

Copper, Flexible, Polyvinyl Insulated and PVC Sheathed Control Cables – Flex Control

Conductor

Formed by electrolytic bare copper wires, soft temper, stranding class 4 (1,00 a 6,00 mm²) and class 5(10,00 mm²).
Tinned conductors on request

Insulation

PVC-A 70 °C - Thermoplastic compound of polyvinyl chloride, with special characteristics as to the non-propagation and selfextinguishing of fire.

Identification

Numbered or colored black cores

Sheath

PVC ST1 - Thermoplastic compound of polyvinyl chloride, in black color, with special characteristics regarding the non-propagation and self-extinguishing of fire.

Voltage

- 1,00 mm²: 500V
- 1,50 to 10,00 mm²: 1 kV

Maximum Operational Temperatures

- 70° in continuous operation
- 100° in overload
- 160° in short circuit

Application

Used in command, control and signaling circuits, in industrial, comercial installations, power plants, substations, control of machinery and equipment in general.

Applicable Standards

- ICEA S-61-402: Standard for Non-Metallic Sheathed Cables
- ICEA T-26-465: Standard for 600-Volt to 2000-Volt Power Cables
- NEMA WC-54: Standard for Thermoset Insulated Wire and Cable
- ASTM B3: Standard Specification for Hard-Drawn Copper Wire
- ASTM B8: Standard Specification for Concentric-Lay-Stranded Copper Conductors

Dimensional Datasheet

20 AWG						
Cross Section	Conductor Diameter	Insulation Thickness	Insulation Diameter	Number of Conductors	Sheath Thickness	Outer Diameter
(AWG)	(inch)	(inch)	(inch)	-	(inch)	(inch)
20	0.0361	0.0236	0.0833	2	0.0373	0.2426
				3	0.0378	0.2551
				4	0.0385	0.2782
				5	0.0394	0.3038
				6	0.0402	0.3304
				7	0.0402	0.3304

18 AWG						
Cross Section	Conductor Diameter	Insulation Thickness	Insulation Diameter	Number of Conductors	Sheath Thickness	Outer Diameter
(AWG)	(inch)	(inch)	(inch)	-	(inch)	(inch)
18	0.0457	0.0236	0.0929	2	0.0380	0.2618
				3	0.0385	0.2772
				4	0.0393	0.3030
				5	0.0403	0.3315
				6	0.0413	0.3612
				7	0.0413	0.3612

16 AWG						
Cross Section	Conductor Diameter	Insulation Thickness	Insulation Diameter	Number of Conductors	Sheath Thickness	Outer Diameter
(AWG)	(inch)	(inch)	(inch)	-	(inch)	(inch)
16	0.0583	0.0315	0.1213	2	0.0410	0.3545
				3	0.0418	0.3771
				4	0.0430	0.4148
				5	0.0444	0.4567
				6	0.0458	0.5003
				7	0.0458	0.5003
				8	0.0487	0.5896
				9	0.0506	0.6460
				10	0.0513	0.6460
				11	0.0513	0.6686
				12	0.0513	0.6686
				13	0.0525	0.7064
				14	0.0525	0.7064
				15	0.0539	0.7482
				16	0.0539	0.7482
				17	0.0553	0.7918
				18	0.0553	0.7918
				19	0.0583	0.7918
				20	0.0568	0.8362
				21	0.0583	0.8811
				22	0.0583	0.8811
				23	0.0601	0.9375
				24	0.0601	0.9375
				25	0.0608	0.9601
				26	0.0808	0.9601
				27	0.0808	0.9601
				28	0.0621	0.9979
				29	0.0621	0.9979
				30	0.0621	0.9979
				31	0.0634	1.0397
				32	0.0634	1.0397
				33	0.0634	1.0397
				34	0.0649	1.0833
				35	0.0649	1.0833
				36	0.0649	1.0833
				37	0.0649	1.0833

