



Australia Pacific Electric Cables Pty Ltd
ABN 23 068 447 763

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Technical Specification - Bare Copper Wire

Drawing



Copper Configuration:

Annealed Bare Copper Class 2 Standard to AS/NZS 1125

Standard Compliance:

AS/NZS 1125 Conductors in insulated electric cables and flexible cords

AS/NZS 1574 Copper and Copper alloys - wire for electrical purposes

AS/NZS 1660 Test methods for electric cables, cords and conductors

Technical Data

Product Code	CSA	No. of Wires	Wire OD	Overall Diameter (±10%)	Max. Conductor Pulling Tension	Min. Bending Radius-Fixed	Min. Bedding Radius-during installation	Conducotor Resistance @20℃	Approx Weight
	mm ²	mm	mm	mm	kN	mm	mm	Ω/km	kgs/km
BCC010	10	7	1.35	4.05	0.70	16	24	1.83	90.96
BCC016	16	7	1.70	5.10	1.12	20	31	1.15	144.24
BCC0257	25	7	2.14	6.42	1.75	26	39	0.727	228.56
BCC025	25	19	1.30	6.50	1.75	26	39	0.727	228.94
BCC035	35	19	1.53	7.65	2.45	31	46	0.524	317.11
BCC050	50	19	1.78	8.90	3.50	36	53	0.387	429.21
BCC070	70	19	2.14	10.70	4.90	43	64	0.268	620.38
BCC095	95	19	2.52	12.60	6.65	50	76	0.193	860.27
BCC120	120	37	2.03	14.21	8.40	57	85	0.153	1087.11
BCC150	150	37	2.25	15.75	10.50	63	95	0.124	1335.51
BCC185	185	37	2.52	17.64	12.95	71	106	0.0991	1675.26
BCC240	240	61	2.25	20.25	16.80	81	122	0.0754	2201.79
BCC300	300	61	2.52	22.68	21.00	91	136	0.0601	2761.92
BCC400	400	61	2.85	25.65	22.00	154	231	0.047	3532.64
BCC500	500	61	3.20	28.80	22.00	173	259	0.0366	4453.59
BCC630	630	91	3.00	33.00	22.00	198	297	0.0283	5839.34

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Cables Technical Specification - SDI Single Core Flexible Power Cables XLPE (X90) Insulated/PVC sheathed AS/NZS 5000.1

* Cable drawing



Cable Configuration:

Cu Class 5/X90/PVC 0.6/1kV

Cable Construction:

Conductor: Plain Annealed Copper Class 5 to AS/NZS 1125
Binder Tape: Mylar/Non-woven/Polyester/Mica Tape (where required)
Insulation: X90
Sheath: Weatherability PVC 5V-90 to AS/NZS 3808

Technical data

Items		Unit	Average Values														
Product code	For black sheath For orange sheath	-	FXV010 FXV010WO	FXV016 FXV016WO	FXV025 FXV025WO	FXV035 FXV035WO	FXV050 FXV050WO	FXV070 FXV070WO	FXV095 FXV095WO	FXV120 FXV120WO	FXV150 FXV150WO	FXV185 FXV185WO	FXV240 FXV240WO	FXV300 FXV300WO	FXV400 FXV400WO	FXV500 FXV500WO	FXV630 FXV630WO
Number of Cores	-	-	Single Core (1C)														
Conductor Cross section Area (CSA)		mm ²	10	16	25	35	50	70	95	120	150	185	240	300	400	500	630
Maximum total number of wires		mm	73	116	181	256	365	333	437	563	702	851	1133	1406	1861	2318	3111
Maximum diameter of wires in conductor		mm	0.41	0.41	0.41	0.41	0.41	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51
Conductor diameter		mm	3.94	5.39	6.68	8.51	10.12	11.55	13.08	14.96	16.60	18.30	21.30	23.60	27.40	30.70	35.50
Binder Tape (overlapping ≥25%)		mm	Mylar/Non-woven/Polyester/Mica Tape (if required)														
*Average Insulation Thickness		mm	0.7	0.7	0.9	0.9	1.0	1.1	1.1	1.2	1.4	1.6	1.7	1.8	2.0	2.2	2.4
Overall Insulation Diameter		mm	5.9	7.4	9.1	10.9	12.7	14.4	15.9	18.0	20.0	22.1	25.3	27.8	32.0	35.7	40.9
*Average Sheath Thickness		mm	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.6	1.6	1.7	1.8	1.9	2.0	2.2
Overall Sheath Diameter (±10%)		mm	8.7	10.2	11.9	13.7	15.5	17.2	18.9	21.0	23.2	25.5	28.9	31.6	36.0	39.9	45.5
Cable Gross Mass (±10%)		kg/km	149	221	335	445	579	790	1039	1298	1610	1956	2495	3081	4010	5120	6350
Maximum Conductor DC Resistance @ 20°C		Ω/km	1.91	1.21	0.78	0.554	0.386	0.272	0.206	0.161	0.129	0.106	0.0801	0.0641	0.0486	0.0384	0.0287
Minimum Bending Radius	During installation	mm	52	61	71	82	93	103	113	126	139	153	173	190	216	239	273
	Fixed	mm	35	41	48	55	62	69	76	84	93	102	116	126	144	160	182
Maximum Safe Pulling Tension (Subject to a maximum of 22kN)		kN	0.7	1.12	1.75	2.45	3.5	4.9	6.65	8.4	10.5	12.95	16.8	21.0	22.0	22.0	22.0
Remark: O- Orange sheath																	

