TATUNG

電力事業群
Power Business Group

電線電纜事業部
Wire and Cable
Business Unit

大同交連聚乙烯電力電纜 (600V~25kV)
TATUNG XLPE Power Cable (600V~25kV)

ISO 9001 BSMI REGISTERED

ISO 14001 BSMI REGISTERED

OHSAS 18001 BSMI REGISTERED

電線電纜是工業發展的重要橋樑
它能夠連接電力、傳遞資訊、分享科技

大同公司 持續研發環保節能的優良產品
讓人們擁有更便利的生活與美好的未來

本公司生產 XLPE 電力電纜已累積近四十年之豐富經驗，經年荷蒙台灣電力公司大量採用，並外銷中東、東南亞及關島等地區，品質信譽深獲佳評，為確保繼續供應最佳品質的產品，全體員工更努力以赴，研究改善，擴大生產，以答謝各界支持與愛用。

WITH NEARLY 40 YEARS AMPLE EXPERIENCE IN PRODUCTION OF XLPE POWER CABLE AND WELL-KNOWN FOR ITS RELIABILITY IN QUALITY, TATUNG CO. IS ABLE TO SUPPLY IN HUGE QUANTITY TO TAIWAN POWER CO. AS WELL AS TO EXPORT TO MID-EAST, SOUTH-EAST ASIA AND GUAM ETC. IN OROER TO SUSTAIN ITS TOP QUALITY PRODUCTS, EVERY COLLEAGUE ENDEAVERS IN R & D AND IN INCREASING PRODUCTION SO AS TO APPRECIATE HIGHLY OUR CUSTOMERS FOR THEIR SUPPORT AND PATRONAGE.

Wires and cables are among the most essential elements in industrial development. They can connect power, transmit data, and enable the sharing of technologies.

TATUNG strives to achieve sustainable research and development of environmental-friendly and energy-saving products, in order to provide people with a more convenient lifestyle and a brighter future.

目錄 Content

前言

交連聚乙烯電力電纜，簡稱交連 PE 電力電纜，英文名稱為 Cross-Linked Polyethylene Insulated Power Cable，簡稱 XLPE Power Cable，是性能最優良的電力電纜。

聚乙烯（PE）為二次大選期間所發展出來的絕緣材料，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，因此問世以來，即被廣泛使用。然，PE 為一種熱軟化點較低之熱塑性物質，溫升 100℃ ~110℃即發生變形，所以在保護裝置不健全之配線系統，遇有事故之超載電流或短路電流，絕緣體即發生變形而使導體中心位偏，致使電纜破壞。針對此項缺點，乃有交連 PE 之發展。由原來熱塑性物質改變成熱固性物質，改良了原來 PE 耐熱性及物理性之缺點，卻仍保持著 PE 原有的特性。因此採用交連 PE 絕緣材料之電力電纜是目前最理想的電力電纜。

近年來我國工業、經濟的迅速成長，深受國際重視，正步入重工業及精密工業階段，電力亦擔任動力的重要來源。本公司忝為電力輸配用電纜製造一分子，更感責任重大，1997 年不惜巨資，開發易撕外導三重同時押出，1985 年開發乾式加硫押出，1992 建設亞洲最大型押出設備開發 69KV 級以上超高壓 XLPE 電力電纜，並獲國際標準品質保證制度 ISO 9001 認證通過，貢獻社會、服務顧客。

本 XLPE 電力電纜型錄，採通用概要，僅供參考，有關詳細資料或特殊規格產品，敬請逕向本公司洽商。

何謂 XLPE

XLPE 就是分子與分子之間，由於化學結合而彼此間形成相交連關係，而 PE 在結晶融點以上的溫度時，如圖一所示的狀態，PE 分子被加上力時，分子彼此間就會滑動而產生流動變形，另一方面 XLPE 如圖二所示，經過交連的分子間，加上外加力時，就可抑制分子間的滑動而不會產生很大的變形。

如此使 PE 起交連反應的方法主要有：
(1) 電子線照射的方法。
(2) 化學反應的方法。
(3) 硅烷交連的方法。

以電子線照射的方法，就是把本來的 PE 直接用高能量的電子線加以照射，PE 分子內的氫原子由於電子線的照射而放出來，利用所遺留的結合位置而使分子彼此間結合起來。但是這種方法的製造設備有經濟性的問題存在，目前本公司未加採用。

所謂化學反應方法，是將交連反應劑混入 PE 內，加熱使其產生交連反應，這個意思就與橡膠的加硫相同。

PREFACE

The Cross-Linked Polyethylene Insulated Power Cable (Abbreviated as XLPE Power Cable)is the most excellent Power cable.

PE is an insulation material developed in the world war II. Its insulation resistance and high frequency power loss excel other insulation materials; meanwhile, it is widely adopted due to its chemically stable property and light weight. However, PE is a thermoplastic material with lower thermosoften temperature, when used at 100℃ - 110℃ ambient temperature, a deformity will be resulted in, therefore in an insufficient protection distribution (transmission) system whenever an overcurrent or short-circuit current is occurred, the insulation will deform and cause the shift of conductor center to damage the cable itself. In order to correct this shortcoming, the development of XLPE thus becomes indispensable. XLPE corrected shortcomings of heat-resistant and physical properties of PE from thermoplastic to thermosetting material whereas possesses original merits of PE Accordingly, to adopt XLPE power cable has become the most ideal choice.

