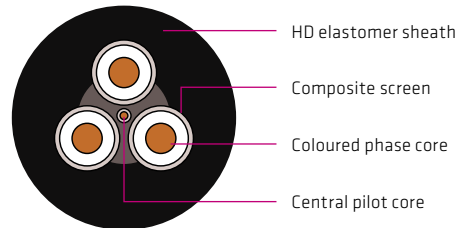


## Type 409 1.1-22 kV



### Cable description

Class 2 composite screened cable with central pilot.

### Application

Heavy duty trailing cable with good flexibility and high resistance to abrasion and weathering. Suitable for pumps, shovels, draglines, blasthole drill, etc. For improved performance, all cables (except 409.1 below 50 mm) incorporate a polyaramid yarn Kevlar® braid sheath reinforcement for exceptional tear and cut-through resistance. Cable designed for trailing and most reeling applications.

### Approvals

AS/NZS 2802

### Behaviour in flame and fire

Fire retardant

### Temperature range

Maximum operating temperature: +90 °C

Minimum operating temperature: -25 °C

### Flexibility

Flexible

### Resistance to

Chemical exposure: Very good/Frequent

Mechanical impact: Heavy

Water exposure: Immersion/Temporary coverage

Solar radiation and

weather exposure: Very good/Frequent

### Cable design

Composite screened power cores with a single extensible pilot.

Core: Metal: tinned copper, three core plus central pilot.

Conductor tape:  
1.1/1.1 kV – polyester.  
3.3 kV and above – semiconductive screen.

Insulation: Class 2 EPR (R-EP-90).

Insulation tape:  
1.1/1.1 kV – proofed textile  
3.3 kV and above – semiconductive screen

Screen: Composite screen (earth) of tinned annealed copper wire and polyester yarn.  
Core colours: red, white, blue.

Pilot: Single, in centre of cable.  
Maximum DC resistance;  
3 Ω/100 m for power cores to 35 mm<sup>2</sup>.  
2 Ω/100 m for power conductors above 35 mm<sup>2</sup>.

Sheath: Heavy duty HD-85-PCP, incorporating a polyaramid yarn Kevlar® braid reinforcement (optional).

### Installation conditions

In free air

Mobile equipment

Class 2 cables use standard insulation and sheath materials. For higher performance applications, particularly reeling operations.

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Physical & electrical characteristics

