5.4	2.0	2.5	2.6	57.2	1000
120	5.6	5.4	2.0	2.5	2.7	60.1	1120
150	5.6	5.4	2.1	2.5	2.8	63.0	1260
185	5.6	5.4	2.3	3.15	2.9	68.0	1540
240	5.6	5.4	2.4	3.15	3.0	73.1	1820
300	5.6	5.4	2.6	3.15	3.2	77.9	2120
400	5.6	5.4	2.7	3.15	3.4	83.5	2500



Cable Type Definition

» Cable Type Definition According to AS/NZS 1802

Type No.	Description	Voltage Designation kV
209	Semiconductive screened three-core cable with central pilot core	1.1/1.1 to 11/11
210	Composite screened three-core cable with central pilot core	1.1/1.1
240	Composite screened three-core cable with interstitial pilot cores	1.1/1.1 to 11/11
241	Semiconductive screened three-core cable with interstitial earth conductors and a central pilot core	1.1/1.1 to 11/11
245	Semiconductive screened three-core cable with interstitial earth conductors and three central pilot/control cores	1.1/1.1 to 3.3/3.3
260	Semiconductive screened pliable armoured three-core cable with interstitial pilot cores	1.1/1.1 to 11/11
275	Semiconductive screened three-core cable with interstitial earth conductors and a central pilot core	1.1/1.1

» Cable Type Definition According to AS/NZS 2802

Cable Class	Type No.	Description	Voltage Designation kV
Class 1	441	Semiconductive screened three-core cable with three interstitial earth conductors and a central pilot core	3.3/3.3 to 22/22
	450	Composite screened three-core cable with two interstitial earth conductors and one interstitial pilot core	3.3/3.3 to 33/33
	455	Semiconductive screened three-core cable with two interstitial earth conductors and one interstitial pilot core	3.3/3.3 to 11/11
Class 2	409	Composite screened three-core cable with a central pilot core	1.1/1.1 to 22/22
	412	Unscreened pliable armoured three-core cable with three interstitial earth cores (no pilot)	1.1/1.1 only
	440	Composite screened three-core cable with three interstitial pilot cores	1.1/1.1 to 22/22
	441.1	Semiconductive screened three-core cable with three interstitial earth conductors and a central pilot core	1.1/1.1 only



Caledonian Mining Cables

Technical Information

Reeling & Trailing Cable Electrical Characteristics

» A. Power Core Conductor Characteristic

Nominal Conductor Area	Strand Size	Nominal Conductor Diameter	Max. DC Resistance @20°C	Max. AC Resistance @90°C*	Nominal 3-Phase Voltage Drop*	Nominal Reactance*
mm ²	no/mm	mm	Ω/km	Ω/km	mV/A.m	Ω/km
1.5	30/0.25	1.6	14.0	17.4	30.1	0.17
2.5	50/0.25	2.0	8.37	10.5	18.2	0.15
6	84/0.30	3.5	3.39	4.33	7.5	0.14
10	77/0.40	4.6	2.02	2.58	4.5	0.13
16	126/0.40	5.7	1.24	1.57	2.7	0.12
25	209/0.40	7.6	0.746	0.936	1.6	0.11
35	285/0.40	8.8	0.547	0.675	1.2	0.10
50	380/0.40	10.1	0.410	0.523	0.92	0.10
70	203/0.67	12.1	0.271	0.346	0.62	0.097
70	570/0.40	12.4	0.271	0.346	0.62	0.096
95	259/0.67	13.3	0.212	0.270	0.50	0.095
95	475/0.50	14.5	0.208	0.266	0.49	0.093
120	336/0.67	15.4	0.164	0.209	0.40	0.092
120	608/0.50	16.2	0.162	0.208	0.39	0.091
150	427/0.67	17.2	0.129	0.166	0.33	0.091
150	777/0.50	18.1	0.127	0.163	0.32	0.089
185	518/0.67	19.3	0.106	0.137	0.28	0.089
240	672/0.67	23.0	0.0818	0.107	0.24	0.087
300	854/0.67	24.5	0.0644	0.0847	0.21	0.086

*The AC characteristics are valid for up to 1.1/1.1kV operating voltage and can be used as a guide for higher operating voltages.