Remark: O- Orange sheath

Colour Identification:

Insulation: White
Sheath: Orange / Black

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

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

Mechanical Characteristics:

Minimum Bending Radius: During installation-60D, Fixed-40D
Maximum Safe Pulling Tension: 0.07 x Total Conductor CSA

Cable Markings:

APEC YEAR X90 ELECTRIC CABLE 0.6/1 KV SIZE SQMM CU AS/NZS 5000.1

Standard Compliance:

AS/NZS 5000.1 Part 1: For working voltages up to and including 0.6/1 (1.2kV)
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

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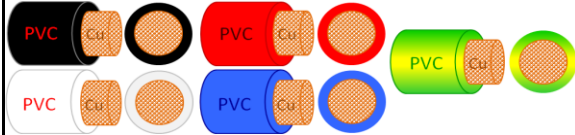


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Cables Technical Specification - Building Wire Cables PVC Insulated (Unsheathed) AS/NZS 5000.1

* Cable drawing (Cu/PVC)



Cable Configuration:

Cu Class 2/PVC 0.6/1kV

Cable Construction:

Conductor: Plain Annealed Copper Class 2 to AS/NZS 1125
Insulation: PVC V-90 to AS/NZS 3808

Colour Identification:

Insulation: Red, White, Blue, Black, Green/Yellow

Electrical Characteristics:

Voltage Rating: 0.6/1kV
HV Test for 5 mins: 3.5kV
Max. continuous conductor operating temperature: 90°C
Min. Insulation Resistance constant @20°C: 40GΩ.m
Min. Insulation Resistance constant @90°C: 0.002GΩ.m

Operating Temperature:

Conductor -25°C to 90°C
Short Circuit (5 secs) 160°C

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

Cable Markings:

For printing marking 16mm² & below - " APEC CURRENT YEAR V90 ELECTRIC CABLE 0.6/1 kV 16SQMM CU E5783  AZ 69023452 "

For printing marking 25mm² & above - " APEC CURRENT YEAR V90 ELECTRIC CABLE 0.6/1 kV 25SQMM CU "

Standard Compliance:

AS/NZS 5000.1 Part 1: For working voltages up to and including 0.6/1 (1.2kV)
AS/NZS 4417 Regulatory compliance mark (RCM) for electrical and electronic equipment (Apply only for cables 16mm² & below)
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 1125 Conductors in insulated electric cables and flexible cords
EESS approval Electrical Equipment Safety System (Apply only for cables 16mm² & below)

* Technical data

Construction & Raw material description		Unit	Average Value															
Conductor Cross section Area (CSA)	mm²		1.5	2.5	4	6	10	16	25	35	50	70	95	120	150	185	240	300
Product code	-		IVM105X	IVM205X	IVM004X	IVM006X	IVM010X	IVM016X	IVM025X	IVM035X	IVM050X	IVM070X	IVM095X	IVM120X	IVM150X	IVM185X	IVM240X	IVM300X
No. of Wires	mm		7	7	7	7	7	7	19	19	19	19	19	37	37	37	61	61
Wire diameter	mm		0.50	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
Conductor nominal diameter	mm		1.50	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
Thickness of insulation	mm	Colour	0.8	0.8	1.0	1.0	1.0	1.0	1.2	1.2	1.4	1.4	1.6	1.6	1.8	2.0	2.2	2.4
		Earth	0.6	0.7														
Insulation diameter (±10%)	mm	Colour	3.18	3.69	4.65	5.22	6.15	7.20	9.02	10.17	11.84	13.64	15.96	17.57	19.53	21.84	24.87	27.72
		Earth	2.76	3.48														
Approx weight of cable	kg/km	Colour	22.33	34.75	55.58	77.16	120.43	181.31	285.92	385.00	521.33	733.78	1013.61	1263.30	1554.56	1948.29	2548.39	3187.78
		Earth	19.39	32.97														
Max DC resistance of conductor @ 20 °C	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
Min. bending radius - fixed	mm	Colour	12.72	14.76	18.60	20.88	24.60	28.80	36.08	40.68	47.36	54.56	63.84	70.28	78.12	87.36	99.48	166.32
		Earth	11.04	13.92														
Min. bending radius - during installation	mm	Colour	19.08	22.14	27.90	31.32	36.90	43.20	54.12	61.02	71.04	81.84	95.76	105.42	117.18	131.04	149.22	249.48
		Earth	16.56	20.88														
Max. safety pulling tension	kN		0.105	0.175	0.28	0.42	0.7	1.12	1.75	2.45	3.5	4.9	6.65	8.4	10.5	12.95	16.8	21
Remark: X refer to insulation colour - R (Red insulation), W (White insulation), L (Blue insulation), B (Black insulation) & E (Green/yellow insulation).																		