Type 409 1.1-22 kV											
Voltage rating & part number	Power conductor							Earth	Cable		
	Nominal area mm <sup>2</sup>	Nominal diameter mm	Insulation thickness mm	ac Resistance @ 90°C & 50Hz Ω/km	Reactance @ 50Hz Ω/km	3 phase voltage drop @ 90°C & 50Hz mV/A.m	Capacitance to earth μF/phase/km		Approx area (each) mm <sup>2</sup>	Sheath thickness mm	Nominal diameter mm
<b>Type 409.1</b>											
6-409-1	6	3.5	1.5	4.32	0.145	7.49	0.259	8.2	3.8	32.2	160
10-409-1	10	4.6	1.5	2.58	0.133	4.47	0.314	8.2	3.8	34.3	185
16-409-1	16	6.2	1.6	1.58	0.120	2.74	0.379	10	4.0	38.1	235
25-409-1	25	7.2	1.6	0.951	0.113	1.66	0.432	12	4.3	40.9	290
35-409-1	35	8.4	1.6	0.698	0.108	1.22	0.493	14	4.6	44.0	345
50-409-1	50	9.7	1.7	0.523	0.107	0.925	0.526	14	5.0	49.1	430
70-409-1	70	12.0	1.8	0.346	0.0997	0.624	0.599	16	5.4	54.8	550
95-409-1	95	13.3	2.0	0.271	0.0971	0.499	0.591	22	6.0	60.0	675
120-409-1	120	15.3	2.1	0.210	0.0932	0.398	0.640	25	6.4	65.2	815
150-409-1	150	17.2	2.3	0.166	0.0928	0.329	0.652	37	6.9	72.3	1025
185-409-1	185	18.8	2.5	0.137	0.0915	0.285	0.657	40	7.4	77.8	1200
240-409-1	240	21.7	2.8	0.106	0.0905	0.241	0.672	58	8.2	88.3	1555
300-409-1	300	24.3	3.0	0.0849	0.0883	0.212	0.719	63	8.8	95.7	1860
<b>Type 409.3</b>											
16-409-3	16	6.2	3.0	1.58	0.131	2.75	0.255	14	5.3	47.4	335
25-409-3	25	7.2	3.0	0.951	0.125	1.66	0.280	15	5.6	50.5	400
35-409-3	35	8.4	3.0	0.698	0.119	1.23	0.311	16	5.9	53.6	460
50-409-3	50	9.7	3.0	0.523	0.115	0.928	0.347	17	6.3	57.8	545
70-409-3	70	12.0	3.0	0.346	0.107	0.627	0.408	19	6.6	62.8	665
95-409-3	95	13.3	3.0	0.271	0.102	0.502	0.439	21	7.1	66.5	765
120-409-3	120	15.3	3.0	0.210	0.0985	0.402	0.492	28	7.4	72.0	935
150-409-3	150	17.2	3.0	0.166	0.0954	0.332	0.541	32	7.8	76.7	1095
185-409-3	185	18.8	3.0	0.137	0.0942	0.288	0.584	42	8.2	82.5	1290
240-409-3	240	21.7	3.0	0.106	0.0906	0.242	0.659	48	8.8	89.8	1560
300-409-3	300	24.3	3.0	0.0849	0.0890	0.213	0.727	63	9.4	97.8	1900
<b>Type 409.6</b>											
16-409-6	16	6.2	5.0	1.58	0.143	2.75	0.181	17	6.4	58.2	475
25-409-6	25	7.2	5.0	0.951	0.137	1.66	0.193	19	6.7	61.7	560
35-409-6	35	8.4	5.0	0.698	0.130	1.23	0.212	21	7.0	64.7	625
50-409-6	50	9.7	5.0	0.523	0.124	0.931	0.234	22	7.3	68.3	715
70-409-6	70	12.0	5.0	0.346	0.116	0.632	0.271	23	7.7	73.9	860
95-409-6	95	13.3	5.0	0.271	0.113	0.509	0.292	30	8.1	78.2	1005
120-409-6	120	15.3	5.0	0.210	0.108	0.409	0.325	32	8.5	83.4	1160
150-409-6	150	17.2	5.0	0.166	0.105	0.340	0.354	46	8.9	89.4	1380
185-409-6	185	18.8	5.0	0.136	0.102	0.294	0.381	49	9.3	93.7	1545
240-409-6	240	21.7	5.0	0.106	0.0981	0.250	0.426	53	9.9	101	1830
300-409-6	300	24.3	5.0	0.0845	0.0959	0.221	0.467	71	10.4	109	2195
<b>Type 409.11</b>											
25-409-11	25	7.2	7.6	0.951	0.150	1.67	0.150	24	8.1	76.1	810
35-409-11	35	8.4	7.6	0.698	0.143	1.23	0.163	30	8.4	79.8	920
50-409-11	50	9.7	7.6	0.523	0.136	0.936	0.178	32	8.7	83.2	1020
70-409-11	70	12.0	7.6	0.346	0.127	0.638	0.204	35	9.1	88.8	1185
95-409-11	95	13.3	7.6	0.271	0.124	0.516	0.219	48	9.6	93.9	1365
120-409-11	120	15.3	7.6	0.210	0.119	0.418	0.241	53	9.9	98.8	1540
150-409-11	150	17.2	7.6	0.165	0.114	0.347	0.261	56	10.3	104	1730
185-409-11	185	18.8	7.6	0.136	0.111	0.304	0.279	56	10.7	108	1900
240-409-11	240	21.7	7.6	0.106	0.107	0.261	0.309	77	11.3	116	2280
<b>Type 409.22</b>											
35-409-22	35	8.4	10.5	0.698	0.160	1.24	0.147	53	10.0	102	1420
50-409-22	50	9.7	10.5	0.523	0.153	0.944	0.159	56	10.3	106	1540
70-409-22	70	12.0	10.5	0.346	0.143	0.648	0.178	60	10.7	111	1735
95-409-22	95	13.3	10.5	0.271	0.138	0.527	0.189	62	11.1	115	1870