14 AWG						
Cross Section	Conductor Diameter	Insulation Thickness	Insulation Diameter	Number of Conductors	Sheath Thickness	Outer Diameter
(AWG)	(inch)	(inch)	(inch)	-	(inch)	(inch)
14	0.0732	0.0315	0.1362	2	0.0410	0.3545
				3	0.0418	0.3771
				4	0.0430	0.4148
				5	0.0444	0.4567
				6	0.0458	0.5003
				7	0.0458	0.5003
				8	0.0487	0.5896
				9	0.0506	0.6460
				10	0.0506	0.6460
				11	0.0513	0.6686
				12	0.0513	0.6686
				13	0.0525	0.7064
				14	0.0525	0.7064
				15	0.0539	0.7482
				16	0.0539	0.7482
				17	0.0553	0.7918
				18	0.0553	0.7918
				19	0.0553	0.7918
				20	0.0568	0.8362
				21	0.0583	0.8811
				22	0.0583	0.8811
				23	0.0601	0.9375
				24	0.0601	0.9375
				25	0.0608	0.9601
				26	0.0808	0.9601
				27	0.0808	0.9601
				28	0.0621	0.9979
				29	0.0621	0.9979
				30	0.0621	0.9979
				31	0.0634	1.0397
				32	0.0634	1.0397
				33	0.0634	1.0397
				34	0.0649	1.0833
				35	0.0649	1.0833
				36	0.0649	1.0833
				37	0.0649	1.0833

12 AWG						
Cross Section	Conductor Diameter	Insulation Thickness	Insulation Diameter	Number of Conductors	Sheath Thickness	Outer Diameter
(AWG)	(inch)	(inch)	(inch)	-	(inch)	(inch)
12	0.0925	0.0394	0.1713	2	0.0435	0.4295
				3	0.0444	0.4579
				4	0.0460	0.5054
				5	0.0477	0.5579
				6	0.0495	0.6127
				7	0.0495	0.6127
				8	0.0532	0.7251
				9	0.0555	0.7960
				10	0.0555	0.7960
				11	0.0564	0.8244
				12	0.0564	0.8244
				13	0.0580	0.8718
				14	0.0580	0.8718
				15	0.0597	0.9244
				16	0.0597	0.9244
				17	0.0615	0.9792
				18	0.0615	0.9792
				19	0.0615	0.9792
				20	0.0633	1.0351
				21	0.0651	1.0916
				22	0.0651	1.0916
				23	0.0675	1.1625
				24	0.0675	1.1625
				25	0.0684	1.1909
				26	0.0684	1.1909
				27	0.0684	1.1909
				28	0.0699	1.2383
				29	0.0699	1.2383
				30	0.0699	1.2383
				31	0.0717	1.2909
				32	0.0717	1.2909
				33	0.0717	1.2909
				34	0.0735	1.3457
				35	0.0735	1.3457
				36	0.0735	1.3457
				37	0.0735	1.3457

TECHNICAL SPECIFICATION DETAILS

10 AWG						
Cross Section	Conductor Diameter	Insulation Thickness	Insulation Diameter	Number of Conductors	Sheath Thickness	Outer Diameter
(AWG)	(inch)	(inch)	(inch)	-	(inch)	(inch)
10	0.1169	0.0394	0.1957	2	0.0452	0.4817
				3	0.0463	0.5142
				4	0.0480	0.5684
				5	0.0500	0.6285
				6	0.0520	0.6911
				7	0.0520	0.6911
				8	0.0562	0.8194
				9	0.0589	0.9005
				10	0.0589	0.9005
				11	0.0600	0.9329
				12	0.0600	0.9329
				13	0.0617	0.9871
				14	0.0617	0.9871
				15	0.0637	1.0472
				16	0.0637	1.0472
				17	0.0657	1.1098
				18	0.0657	1.1098
				19	0.0657	1.1098
				20	0.0678	1.1737
				21	0.0699	1.2382
				22	0.0699	1.2382
				23	0.0726	1.3192
				24	0.0726	1.3192
				25	0.0736	1.3516
				26	0.0736	1.3516
				27	0.0736	1.3516
				28	0.0754	1.4059
				29	0.0754	1.4059
				30	0.0754	1.4059
				31	0.0774	1.4660
				32	0.0774	1.4660
				33	0.0774	1.4660
				34	0.0794	1.5286
				35	0.0794	1.5286
				36	0.0794	1.5286
				37	0.0794	1.5286