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PRODUCT DESCRIPTION:

PRODUCT CODE: MX016C02B

2C x 16mm²(7/1.70) + No Earth CU/X90/PVC Multi Core Electric Cable 0.6/1KV AS/NZS 5000.1

CONSTRUCTION:

<u>Components</u>	<u>Material</u>	<u>Colour</u>	<u>Nominal Dimension</u> (mm)
Phase Conductor	Copper	-	7/1.70
Phase Insulation	X90	RED,BLK	0.7
Earth Conductor	-	-	-
Earth Insulation	-	-	-
Control Conductor	-	-	-
Control Insulation	-	-	-
Bedding	-	-	-
Armouring	-	-	-
Sheath	PVC V90	BLK	1.8
Jacket	-	-	-
Filler	PP Yarn	WHT	-
Binder	Mylar tape	CLEAR	0.05

Overall Dimension & Marking

Phase Conductor	5.10	mm dia
Earth Conductor	-	mm dia
Control Conductor	-	mm dia
Cable	17.1	± 0.5mm
Marking	"APEC CURRENT YEAR X90 ELECTRIC CABLE 0.6/1KV 2 x 16 SQ MM CU MX016C02B MADE IN BRISBANE/AUSTRALIA YYDDDHMM AS/NZS 5000.1"	

PROPERTIES:

Cable density	:	457.48	kg/km
Maximum safe pulling tension	:	2.24	kN
Maximum conductor DC resistance @20°C	:		
		phase core	1.15 Ω/Km
		earth core	- Ω/Km
		control core	- Ω/Km
Bending Radius	:	During installation	102 mm
		Fixed	68 mm

STANDARDS:

AS/NZS 5000.1, AS/NZS 1125, AS/NZS 3808

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PRODUCT DESCRIPTION:

PRODUCT CODE: VFM004TBV90

2C x 4.0mm²(7/0.85) RED,BLK V90 CU/PVC/PVC Electric Cable 450/750V AS/NZS 5000.2

CONSTRUCTION:

<u>Components</u>	<u>Material</u>	<u>Colour</u>	<u>Nominal Dimension</u> (mm)
Phase Conductor	Copper	-	7/0.85
Phase Insulation	PVC V90	RED,BLK	0.8
Earth Conductor	-	-	-
Earth Insulation	-	-	-
Control Conductor	-	-	-
Control Insulation	-	-	-
Bedding	-	-	-
Armouring	-	-	-
Sheath	PVC V90	BLK	1.1
Jacket	-	-	-
Filler	-	-	-
Binder	-	-	-

Overall Dimension & Marking

Phase Conductor	2.55	mm dia
Earth Conductor	-	mm dia
Control Conductor	-	mm dia
Cable	6.5x10.8	± 1.0 mm
Marking	"APEC CURRENT YEAR V90 ELECTRIC CABLE 450/750V 4.0 SQ MM CU VFM004TBV90 E5783  MADE IN BRISBANE/AUSTRALIA YYDDDDHHMM AS/NZS 5000.2"	

PROPERTIES:

Cable density	:	148.42	kg/km
Maximum safe pulling tension	:	0.56	kN
Maximum conductor DC resistance @20°C	phase core	4.61	Ω/Km
	earth core	-	Ω/Km
	control core	-	Ω/Km
Bending Radius	: During installation	39	mm
	Fixed	26	mm

STANDARDS:

AS/NZS 5000.2, AS/NZS 1125, AS/NZS 3808

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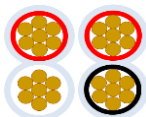


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Flat Power Cables PVC Insulated/PVC Sheathed AS/NZS 5000.2

Drawing:



Cable Configuration:

Cu Class 1 & 2/PVC/PVC 450/750 V

Cable Construction:

Conductor: Plain Annealed Copper Class 1 & 2

Insulation: PVC V-90

Outer Sheath: PVC 3V-90

Technical Data:

ITEMS		UNIT	NORMAL VALUES						
PRODUCT CODE		-	VFM113C02	VFM105C02	VFM205C02	VFM004C02	VFM006C02	VFM010C02	VFM016C02
No. of cores		-	2 Cores						
Active Cores	Cross Section Area	mm ²	1.0	1.5	2.5	4	6	10	16
	Total Number of Wires	-	1	7	7	7	7	7	7
	Maximum Diameter of Single Wire	mm	1.13	0.50	0.67	0.85	1.04	1.35	1.70
	Nominal Conductor Diameter	mm	1.13	1.50	2.01	2.55	3.12	4.05	5.10
	Nominal Insulation Thickness	mm	0.6	0.6	0.7	0.8	0.8	1.0	1.0
Core Diameter		mm	2.39	2.76	3.48	4.23	4.80	6.15	7.20
Sheath Thickness		mm	0.9	0.9	1.0	1.1	1.1	1.2	1.3
Overall Diameter (±10%)		mm	4.3 x 6.7	4.7 x 7.4	5.6 x 9.1	6.5 x 10.8	7.1 x 11.9	8.7 x 14.8	9.9 x 17.1
Cable Gross Mass (±10%)		kg/km	54	67	105	155	203	322	465
Maximum Conductor DC Resistance @ 20°C		Ω/km	18.1	13.6	7.41	4.61	3.08	1.83	1.15
Maximum Safe Pulling Tension		kN	0.14	0.21	0.35	0.56	0.84	1.4	2.24

Operating Temperature:

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

Maximum continuous conductor operating temperature: 90°C

Conductor: -20°C to 90°C

Short Circuit (5 secs): 250°C

Colour Identification:

Insulation: Red, Black / Red, White, etc

Outer Sheath: White, etc

Mechanical Characteristics:

Maximum of minimum Bending Radii:

During installation-6OD, Fixed-4OD

Maximum Safe Pulling Tension:

0.07 x Total CSA

Electrical Characteristics:

Voltage Rating: 450/750 V

HV Test for 5 mins: 3.5kV

Insulation Spark Test: 6 kV

Minimum Insulation Resistance constant @20°C: 40GΩ.m

Minimum Insulation Resistance constant @90°C: 2MΩ.m

Cable Markings:

=METERMARKING= APEC YEAR V90 ELECTRIC CABLE 450/750 V XXSQMM CU PRODUCT CODE E5783 AZ 69023451 AS/NZS 5000.2 =METERMARKING= APEC YEAR V90 ...

Product Code:- Examples: VFM016C02RW

U ----- A:- Measurement from U (C U) to A (APEC) must be ≤ 550mm

XX :- Cable Size (Examples: 16 SQMM)

Standard Compliance:

AS/NZS 5000.2

AS/NZS 4417

AS/NZS 3808

AS 1683.12

AS/NZS 1660

AS/NZS 1125

EESS approval

Part 2: For working voltages up to and including 450/750 V

Regulatory compliance mark (RCM) for electrical and electronic equipment

Insulating and sheathing materials for electric cables

Methods of test for elastomers - Rubber vulcanized or thermoplastic - Determination of tears

Test methods for electric cables, cords and conductors

Conductors in insulated electric cables and flexible cords

Electrical Equipment Safety System

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Flat Power Cables PVC Insulated/PVC Sheathed AS/NZS 5000.2

[Drawing:](#)



[Cable Configuration:](#)

Cu Class 1 & 2/PVC/PVC 450/750 V

[Cable Construction:](#)

Conductor: Plain Annealed Copper Class 1 & 2

Insulation: PVC V-90

Outer Sheath: PVC 3V-90

[Technical Data:](#)

