



大同塑膠絕緣電線電纜

Tatung Plastic Insulated Wire & Cable



本產品榮獲商檢局國際標準品質保證 ISO 9001 認證登錄 XA3Y005-06

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一、塑膠絕緣電線簡介

INTRODUCTION TO PLASTIC INSULATED WIRE AND CABLE

(1) PVC 絕緣電線

PVC INSULATED WIRE

Polyvinyl chloride (簡稱PVC) 係一高重合度之聚合物化學材料，具有高絕緣特性，以及抗磨擦、耐候性，最適用於電線電纜之絕緣與被覆體，謂之PVC電線、電纜。

本公司之PVC材料與先進國外廠商技術合作並引進最新技術，所配出PVC具有高性能之電氣特性與絕緣特性，用於外覆保護之PVC更具耐候、耐寒、耐溫及耐化學藥品之特殊性能，使製造出電纜能在連續供電情況下耐溫高至60°C，若有特別要求耐熱時，可配用耐熱75~105°C之PVC材料之電纜。

Polyvinyl chloride (PVC) is a chemical compound of high degree of polymerization with characteristics of high insulation and abrasion-resistant, weather-proof. It is called PVC cable or PVC wire if PVC is used as an insulation or sheath to cables or wires. There is a technical collaboration for the production of PVC between Tatung Co. and a well-known foreign manufacturer with its most advanced technology. The specifically compounded PVC possesses excellent electrical performances and insulation properties. In case, it is used as sheath material, It also has special properties of weather-proof, heat-resistant, cold-resistant & chemical-resistant. It is designed to withstand 60°C temperature rise under continuous operation, if situation requires, the cables to withstand 75-105°C are also available upon special request.

(2) PE 絕緣電線

PE INSULATED WIRE

Polyethylene (簡稱PE)，其絕緣電阻及高頻率電力損失等電力特性，遠超過其他材料，同時又具有安定之化學性能、重量輕等諸多優點，最適用於作電線絕緣材料。電纜之外被仍以具耐磨損及耐候之PVC材料保護之。

Polyethylene (PE) excels other materials in insulation resistance and high frequency power losses. In the meantime, PE possesses many other merits such as chemically stable, light-weight etc.. Usually the PE cable is still protected by abrasion-resistant and weather-proof PVC sheath.

3) PVC 電線、PE 電線主要特性

PROPERTIES OF PVC WIRE AND PE WIRE

項目種類 ITEMS		PVC	PE	
電氣特性 Electrical Properties	體積固有電阻20°C時・Ω・cm Volume Resistivity at 20°C (Ω・cm)		10 ¹³ ~10 ¹⁵	7 x 10 ¹⁶
	介電常數 (50Hz) Dielectric Constant (50Hz)		5~9	2.3
	tan δ (50Hz) Dielectric Loss Tangent (50Hz)		8~15	0.05
	介電強度 KV/mm dielectric Strength KV/mm		25~35	30~50
物理特性 Physical Properties	常溫 Before aging	抗張強度 (kg/mm ²) Tensile Strength	1.0~2.4	1.4
		伸長率 (%) Elongation	150~300	450
	老化 After Aging	抗張強度殘率 (%) Ratio of Tensile Strength After Aging to Before Aging	85以上 above 85	85以上 above 85
		伸長殘率 (%) Ratio of Elongation After Aging to Before Aging	70以上 Above 70	70以上 Above 70
最高使用導體溫度 °C Max Operating Conductor Temperature °C		60	75	
最高短路導體溫度 °C Max Conductor Temperature at Short Circuit °C		120	150	

(8) PVC絕緣PVC被覆銅帶遮蔽控制電纜 (CVVS) (表八)

(CNS 12726C2172) (同JCS 258)

PVC INSULATED PVC SHEATHED COPPER TAPE SCREEN CONTROL CABLE (CVVS) (TABLE 8)