Caledonian Mining Cables

Technical Information



» B. Continuous Current Carrying Capacity

Power Conductor Nominal Area	Cable Voltage Rating			
	Protected From Sun		Exposed To Sun	
	1.1/1.1kV	3.3/3.3kV–33/33kV	1.1/1.1kV	3.3/3.3–33/33kV
mm ²	A	A	A	A
1.5	23	–	18	–
2.5	30	–	23	–
6	49	–	38	–
10	66	–	51	–
16	88	89	67	66
25	120	120	90	89
35	145	145	110	105
50	170	170	125	125
70	220	220	160	155
95	250	250	185	180
120	295	295	210	210
150	340	340	245	240
185	385	385	270	265
240	455	450	315	310
300	515	510	355	350

» C. Current Rating Factor

Where the cable is wound on cylindrical or radial drum, the heat dispersion factor must be taken into consideration; therefore the current carrying capacity must be reduced by the derating factor:

Cylindrical Drum				
Number of layer on drum	1	2	3	4
Factor	0.85	0.65	0.45	0.35

Radial Drum	Ventilated	Unventilated
Factor	0.85	0.75

Variations in ambient temperature for cable installed in air or in underground

Ambient Temp	15°C	20°C	25°C	30°C	35°C	40°C	45°C	50°C	55°C	60°C	65°C	70°C	75°C	80°C	85°C
Conductor Temperature is 90°C	1.26	1.20	1.15	1.10	1.05	1.0	0.94	0.88	0.81	0.73	0.65	0.57	0.47	0.34	0.19

Continues Current Rating above is calculated based on the IEC60287 Standard and Australian typical environment: 40°C air ambient temperature, 0.8 solar radian absorption coefficients and 1000W/m² and the value is for guidance only.



Reeling & Trailing Cable Mechanical & Thermal Characteristics

» A. Cable Minimum Bending Radius

Installation condition	1.1/1.1kV	3.3/3.3~33/33kV
For dispatch drum barrel	6D	8D
For fixed bend	4D	6D
For free flexing	6D	10D
For permanently repeating reeling	10D	12D
For passing over sheaves	10D	15D

For XLPE and Paper insulated HV cables, bending radii is 18D (during installation) / 12D (installed).

» B. Cable Maximum Pulling Tension

For trailing the cable	20N/mm ² of the total cross-sectional area of phase conductor
For dragging the cable	calculated by $T = L * W * f * 10$, where T is the pulling tension, L is the length of cable to be pulled (m), W is the weight of the cable (kg/m), f is the friction coefficient (usually take as 0.5)

» C. Temperature.....

Maximum continuous conductor temperature: +90°C

Minimum continuous conductor temperature: -25°C



Reeling & Trailing Cable Material Characteristics

» A. Conductor Screen

All cables with a voltage rating of 3.3/3.3 kV and above have a cross-linked semiconductive elastomeric material extruded directly over the power core conductor through a triple extrusion process. Textile-reinforced Semiconductive tape or water barrier (water-proof) tape can be applied on special request or particular purposes.

» B. Insulation Screen

Semiconductive elastomer screen: The material used for insulation screen is cross-linked semiconductive elastomeric which directly applied over insulation of each power core.

Textile reinforced semiconductive tape screen: As an alternative to an elastomer screen, the textile-reinforced semiconductive tape screen may be applied over the insulation of power cores of 3.3/3.3kV Type 450 & 451 (Class 1) and 3.3/3.3kV up to and including 11/11kV Type 409 & 440 (Class 2). The semiconductive tape comprises a textile fabric, coated with a semiconductive elastomer and having a continuous print on one side identifying it as being semiconductive.

» C. Cradle separators / Earth Covering / Screen for Core Assembly

Semiconductive elastomer used in cradle separators, the interstitial earth conductor covering (other than for Type 412) and the screen for core assembly (Types 241, 245, 275 and 441 only) is a compound based on polychloroprene (PCP) which complies with the table below.