ITEMS		UNIT	NORMAL VALUES						
Product Code		-	VFM113E02	VFM105E02	VFM205E02	VFM004E02	VFM006E02	VFM010E02	VFM016E02
Number of cores		-	2C+E						
Active Cores	Cross Section Area	mm ²	1.0	1.5	2.5	4	6	10	16
	Total Number of Wires	-	1	7	7	7	7	7	7
	Maximum Diameter of Single Wire	mm	1.13	0.50	0.67	0.85	1.04	1.35	1.70
	Nominal Conductor Diameter	mm	1.13	1.50	2.01	2.55	3.12	4.05	5.10
	Nominal Insulation Thickness	mm	0.6	0.6	0.7	0.8	0.8	1.0	1.0
	Core Diameter	mm	2.39	2.76	3.48	4.23	4.80	6.15	7.20
Earth Core	Cross Section Area	mm ²	1.5	1.5	2.5	2.5	2.5	4.0	6.0
	Total Number of Wires	-	7	7	7	7	7	7	7
	Maximum Diameter of Single Wire	mm	0.50	0.50	0.67	0.67	0.67	0.85	1.04
	Nominal Conductor Diameter	mm	1.50	1.50	2.01	2.01	2.01	2.55	3.12
	Nominal Insulation Thickness	mm	0.6	0.6	0.7	0.7	0.7	0.8	0.8
	Core Diameter	mm	2.76	2.76	3.48	3.48	3.48	4.23	4.80
Sheath Thickness		mm	0.9	0.9	1.0	1.1	1.1	1.2	1.3
Overall Diameter (±10%)		mm	4.3 x 9.4	4.7 x 10.2	5.6 x 12.5	6.5 x 14.3	7.1 x 15.4	8.7 x 19.1	9.9 x 21.9
Cable Gross Mass (±10%)		kg/km	84	97	153	204	252	395	564
Maximum Conductor DC Resistance @ 20°C	Phase	Ω/km	18.1	13.6	7.41	4.61	3.08	1.83	1.15
	Earth	Ω/km	13.6	13.6	7.41	7.41	7.41	4.61	3.08
Maximum Safe Pulling Tension		kN	0.245	0.315	0.525	0.735	1.015	1.68	2.66

[Operating Temperature:](#)

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

Maximum continuous conductor operating temperature: 90°C

Conductor: -20°C to 90°C

Short Circuit (5 secs): 250°C

[Colour Identification:](#)

Insulation: Red, Black, Green/Yellow, etc

Outer Sheath: White, etc

[Mechanical Characteristics:](#)

Maximum of minimum Bending Radii:

Maximum Safe Pulling Tension:

During installation-6OD, Fixed-4OD

0.07 x Total CSA

[Electrical Characteristics:](#)

Voltage Rating: 450/750 V

HV Test for 5 mins: 3.5kV

Insulation Spark Test: 6 kV

Minimum Insulation Resistance constant @20°C: 40GΩ.m

Minimum Insulation Resistance constant @90°C: 2MΩ.m

[Cable Markings:](#)

=METERMARKING= APEC YEAR V90 ELECTRIC CABLE 450/750 V XXSQMM CU PRODUCT CODE E5783 AZ 69023451 AS/NZS 5000.2 =METERMARKING= APEC YEAR V90 ...

Product Code:- Examples: VFM016E02W

U ----- A:- Measurement from U (C U) to A (APEC) must be ≤ 550mm

XX :- Cable Size (Examples: 16 SQMM)

[Standard Compliance:](#)

AS/NZS 5000.2

AS/NZS 4417

AS/NZS 3808

AS 1683.12

AS/NZS 1660

AS/NZS 1125

EESS approval

Part 2: For working voltages up to and including 450/750 V

Regulatory compliance mark (RCM) for electrical and electronic equipment

Insulating and sheathing materials for electric cables

Methods of test for elastomers - Rubber vulcanized or thermoplastic - Determination of tears (Method A trouser tear)

Test methods for electric cables, cords and conductors

Conductors in insulated electric cables and flexible cords

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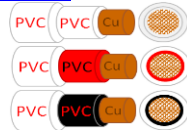


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SDI Cables V-90 PVC Insulated / 3V-90 PVC Sheathed, to AS/NZS 5000.2.

Drawing:



Cable Configuration:

Cu Class 1 & 2/PVC/PVC 450/750 V

Cable Construction:

Conductor: Plain Annealed Copper Class 1 & 2

Insulation: PVC V-90

Outer Sheath: PVC 3V-90

Technical Data:

ITEMS		UNIT	NORMAL VALUES						
Product Code		-	VVM113	VVM105	VVM205	VVM004	VVM006	VVM010	VVM016
Number of cores		-	Single Core						
Active Cores	Cross Section Area	mm ²	1.0	1.5	2.5	4	6	10	16
	Total Number of Wires	-	1	7	7	7	7	7	7
	Maximum Diameter of Single Wire	mm	1.13	0.50	0.67	0.85	1.04	1.35	1.70
	Nominal Conductor Diameter	mm	1.13	1.50	2.01	2.55	3.12	4.05	5.10
	Nominal Insulation Thickness	mm	0.6	0.6	0.7	0.8	0.8	1.0	1.0
Core Diameter		mm	2.39	2.76	3.48	4.23	4.80	6.15	7.20
Sheath Thickness		mm	0.8	0.8	0.8	0.9	0.9	0.9	1.0
Overall Diameter (±10%)		mm	4.07	4.44	5.16	6.12	6.69	8.04	9.30
Cable Gross Mass (±10%)		kg/km	29	35	52	77	101	156	227
Maximum Conductor DC Resistance @ 20°C		Ω/km	18.1	13.6	7.41	4.61	3.08	1.83	1.15
Minimum bending radii	During installation	mm	24.42	26.64	30.96	36.72	40.14	48.24	55.8
	After installation		16.28	17.76	20.64	24.48	26.76	32.16	37.2
Maximum Safe Pulling Tension		kN	0.07	0.105	0.175	0.28	0.42	0.7	1.12

