



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

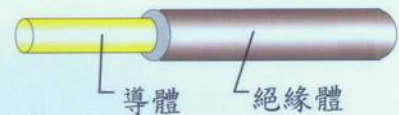
PROPERTIES OF PVC WIRE AND PE WIRE

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

二、各種無鉛 PVC 絕緣電線電纜規格表

表一 600V 聚氯乙稀絕緣電線(IV-LF)

符合 CNS 679C2012 規定且通過 RoHS 檢測合格



標稱截面積 mm ²	導體		絕緣厚度 mm	完成外徑 (約) mm	導體電阻 Ω/km(20°C)	試驗電壓 V/1min	絕緣電阻 MΩ.km(20°C)	概算重量 Kg/ km
	構成 單線數/電線徑 NO/mm	外徑 (約) mm						
--	1/0.8	0.8	0.8	2.4	35.7	1500	50	11
--	1/1.0	1.0	0.8	2.6	22.8	1500	50	14
--	1/1.2	1.2	0.8	2.8	15.8	1500	50	17
--	1/1.6	1.6	0.8	3.2	8.92	1500	50	27
--	1/2.0	2.0	0.8	3.6	5.65	1500	50	38
--	1/2.6	2.6	1.0	4.6	3.35	1500	50	65
--	1/3.2	3.2	1.2	5.6	2.21	1500	50	95
0.9	7/0.4	1.2	0.8	2.8	20.9	1500	50	16
1.25	7/0.45	1.35	0.8	3.0	16.5	1500	50	19
2	7/0.6	1.8	0.8	3.4	9.24	1500	50	28
3.5	7/0.8	2.4	0.8	4.0	5.20	1500	50	45
5.5	7/1.0	3.0	1.0	5.0	3.33	1500	50	70
8	7/1.2	3.6	1.2	6.0	2.31	1500	50	105
	圓型壓縮	3.4		5.8	2.29			100
14	7/1.6	4.8	1.4	7.6	1.30	2000	40	175
	圓型壓縮	4.4		7.2	1.31			160
22	7/2.0	6.0	1.6	9.2	0.824	2000	40	265
	圓型壓縮	5.5		8.7	0.832			245
30	7/2.3	6.9	1.6	10.5	0.623	2000	40	335
	圓型壓縮	6.4		10.0	0.610			325
38	7/2.6	7.8	1.8	11.5	0.487	2500	40	430
	圓型壓縮	7.3		11.0	0.481			405
50	19/1.8	9.0	1.8	13.0	0.378	2500	30	535
	圓型壓縮	8.4		12.4	0.366			525
60	19/2.0	10.0	1.8	14.0	0.303	2500	30	650
	圓型壓縮	9.3		13.3	0.305			630
80	19/2.3	11.5	2.0	15.5	0.229	2500	30	850
	圓型壓縮	10.7		14.7	0.229			815
100	19/2.6	13.0	2.0	17.0	0.180	2500	30	1080
	圓型壓縮	12.0		16.0	0.183			1025
125	19/2.9	14.5	2.2	19.0	0.144	3000	20	1300
	圓型壓縮	13.5		18.0	0.146			1275
150	37/2.3	16.1	2.2	21	0.118	3000	20	1610
	圓型壓縮	14.7		20	0.122			1575
200	37/2.6	18.2	2.4	23	0.0922	3000	20	2040
	圓型壓縮	17.0		22	0.0915			1965
250	61/2.3	20.7	2.4	26	0.0722	3000	20	2610
	圓型壓縮	19.0		24	0.0739			2495
325	61/2.6	23.4	2.6	29	0.0565	3500	20	3320
	圓型壓縮	21.7		27	0.0568			3170
400	61/2.9	26.1	2.6	32	0.0454	3500	20	4080
	圓型壓縮	24.1		30	0.0462			3940
500	61/3.2	28.8	2.8	35	0.0373	3500	20	4970
	圓型壓縮	26.9		33	0.0369			4770