Caledonian
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ISO 9001:2008
REGISTERED FIRM

Technical Reference

Conductor Resistance:

Nominal cross-section area	Plain copper conductor wires (Ohm/km)		Tinned copper conductor wires (Ohm/km)	
mm^2	class 1 and 2	Class 5 and 6	class 1 and 2	Class 5 and 6
0.05	–	380	–	392
0.08	–	237	–	244
0.11	–	170	–	175
0.126	–	150	–	155
0.14	–	134	–	138
0.22	–	96	–	99
0.25	–	76	–	79
0.34	–	53	–	56
0.5	36	39	36.7	40.1
0.75	24.5	26	24.8	26.7
1	18.1	19.5	18.2	20
1.5	12.1	13.3	12.2	13.7
2.5	7.41	7.98	7.56	8.21
4	4.61	4.95	4.7	5.09
6	3.08	3.3	3.11	3.39
10	1.83	1.91	1.84	1.95
16	1.15	1.21	1.16	1.24
25	0.727*	0.78	0.734	0.795
35	0.524*	0.554	0.529	0.565
50	0.387*	0.386	0.391	0.393
70	0.268*	0.272	0.27	0.277
95	0.193*	0.206	0.195	0.21
120	0.153*	0.161	0.154	0.164
150	0.124*	0.129	0.126	0.132
185	0.0991	0.106	0.1	0.108
240	0.0754	0.0801	0.0762	0.0817
300	0.0601	0.0641	0.0607	0.0654
400	0.047	0.0486	0.0475	0.0495
500	0.0366	0.0384	0.0369	0.0391
630	0.0283	0.0287	0.0286	0.0292

Electrical Test:

Test	Unit	H07Z-K H07Z-R H07Z-U	H05Z-K H05Z-U	Thermosetting insulated, single-core cables	Thermosetting insulated, twin, 3-core, 4-core and 5-core circular sheathed cables	6241B 6242B 6243B
Voltage test on complete cable						
Length of sample (min.)	m	20	20	20	20	20
Period of immersion (min.)	h	1	1	1	1	1
Temperature of water	°C	20 ± 5	20 ± 5	20 ± 5	20 ± 5	20 ± 5
Applied voltage (a.c.)	V	2 500	2 000	2 500	2 500	2 000
Time of application	min	15	15	15	15	15
Voltage test on cores						
Length of sample	m	—	—	20	20	20
Period of immersion (min.)	h	—	—	1	1	1
Temperature of water	°C	—	—	20 ± 5	20 ± 5	20 ± 5
Applied voltage (a.c.)	V	—	—	2 500	2 500	2 000
Time of application	min	—	—	5	5	5
Insulation resistance						
Length of sample	m	5	5	5	5	5
Period of immersion (min.)	h	2	2	2	2	2
Temperature of water	°C	90 ± 2	90 ± 2	90 ± 2	90 ± 2	90 ± 2
Spark test						
Result to be obtained		No failure	No failure	No failure	—	—
Voltage test						
Applied voltage a.c.	V	—	—	—	2500	2000
Applied voltage d.c. (min)	V	—	—	—	5000	5000
Duration of test	min	—	—	—	5	5
Result to be obtained		—	—	—	No breakdown	No breakdown