Operating Temperature:

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

Maximum continuous conductor operating temperature: 90°C

Conductor: -20°C to 90°C

Short Circuit (5 secs): 250°C

Colour Identification:

Insulation: Red, Black, White, etc

Outer Sheath: White, etc

Mechanical Characteristics:

Minimum Bending Radii:

Maximum Safe Pulling Tension:

During installation-6OD, Fixed-4OD

0.07 x Total CSA

Electrical Characteristics:

Voltage Rating:

HV Test for 5 mins:

Insulation Spark Test:

Minimum Insulation Resistance constant @20°C:

Minimum Insulation Resistance constant @90°C:

450/750 V

3.5kV

6 kV

40GΩ.m

2MΩ.m

Cable Markings:

=METERMARKING= APEC YEAR V90 ELECTRIC CABLE 450/750 V XXSQMM CU PRODUCT CODE E5783 AZ 69023451 AS/NZS 5000.2 =METERMARKING= APEC YEAR V90 ...

Product Code:- Examples: VVM016RB, VVM016RW, VVM016WW

U ----- A:- Measurement from U (C U) to A (A PEC) must be ≤ 550mm

XX :- Cable Size (Examples: 16 SQMM)

Standard Compliance:

AS/NZS 5000.2

AS/NZS 4417

AS/NZS 3808

AS 1683.12

AS/NZS 1660

AS/NZS 1125

EESS approval

Part 2: For working voltages up to and including 450/750 V

Regulatory compliance mark (RCM) for electrical and electronic equipment

Insulating and sheathing materials for electric cables

Methods of test for elastomers - Rubber vulcanized or thermoplastic - Determination of tears (Method A trouser tear)

Test methods for electric cables, cords and conductors

Conductors in insulated electric cables and flexible cords

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PRODUCT DESCRIPTION:

PRODUCT CODE:

VFM205TBV90

2C x 2.5mm²(7/0.67) RED,BLK V90 CU/PVC/PVC Electric Cable 450/750V AS/NZS 5000.2

CONSTRUCTION:

<u>Components</u>	<u>Material</u>	<u>Colour</u>	<u>Nominal Dimension</u> (mm)
Phase Conductor	Copper	-	7/0.67
Phase Insulation	PVC V90	RED,BLK	0.7
Earth Conductor	-	-	-
Earth Insulation	-	-	-
Control Conductor	-	-	-
Control Insulation	-	-	-
Insulation Screen	-	-	-
Filler	-	-	-
Binder	-	-	-
Bedding	-	-	-
Armour	-	-	-
Jacket	-	-	-
Cable Screen	-	-	-
Sheath	PVC V90	BLK	1.0

Overall Dimension & Marking

Phase Conductor	2.01	mm dia
Earth Conductor	-	mm dia
Control Conductor	-	mm dia
Cable	5.6x9.1	± 1.0 mm
Marking	"APEC CURRENT YEAR V90 ELECTRIC CABLE 450/750V 2.5 SQ MM CU VFM205TBV90 MADE IN BRISBANE/AUSTRALIA YYDDHHMM AS/NZS 5000.2"	

PROPERTIES:

Cable density	:	100.76	kg/km
Maximum safe pulling tension	:	0.35	kN
Maximum conductor DC resistance @20°C	phase core	7.41	Ω/Km
	earth core	-	Ω/Km
	control core	-	Ω/Km
Bending Radius	: During installation	33	mm
	Fixed	22	mm

STANDARDS:

AS/NZS 5000.2, AS/NZS 1125, AS/NZS 3808

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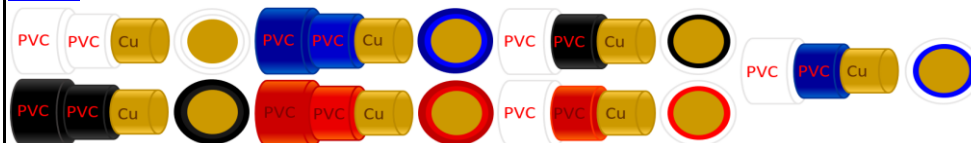
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Description