Test (per AS/NZS1802 / AS/NZS 2802)		Specified Value
A	Mechanical tests without ageing	
1	Tensile strength (MPa)	≥8.5
2	Elongation at rupture (percent)	≥200
3	Permanent set (percent)	≤ 20
B	Mechanical tests after ageing in air oven	
1	Tensile strength (MPa)	≥ 6.2
2	Elongation at rupture (percent)	≥ 50
C	Volume resistivity at 23°C (Ω.m)	≤1.0



Caledonian Mining Cables

Technical Information

» D. Power / Pilot Core Insulation

	AS /NZS 1802 reeling and trailing cable	AS /NZS 2802 reeling and trailing cable
Power Core Insulation	R-EP-90	XR-EP-90 (for class 1 cables) R-EP-90 (for class 2 cables)
Pilot Core Insulation	R-EP-90	XR-EP-90/R-EP-90

R-EP-90: a cross-linked compound based on ethylene propylene copolymer, terpolymer or a blend of the two, suitable for up to 90°C maximum continuous operating temperature.

XR-EP-90: a cross-linked compound based on ethylene propylene copolymer (EPM), or ethylene propylene terpolymer (EPDM or EPT), having enhanced properties compares with R-EP-90, suitable for up to 90°C maximum continuous operating temperature.

Test (per AS/NZS 1802/AS/NZS 2802)	R-EP-90		XR-EP-90
A Mechanical tests without ageing			
1 Tensile strength (MPa)	≥4.2		≥ 8.5
2 Elongation at rupture (percent)	≥200		≥200
B Mechanical tests after ageing in air oven			
1 Tensile strength (percentage of values found in unaged specimens)	≥70		≥75
2 Elongation at rupture (percentage of values found in unaged specimens)	≥70		≥ 75
C Hot set test			
1 Elongation under load (percent)	≤ 175		≤175
2 Residual elongation after cooling (percent)	≤ 15		≤15
D Electrical characteristics	≤1.1/1.1kV	≥3.3/3.3kV	
1 Insulation resistance constant (ki) at room temperature (GΩ.m)	≥1500	≥4000	≥4000
2 Insulation resistance constant (ki) at 90°C (GΩ.m)	≥1.5	≥4.0	≥ 4.0

» E. Metallic Composite Screen.....

Composite screen consists of tinned annealed copper interwoven with polyester yarn and each strand consists of seven copper wires with nominal diameter between 0.25 and 0.5mm to form a braid.

» F. Pliable Steel Strand Armour.....

Pliable amour comprises galvanized low carbon (mild) steel strands, each strand consist of seven wires helically over the inner sheath to provide close cover. The wires comply with the requirements of AS/NZS 3863.



» G. Sheath

Inner sheath (Type 206 and 412 only): GP-85-PCP (Standard), GP-90-CSP or GP-90-CPE to AS/NZS 3803.

Outer sheath:

AS1802 reeling and trailing cable	HD-85-CSP, HD-90-PCP or HD-90-CPE to AS/NZS 3808
AS2802 reeling and trailing cable	HD-85-CSP, HD-90-PCP or HD-90-CPE to AS/NZS 3808 (for class 2 cable); XHD-85-CSP, XHD-90-PCP or XHD-90-CPE to AS/NZS 3808 (for class 1 cable)

GP-85-PCP: General purpose cross-linked compound based on Polychloroprene, suitable for up to 85°C maximum continuous operating temperature.

GP-90-CSP: General purpose cross-linked compound based on chlorinated polyethylene, suitable for up to 90°C maximum continuous operating temperature.

GP-90-CPE: General purpose cross-linked compound based on Chlorosulphonated polyethylene, suitable for up to 90°C maximum continuous operating temperature.

