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Australia Pacific Electric Cables Pty Ltd
ABN 23 568 447 762

Cables Technical Specification - Multicore Electric Power Cables X90/PVC/SWA/PVC AS/NZS 5000.1

Drawing:



Cable Configuration:

Cu Class 2/X90/PVC/SWA/PVC 0.6/1kV

Cable Construction:

Conductor:

Plain Annealed Copper Class 2

Filler:

PVC / PP Yarn

Binder:

Binder tape (Mylar / Non woven / Polyester / Mica)

Insulation:

X90

Bedding:

PVC 5V-90

Armouring:

Galvanized Steel wire armour

Outer Sheath:

PVC 5V-90

Operating Temperature:

Conductor:

-25°C to 90°C

Short Circuit (5 secs):

250°C

The minimum ambient temperature is 0°C after insulation and only when cables in a fixed position

Colour Identification:

Insulation:

Red, White, Blue, Green/Yellow (Earth)

Bedding:

Orange/Black

Outer Sheath:

Orange (Black optional - TBA)

Electrical Characteristics:

Voltage Rating:

0.6/1kV

HV Test for 5 mins:

3.5kV

Maximum continuous conductor operating temperature:

90°C

Minimum Insulation Resistance constant @20°C:

3000GΩ.m

Minimum Insulation Resistance constant @90°C:

3GΩ.m

Mechanical Characteristics:

Maximum of Minimum Bending Radii

During installation-18OD, Fixed-12OD

Maximum Safe Pulling Tension (Subject to a maximum of 22kN)

0.07 x Total CSA

Standard Compliance:

AS/NZS 5000.1

Part 1: For working voltages up to and including 0.6/1 (1.2kV)

AS/NZS 3863

Galvanized mild steel wire for armouring cables

AS/NZS 3808

Insulating and sheathing materials for electric cables

AS/NZS 3008

Electrical installations—Selection of cables-Part 1.1: Cables for alternating voltages up to and including 0.6/1 kV—Typical Australian installation conditions

AS/NZS 1660

Test methods for electric cables, cords and conductors

AS/NZS 1574

Copper and Copper alloys - wire for electrical purposes

AS/NZS 1125

Conductors in insulated electric cables and flexible cords

Technical data

Items Description		Unit	Average Values															
Product Code		-	MXS105E03	MXS205E03	MXS004E03	MXS006E03	MXS010E03	MXS016E03	MXS025E03	MXS035E03	MXS050E03	MXS070E03	MXS095E03	MXS120E03	MXS150E03	MXS185E03	MXS240E03	MXS300E03
No. of cores		-	3C + E															
Active Conductor	Cross Section Area	mm²	1.5	2.5	4	6	10	16	25	35	50	70	95	120	150	185	240	300
	No. of Wires	-	7	7	7	7	7	19	19	19	19	19	19	37	37	37	61	61
	Max. Diameter of wires	mm	0.5	0.67	0.85	1.04	1.35	1.70	1.30	1.53	1.78	2.14	2.52	2.03	2.25	2.52	2.25	2.52
	Nominal Conductor Dia	mm	1.5	2.01	2.55	3.12	4.05	5.10	6.50	7.65	8.90	10.70	12.60	14.21	15.75	17.64	20.25	22.68
	*Nominal Insulation Thickness	mm	0.7	0.7	0.7	0.7	0.7	0.7	0.9	0.9	1.0	1.1	1.1	1.2	1.4	1.6	1.7	1.8
Earth Conductor	Core Diameter	mm	2.9	3.41	3.95	4.52	5.45	6.57	8.39	9.54	11.00	13.01	14.91	16.73	18.69	20.84	23.65	26.28
	Cross Section Area	mm²	1.5	2.5	2.5	2.5	4	6	6	10	16	25	25	35	50	70	95	120
	No. of Wires	-	7	7	7	7	7	7	7	7	7	19	19	19	19	19	19	37
	Max. Diameter of wires	mm	0.5	0.67	0.67	0.67	0.85	1.04	1.04	1.35	1.7	1.3	1.3	1.53	1.78	2.14	2.52	2.03
	Nominal Conductor Dia	mm	1.5	2.01	2.01	2.01	2.55	3.12	3.12	4.05	5.10	6.50	6.50	7.65	8.90	10.70	12.60	14.21
Filler	*Nominal Insulation Thickness	mm	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.9	0.9	0.9	1.0	1.1	1.1	1.1	1.2
	Core Diameter	mm	2.9	3.41	3.41	3.41	3.95	4.59	4.59	5.52	6.57	8.39	8.39	9.54	11.00	12.90	14.80	16.61
Filler		-	PVC / PP Yarn (Where required)															
Binder Tape (Tapping overlap ≥ 25%)		mm	Mylar/Non-woven/Polyester/Mica Tape (Where required)															
Nominal Bedding Thickness		mm	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.2	1.2	1.4	1.4	1.4	1.6	1.6	1.6
Armour (Galvanized steel wire armour)		mm	0.8	0.80	0.80	1.25	1.25	1.25	1.60	1.60	1.60	2.00	2.00	2.00	2.50	2.50	2.50	2.50
Nominal Sheath Thickness		mm	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	2.2	2.3	2.5	2.7	2.9	3.1	3.2
Approximate Overall Diameter (±10%)		mm	15.4	16.7	17.6	19.6	21.1	23.3	26.9	29.1	32.8	38.9	42.0	46.3	52.3	57.8	63.5	69.0
Approximate Mass (±10%)		kg/km	400	489	562	790	980	1240	1770	2180	2840	4050	4920	6000	7770	9400	11620	13900
Maximum Conductor DC Resistance @ 20°C	Phase	Ω/km	13.6	7.41	4.61	3.08	1.83	1.15	0.727	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601
	Earth	Ω/km	13.6	7.41	7.41	7.41	4.61	3.08	3.080	1.830	1.150	0.727	0.727	0.524	0.387	0.268	0.193	0.153
Maximum of Minimum Bending Radii	During installation	mm	277.2	300.6	316.8	352.8	379.8	419.4	484.2	523.8	590.4	700.2	756.0	833.4	941.4	1040.4	1143.0	1242.0
	Fixed	mm	184.8	200.4	211.2	235.2	253.2	279.6	322.8	349.2	393.6	466.8	504.0	555.6	627.6	693.6	762.0	828.0
Maximum Safe Pulling Tension		kN	0.420	0.700	1.015	1.435	2.380	3.780	5.670	8.050	11.620	16.450	21.700	22.000	22.000	22.000	22.000	22.000

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