SDI (Single Core Double Insulation) Electric Cables V-90 PVC Insulated / V-90 PVC Sheathed AS/NZS 5000.1

Drawing:



Cable Configuration:

Cu Class 2/PVC/PVC 0.6/1kV

Cable Construction:

Conductor: Plain Annealed Copper Class 2

Insulation: PVC V-90

Outer Sheath: PVC V-90

Technical Data:

Items Description		Unit	Data Values						
Product Code		-	VVM0065K1XY	VVM0105K1XY	VVM0165K1XY	VVM0257XY	VVM025XY	VVM035XY	VVM050XY
Number of cores		-	Single Core						
Phase/Neutral Core	Cross Section Area	mm ²	6	10	16	25	25	35	50
	Number of Wires	-	7	7	7	7	19	19	19
	Diameter of wire	mm	1.04	1.35	1.70	2.14	1.30	1.53	1.78
	Conductor Diameter	mm	3.12	4.05	5.10	6.42	6.50	7.65	8.90
	Insulation Thickness	mm	1.0	1.0	1.0	1.2	1.2	1.2	1.4
	Core Diameter	mm	5.22	6.15	7.20	8.94	9.02	10.17	11.84
Sheath Thickness		mm	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Overall Diameter (±10%)		mm	8.16	9.09	10.14	11.88	11.96	13.11	14.80
Cable Gross Mass (±10%)		kg/km	123	172	240	356	358	465	616
Maximum Conductor DC Resistance @ 20°C		Ω/km	3.08	1.83	1.15	0.727	0.727	0.524	0.387
Minimum bending radius	During installation	mm	48.96	54.54	60.84	71.28	71.76	78.66	88.8
	After installation	mm	32.64	36.36	40.56	47.52	47.84	52.44	59.2
Maximum Safe Pulling Tension		kN	0.42	0.7	1.12	1.75	1.75	2.45	3.5

Remark: X - refer to Insulation colour - R-Red, W-White, L-Blue, B-Black.

Y - refer to outer sheath colour - R-Red, W-White, L-Blue, B-Black.

Operating Temperature:

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

Maximum continuous conductor operating temperature: 90°C

Conductor: -25°C to 90°C

Short Circuit (5 secs): 250°C

Colour Identification:

Insulation: Red, White, Blue, Black

Outer Sheath: Red, White, Blue, Black

Mechanical Characteristics:

Minimum Bending Radius:

During installation-6OD, Fixed-4OD

Maximum Safe Pulling Tension:

0.07 x Total CSA (for copper)

Electrical Characteristics:

Voltage Rating: 0.6/1kV

HV Test for 5 mins: 3.5kV

Minimum Insulation Resistance constant @20°C: 40GΩ.m

Minimum Insulation Resistance constant @90°C: 0.002GΩ.m

Cable Markings:

For Cable sizes ≤ 16mm² - APEC YEAR V90 ELECTRIC CABLE 0.6/1KV XX SQMM CU E5783 AZ 69023463 AS/NZS 5000.1

For Cable sizes ≥ 25mm² - APEC YEAR V90 ELECTRIC CABLE 0.6/1KV XX SQMM CU AS/NZS 5000.1

Standard Compliance:

AS/NZS 5000.1

AS/NZS 4417

AS/NZS 3808

AS/NZS 3008

AS/NZS 1660

AS/NZS 1574

AS/NZS 1125

EESS approval

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

Regulatory compliance mark (RCM) for electrical and electronic equipment

Insulating and sheathing materials for electric cables

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

Test methods for electric cables, cords and conductors

Copper and Copper alloys - wire for electrical purposes

Conductors in insulated electric cables and flexible cords

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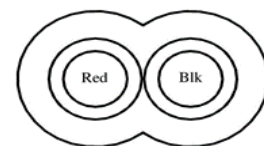


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PRODUCT DESCRIPTION:

Product Code: XFU016T

2C x16mm² (7/1.70) X90/PVC UV Electric Cable 0.6/1KV
AS/NZS 5000.1



CONSTRUCTION:

<u>Components</u>	<u>Material</u>	<u>Colour</u>	<u>Nominal Dimension</u> (mm)
Phase Conductor	Copper	-	7/1.70
Phase Insulation	X90	RED, BLK	0.70
Earth Conductor	-	-	-
Earth Insulation	-	-	-
Control Conductor	-	-	-
Control Insulation	-	-	-
Bedding	-	-	-
Armouring	-	-	-
Jacket	-	-	-
Sheath	PVC 5V90 UV	BLK	1.8
Filler	-	-	-
Binder	-	-	-