HD-85-PCP, HD-90-CSP or HD-90-CPE is the heavy duty version of GP-85-PCP, GP-90-CSP or GP-90-CPE, and XHD is the extra-heavy duty version, the characteristic is as follow:

Test (except for D and E, per AS/NZS 1802/AS/NZS 2802)	GP-85-PCP	HD-85-PCP	XHD-85-PCP
A Mechanical tests without ageing			
1 Tensile strength (MPa)	≥8.5	≥11	≥12.5
2 Elongation at rupture (percent)	≥250	≥250	≥300
3 Tear resistance (N/mm)	—	≥ 5	≥7
B Mechanical tests after ageing in air oven			
1 Tensile strength (MPa)	≥6.2	≥8.5	≥8.5
2 Elongation at rupture (percent)	≥125	≥125	≥150
C Oil immersion test			
1 Tensile strength (percentage of values found in unaged specimens)	≥60	≥60	≥ 60
2 Elongation at rupture (percentage of values found in unaged specimens)	≥60	≥60	≥60
D Hot set test at 200±3°C, 200kPa for 15mins			
1 Elongation under load, maximum (percent)	≤175	≤175	≤175
2 Elongation after cooling, maximum (percent)	≤20	≤20	≤20
E Oxygen index	—	—	—



Caledonian Mining Cables

Technical Information

Core Identification of Reeling & Trailing Cable

» A. Core Identification Method

1	2	3	4	5
Type No.	Voltage Designation, KV			
	≤1.1/1.1		≥3.3/3.3	
	Power Cores	Covered Conductor(S)	Power Cores	Covered Conductor
209	(a) or (b) or (d)	(a)	(a) or (c) or (d)	(a)
210	(a) or (b) or (d)	(a)	-	-
240	(a) or (b) or (d)	(a) and (b)*	(a) or (c) or (d)	(a) and (b)*
241 and 245	(a) or (e)	(a)	(a) or (e)	(a)
260	(a) or (b) or (d)	(a) and (b)*	(a) or (c) or (d)	(a) and (b)*
275	(a)	(a)	-	-
409	(a) or (b) or (d)	(a)	(a) or (c) or (d)	(a)
412	(a) or (b)	(a) or (b)	-	-
440	(a) or (b) or (d)	(a)	(a) or (c) or (d)	(a) or (b)
441	(a) or (e)	-	(a) or (e)	(a)
450	-	-	(c) or (d) or (f)	(a)
455	-	-	(e)	(a)

(a): colour-coded insulation or covering.

(b): colour-coded or continuously numbered proofed tape over the insulation or covering.

(c): colour-coded or continuously numbered semiconductive tape over the insulation.

(d): colour-coded yarn in composite screen.

(e): Type 441 and 455----colour-coded or numbered semiconductive elastomer insulation screen, identifiable at intervals not greater than 300mm.

(f): Type 450----colour-coded or numbered semiconductive tape over the composite screen.

*: Grey or white tape may be used.

» B. Identification And Rotational Sequence

Type No.	Rotational sequence of core colours
209*	Red, White, Blue
210*	Red, White, Blue
240	Red, Grey, White, Grey, Blue, Grey
241*	Red, Black, White, Black, Blue, Black**
245***	Red, Black, White, Black, Blue, Black**

Caledonian Mining Cables

Technical Information



Type No.	Rotational sequence of core colours
260	Red, Grey, White, Grey, Blue, Grey
275*	Red, Black, White, Black, Blue, Black**
409	Red, White, Blue. The central pilot core is grey
412	Red, Green/Yellow, White, Green/Yellow, Blue, Green/Yellow
440	Red, Grey, White, Grey, Blue, Grey
441**	Red, Black, White, Black, Blue, Black. The central pilot core is grey
450**	Red, Black, White, Black, Blue, Grey
455	Red, Black, White, Black, Blue, Grey

*The central pilot conductor insulation in all cases is coloured grey.

**The earth conductors (Type 241, 245, 275, 441 and 450) are covered with semiconductive elastomer which is inherently black; it is not possible to assign the normal (green/yellow) earth colour identification to these conductors.

***The central pilot/control conductor insulation are coloured grey and numbered 1, 2 and 3.



UNITED KINGDOM

Marchants Industrial Centre,
Mill Lane, Laughton, Lewes,
East Sussex, BN8 6AJ, UK
Tel: 44 (0) 207 419 5087
Fax: 44 (0) 207 831 9489
Email: sales@caledonian-cables.co.uk
www.caledonian-cables.co.uk

HONG KONG

Unit B 22/F CMA Building,
64-66 Connaught Road Central,
Hong Kong
Tel: 852 36527508
Fax: 852 35834834
Email: hk@caledonian-cables.co.uk
www.caledonian-cables.co.uk