心線數 Number of Core	導體 Conductor			絕緣體厚度 Thickness of Insulation mm	布帶厚度 (約) Approx. Thickness of Rubberized Cloth Tape mm	軟銅帶厚度 (約) Thickness of Annealed Copper Tape mm	布帶厚度 (約) Approx. Thickness of Rubberized Cloth Tape mm	被覆厚度 Thickness of Sheath mm	完成外徑 (約) Approx. Overall Diameter mm	導體電阻 Conduct or Resistance Ω/KM at 20°C	試驗電壓 Test Voltage V/1min	絕緣電阻 Insulation Resistance MΩ-KM at 20°C	概算重量 (約) Approx. Weight Kg/KM	標準長度 Standard Length m
	標稱截面積 Nominal Cross Section Area mm ²	構成 股數/單線徑 Number/ Diameter of Wires NO/mm	外徑 (約) Outer Diameter mm											
2	0.9	7/0.4	1.2	0.8	0.25	0.1	0.25	1.5	10.0	21.3	2000	50	120	300
	1.25	7/0.45	1.35	0.8	0.25	0.1	0.25	1.5	10.5	16.8	2000	50	130	300
	2.0	7/0.6	1.8	0.8	0.25	0.1	0.25	1.5	11.0	9.42	2000	50	160	300
	3.5	7/0.8	2.4	0.8	0.25	0.1	0.25	1.5	12.5	5.30	2000	50	210	300
	5.5	7/1.0	3.0	1.0	0.25	0.1	0.25	1.5	14.5	3.40	2000	50	290	300
	8	7/1.2	3.6	1.2	0.25	0.1	0.25	1.5	16.5	2.36	2000	50	385	300
		圓形壓縮	3.4		0.25	0.1	0.25	1.5	16.0	2.34	2000	50	370	300
	14	7/1.6	4.8	1.4	0.25	0.1	0.25	1.5	19.5	1.33	2000	40	575	300
		圓形壓縮	4.4		0.25	0.1	0.25	1.5	19.0	1.34	2000	40	550	300
	22	7/2.0	6.0	1.6	0.25	0.1	0.25	1.6	23	0.840	2000	40	825	300
		圓形壓縮	5.5		0.25	0.1	0.25	1.5	22	0.849	2000	40	780	300
3	0.9	7/0.4	1.2	0.8	0.25	0.1	0.25	1.5	10.5	21.3	2000	50	140	300
	1.25	7/0.45	1.35	0.8	0.25	0.1	0.25	1.5	11.0	16.8	2000	50	150	300
	2.0	7/0.6	1.8	0.8	0.25	0.1	0.25	1.5	11.5	9.42	2000	50	190	300
	3.5	7/0.8	2.4	0.8	0.25	0.1	0.25	1.5	13.0	5.30	2000	50	255	300
	5.5	7/1.0	3.0	1.0	0.25	0.1	0.25	1.5	15.0	3.40	2000	50	360	300
	8	7/1.2	3.6	1.2	0.25	0.1	0.25	1.5	17.5	2.36	2000	50	485	300
		圓形壓縮	3.4		0.25	0.1	0.25	1.5	17.0	2.34	2000	50	465	300
	14	7/1.6	4.8	1.4	0.25	0.1	0.25	1.5	21	1.33	2000	40	750	300
		圓形壓縮	4.4		0.25	0.1	0.25	1.5	20	1.34	2000	40	715	300
	22	7/2.0	6.0	1.6	0.25	0.1	0.25	1.6	25	0.840	2000	40	1090	300
		圓形壓縮	5.6		0.25	0.1	0.25	1.6	24	0.849	2000	40	1040	300
4	0.9	7/0.4	1.2	0.8	0.25	0.1	0.25	1.5	11.0	21.3	2000	50	165	300
	1.25	7/0.45	1.35	0.8	0.25	0.1	0.25	1.5	11.5	16.8	2000	50	175	300
	2.0	7/0.6	1.8	0.8	0.25	0.1	0.25	1.5	12.5	9.42	2000	50	230	300
	3.5	7/0.8	2.4	0.8	0.25	0.1	0.25	1.5	14.0	5.30	2000	50	315	300
	5.5	7/1.0	3.0	1.0	0.25	0.1	0.25	1.5	16.5	3.40	2000	50	450	300
	0.9	7/0.4	1.2	0.8	0.25	0.1	0.25	1.5	12.0	21.3	2000	50	160	300
	1.25	7/0.45	1.35	0.8	0.25	0.1	0.25	1.5	12.5	16.8	2000	50	170	300
	2.0	7/0.6	1.8	0.8	0.25	0.1	0.25	1.5	13.5	9.42	2000	50	230	300
	3.5	7/0.8	2.4	0.8	0.25	0.1	0.25	1.5	15.0	5.30	2000	50	330	300
	5.5	7/1.0	3.0	1.0	0.25	0.1	0.25	1.5	17.5	3.40	2000	50	480	300
6	0.9	7/0.4	1.2	0.8	0.25	0.1	0.25	1.5	13.0	21.3	2000	50	215	300
	1.25	7/0.45	1.35	0.8	0.25	0.1	0.25	1.5	13.5	16.8	2000	50	235	300
	2.0	7/0.6	1.8	0.8	0.25	0.1	0.25	1.5	14.5	9.42	2000	50	310	300
	3.5	7/0.8	2.4	0.8	0.25	0.1	0.25	1.5	16.5	5.30	2000	50	435	300
	5.5	7/1.0	3.0	1.0	0.25	0.1	0.25	1.5	19.5	3.40	2000	50	630	300

(8) PVC絕緣PVC被覆銅帶遮蔽控制電纜 (CVVS) (表八) (承上)

(CNS 12726C2172) (同JCS 258)

PVC INSULATED PVC SHEATHED COPPER TAPE SCREEN CONTROL CABLE (CVVS) (TABLE 8)