Overall Dimension & Marking

Phase Core	6.57	mm dia
Earth Core	-	mm dia
Control Core	-	mm dia
Cable	10.4 x 16.9 ± 10% mm	
Marking	"APEC YEAR X90 UV ELECTRIC CABLE 0.6/1KV 16 SQ MM CU XFU016T MADE IN AUSTRALIA AS/NZS 5000.1"	

PROPERTIES:

Cable density	:	439.25	kg/km
Maximum safe pulling tension	:	2.24	kN
Maximum conductor DC resistance @20°C	:		
		phase core	1.15 Ω/Km
		earth core	- Ω/Km
		control core	- Ω/Km
Minimum bending Radius	:	during installation	62 mm
		fixed	41 mm

STANDARDS:

AS/NZS 5000.1, AS/NZS 1125, AS/NZS 3808

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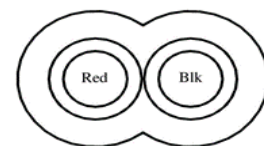
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PRODUCT DESCRIPTION:

Product Code: XFU025T

2C x25mm² (19/1.30) X90/PVC UV Electric Cable 0.6/1KV
AS/NZS 5000.1



CONSTRUCTION:

<u>Components</u>	<u>Material</u>	<u>Colour</u>	<u>Nominal Dimension</u> (mm)
Phase Conductor	Copper	-	19/1.30
Phase Insulation	X90	RED, BLK	0.90
Earth Conductor	-	-	-
Earth Insulation	-	-	-
Control Conductor	-	-	-
Control Insulation	-	-	-
Bedding	-	-	-
Armouring	-	-	-
Jacket	-	-	-
Sheath	PVC 5V90 UV	BLK	1.8
Filler	-	-	-
Binder	-	-	-

Overall Dimension & Marking

Phase Core	8.39	mm dia
Earth Core	-	mm dia
Control Core	-	mm dia
Cable	12.2 x 20.6 ± 10%	mm
Marking	"APEC YEAR X90 UV ELECTRIC CABLE 0.6/1KV 25 SQ MM CU XFU025T MADE IN AUSTRALIA AS/NZS 5000.1"	

PROPERTIES:

Cable density	:	659.17	kg/km
Maximum safe pulling tension	:	3.5	kN
Maximum conductor DC resistance @20°C	:		
		phase core	0.727 Ω/Km
		earth core	- Ω/Km
		control core	- Ω/Km
Minimum bending Radius	:	during installation	73 mm
		fixed	48 mm

STANDARDS:

AS/NZS 5000.1, AS/NZS 1125, AS/NZS 3808

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PRODUCT DESCRIPTION:

Product Code: XNV0257S01B



1 x 25mm² (7/2.14) X90 Nylon Jacket Electric Cable 0.6/1KV
AS/NZS 5000.1

CONSTRUCTION:

<u>Components</u>	<u>Material</u>	<u>Colour</u>	<u>Nominal Dimension</u> (mm)
Phase Conductor	Copper	-	7 / 2.14
Phase Insulation	X90	NAT	1.70
Control Conductor	-	-	-
Control Insulation	-	-	-
Earth Conductor	-	-	-
Earth Insulation	-	-	-
Pair Conductor	-	-	-
Pair Insulation	-	-	-
Triad Conductor	-	-	-
Triad Insulation	-	-	-
Individual Binder	-	-	-
Individual drain Wire	-	-	-
Individual Screen	-	-	-
Filler	-	-	-
Overall Binder	-	-	-
Drain Wire	-	-	-
Overall Screen	-	-	-
Bedding	-	-	-
Armouring	-	-	-
Separation Sheath	-	-	-
Jacket	Nylon	BLK	0.3
Cable Screen	-	-	-
Outer Sheath	PVC 5V90 UV	BLK	1.40

Overall Dimension & Marking

Phase Conductor Diameter	9.99	mm dia
Control Conductor Diameter	-	mm dia
Earth Conductor Diameter	-	mm dia
Pair Conductor Diameter		mm dia
Triad Conductor Diameter		mm dia
Cable Overall Diameter	13.73	± 10% mm
Marking	"APEC YEAR X90 NYLON UV ELECTRIC CABLE 0.6/1KV 25 SQ MM CU"	

PROPERTIES:

Cable density	:	378	kg/km
Maximum safe pulling tension	:	1.75	kN
Maximum conductor DC resistance @20°C	:	phase core	0.727 Ω/Km
		earth core	Ω/Km
		control core	- Ω/Km
		pair core	- Ω/Km
		triad core	- Ω/Km
Minimum bending Radius	:	during installation	412 mm
		fixed	275 mm

STANDARDS:

AS/NZS 5000.1, AS/NZS 3808, AS/NZS 1125

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