9 AWG						
Cross Section	Conductor Diameter	Insulation Thickness	Insulation Diameter	Number of Conductors	Sheath Thickness	Outer Diameter
(AWG)	(inch)	(inch)	(inch)	-	(inch)	(inch)
9	0.1327	0.0394	0.2114	2	0.0463	0.5154
				3	0.0474	0.5505
				4	0.0494	0.6091
				5	0.0515	0.6740
				6	0.0537	0.7416
				7	0.0537	0.7416
				8	0.0582	0.8803
				9	0.0611	0.9679
				10	0.0611	0.9679
				11	0.0622	1.0029
				12	0.0622	1.0029
				13	0.0642	1.0615
				14	0.0642	1.0615
				15	0.0663	1.1264
				16	0.0663	1.1264
				17	0.0685	1.1941
				18	0.0685	1.1941
				19	0.0685	1.1941
				20	0.0708	1.2631
				21	0.0730	1.3327
				22	0.0730	1.3327
				23	0.0759	1.4203
				24	0.0759	1.4203
				25	0.0770	1.4554
				26	0.0770	1.4554
				27	0.0770	1.4554
				28	0.0790	1.5139
				29	0.0790	1.5139
				30	0.0790	1.5139
				31	0.0811	1.5789
				32	0.0811	1.5789
				33	0.0811	1.5789
				34	0.0833	1.6465
				35	0.0833	1.6465
				36	0.0833	1.6465
				37	0.0833	1.6465

8 AWG						
Cross Section	Conductor Diameter	Insulation Thickness	Insulation Diameter	Number Of Conductors	Sheath Thickness	Outer Diameter
(AWG)	(inch)	(inch)	(inch)	-	(inch)	(inch)
8	0.1492	0.0394	0.2280	2	0.0475	0.5508
				3	0.0487	0.5886
				4	0.0508	0.6518
				5	0.0530	0.7218
				6	0.0554	0.7947
				7	0.0554	0.7947
				8	0.0603	0.9442
				9	0.0634	1.0386
				10	0.0634	1.0386
				11	0.0646	1.0764
				12	0.0646	1.0764
				13	0.0667	1.1396
				14	0.0667	1.1396
				15	0.0690	1.2096
				16	0.0690	1.2096
				17	0.0714	1.2825
				18	0.0714	1.2825
				19	0.0714	1.2825
				20	0.0738	1.3569
				21	0.0763	1.4321
				22	0.0763	1.4321
				23	0.0794	1.5264
				24	0.0794	1.5264
				25	0.0806	1.5643
				26	0.0806	1.5643
				27	0.0806	1.5643
				28	0.0827	1.6274
				29	0.0827	1.6274
				30	0.0827	1.6274
				31	0.0850	1.6974
				32	0.0850	1.6974
				33	0.0850	1.6974
				34	0.0873	1.7704
				35	0.0873	1.7704
				36	0.0873	1.7704
				37	0.0873	1.7704

7 AWG						
Cross Section	Conductor Diameter	Insulation Thickness	Insulation Diameter	Number of Conductors	Sheath Thickness	Outer Diameter
(AWG)	(inch)	(inch)	(inch)	-	(inch)	(inch)
7	0.1669	0.0394	0.2457	2	0.0487	0.5887
				3	0.0500	0.6295
				4	0.0523	0.6976
				5	0.0547	0.7730
				6	0.0573	0.8516
				7	0.0573	0.8516
				8	0.0626	1.0127
				9	0.0659	1.1145
				10	0.0659	1.1145
				11	0.0672	1.1552
				12	0.0672	1.1552
				13	0.0694	1.2233
				14	0.0694	1.2233
				15	0.0719	1.2987
				16	0.0719	1.2987
				17	0.0745	1.3773
				18	0.0745	1.3773
				19	0.0745	1.3773
				20	0.0771	1.4575
				21	0.0798	1.5385
				22	0.0798	1.5385
				23	0.0831	1.6402
				24	0.0831	1.6402
				25	0.0844	1.6809
				26	0.0844	1.6809
				27	0.0844	1.6809
				28	0.0866	1.7490
				29	0.0866	1.7490
				30	0.0866	1.7490
				31	0.0891	1.8245
				32	0.0891	1.8245
				33	0.0891	1.8245
				34	0.0917	1.9031
				35	0.0917	1.9031
				36	0.0917	1.9031
				37	0.0917	1.9031