心線數	導體 Conductor			絕緣體厚	布帶厚度	軟銅帶厚	布帶厚度	被覆厚度	完成外徑	導體電阻	試驗電壓	絕緣電阻	概算重量	標準長度
Numb er of Core	標稱截面 積	構成 股數/單線 徑	外徑 (約)	度 (約)	度 (約)	度 (約)	度 (約)	Thicknes s of Sheath	(約) Approx. Diameter	Conduct or Resistan ce	Test Voltage V/1min	Insulatio n Resistan ce	(約) Approx. Weight	Standard Length
	Cross Section Area mm ²	Number/ Diameter of Wires NO/mm	Outer Diameter mm	Thicknes s of Insulatio n mm	Approx. Thicknes s of Rubberiz ed Cloth Tape mm	Thicknes s of Annealed Copper Tape mm	Approx. Thicknes s of Rubberiz ed Cloth Tape mm	mm	mm	Ω/KM at 20°C		MΩ-KM at 20°C	Kg/KM	m
7	0.9	7/0.4	1.2	0.8	0.25	0.1	0.25	1.5	13.0	21.3	2000	50	230	300
	1.25	7/0.45	1.35	0.8	0.25	0.1	0.25	1.5	13.5	16.8	2000	50	250	300
	2.0	7/0.6	1.8	0.8	0.25	0.1	0.25	1.5	14.5	9.42	2000	50	335	300
	3.5	7/0.8	2.4	0.8	0.25	0.1	0.25	1.5	16.5	5.30	2000	50	475	300
	5.5	7/1.0	3.0	1.0	0.25	0.1	0.25	1.5	19.5	3.40	2000	50	690	300
8	0.9	7/0.4	1.2	0.8	0.25	0.1	0.25	1.5	13.5	21.3	2000	50	255	300
	1.25	7/0.45	1.35	0.8	0.25	0.1	0.25	1.5	14.0	16.8	2000	50	280	300
	2.0	7/0.6	1.8	0.8	0.25	0.1	0.25	1.5	15.5	9.42	2000	50	375	300
	3.5	7/0.8	2.4	0.8	0.25	0.1	0.25	1.5	17.5	5.30	2000	50	535	300
	5.5	7/1.0	3.0	1.0	0.25	0.1	0.25	1.5	21	3.40	2000	50	780	300
10	0.9	7/0.4	1.2	0.8	0.25	0.1	0.25	1.5	15.5	21.3	2000	50	315	300
	1.25	7/0.45	1.35	0.8	0.25	0.1	0.25	1.5	16.0	16.8	2000	50	350	300
	2.0	7/0.6	1.8	0.8	0.25	0.1	0.25	1.5	18.0	9.42	2000	50	475	300
	3.5	7/0.8	2.4	0.8	0.25	0.1	0.25	1.5	21	5.30	2000	50	680	300
	5.5	7/1.0	3.0	1.0	0.25	0.1	0.25	1.6	25	3.40	2000	50	1020	300
12	0.9	7/0.4	1.2	0.8	0.25	0.1	0.25	1.5	16.0	21.3	2000	50	350	300
	1.25	7/0.45	1.35	0.8	0.25	0.1	0.25	1.5	16.5	16.8	2000	50	390	300
	2.0	7/0.6	1.8	0.8	0.25	0.1	0.25	1.5	18.5	9.42	2000	50	530	300
	3.5	7/0.8	2.4	0.8	0.25	0.1	0.25	1.5	21	5.30	2000	50	765	300
	5.5	7/1.0	3.0	1.0	0.25	0.1	0.25	1.7	26	3.40	2000	50	1160	300
15	0.9	7/0.4	1.2	0.8	0.25	0.1	0.25	1.5	17.0	21.3	2000	50	410	300
	1.25	7/0.45	1.35	0.8	0.25	0.1	0.25	1.5	17.5	16.8	2000	50	455	300
	2.0	7/0.6	1.8	0.8	0.25	0.1	0.25	1.5	19.5	9.42	2000	50	630	300
	3.5	7/0.8	2.4	0.8	0.25	0.1	0.25	1.6	23	5.30	2000	50	930	300
	5.5	7/1.0	3.0	1.0	0.25	0.1	0.25	1.8	27	3.40	2000	50	1400	300
20	0.9	7/0.4	1.2	0.8	0.25	0.1	0.25	1.5	19.0	21.3	2000	50	500	300
	1.25	7/0.45	1.35	0.8	0.25	0.1	0.25	1.5	19.5	16.8	2000	50	570	300
	2.0	7/0.6	1.8	0.8	0.25	0.1	0.25	1.6	22	9.42	2000	50	790	300
	3.5	7/0.8	2.4	0.8	0.25	0.1	0.25	1.7	25	5.30	2000	50	1190	300
	5.5	7/1.0	3.0	1.0	0.25	0.1	0.25	1.9	31	3.40	2000	50	1800	300
30	0.9	7/0.4	1.2	0.8	0.25	0.1	0.25	1.6	23	21.3	2000	50	730	300
	1.25	7/0.45	1.35	0.8	0.25	0.1	0.25	1.6	24	16.8	2000	50	800	300
	2.0	7/0.6	1.8	0.8	0.25	0.1	0.25	1.7	27	9.42	2000	50	1140	300
	3.5	7/0.8	2.4	0.8	0.25	0.1	0.25	1.9	31	5.30	2000	50	1730	300