In the past few years, the fast growth of industry and economy in domestic have been regarded highly in the worldwide. While entering the age of heavy industry and precision industry, "Power" is in dynamic resources playing more and more important role. Being a manufacturer in the power transmission and distribution cable industry and sensing its heavy responsibility, in 1977 we invested heavily in strippable insulation screen with three tandem extrusions, in 1985 developped dry curing method, in 1992 erected one of the biggest three tandem extrusions in Asia to supply the voltage higher than 69KV XLPE power cable and awarded the ISO 9001 international standard quality recognition assurance system to serve our customers.

This catalog serves as a brief introduction for reference only. For any detailed information or special request, please contact us idividually.

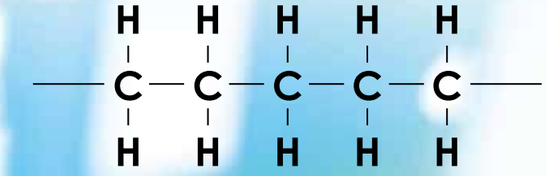
WHAT IS XLPE

XLPE is a PE molecule chemically bond together to form a cross-link netword even beyond the crystallization melting temperature. As shown in Fig.1, PE molecule is deformed by a "slidding" between molecules while "force" is applied onto the molecule.

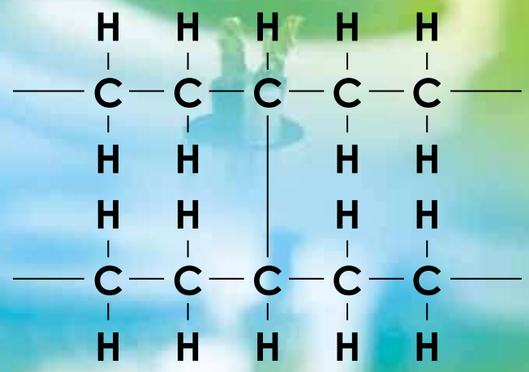
Whereas, as shown in Fig.2, there is much less deformity while undergoing the same process as in Fig.1.

There are several processes to facilitate cross-linding of PE, such as:
(1) Electron beam radiation method.
(2) Chemical reaction method.
(3) Silane crosslink method.

Electron beam radiation method is to cast high-energy electron ray directly to PE, at this point hydrogen atom will be released upon this casting. in the meantime, the molecules will bond together by the slack of bonding position. However, we do not adopt this method due to cost consideration. The so-called chemical reaction method is simply to mix cross-linking agent with PE, then heat to cross-linking is reacted, In fact this is very similar to rubber curing.



圖一 (Fig.1)



圖二 (Fig.2)

XLPE 電力電纜的特性
PROPERTIES OF XLPE POWER CABLE

3-1 XLPE 之物理及電氣特性與其他絕緣材料之比較：
RHYSICAL AND ELECTRICAL PROPERTIES OF XLPE, PE, EPR:

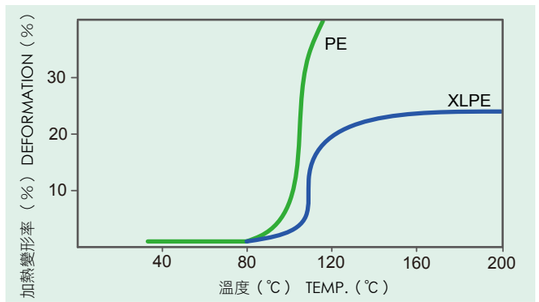
◆表一 (Table 1)

項目 ITEMS			XLPE	PE	EPR
物理特性 PHYSICAL PROPERTIES	常溫 BEFORE AGEING	抗長強度 TENSILE STRENGTH (kg/mm²) 伸長率 ELONGATION(%)	1.5~2.3 500~600	1.2~1.5 500~700	0.4~0.9 400~600
	老化 AFTER AGEING	100℃ 120℃ 150℃	優 EXCELLENT 優 EXCELLENT 良 GOOD	良 GOOD 溶解 MELT 溶解 MELT	優 EXCELLENT 良 GOOD 尚可 FAIRLY GOOD
加熱變形 HOT DEFORMATION at 150℃ 耐油性 OIL RESISTANCE at 70℃			良 GOOD 良 GOOD	溶解 MELT 良 GOOD	良 GOOD 不良 POOR
電氣特性 ELECTRICAL PROPERTIES	體積固有電阻 VOLUME RESISTIVITY at 20℃ (Ω.cm) 介電常數 DIELECTRIC CONSTANT TANGENT(50Hz) tan δ DIELECTRIC LOSS TANGENT(50Hz) 介電強度 DIELECTRIC STRENGTH (KV/mm)		$>10^{16}$ 2.3 0.05 30~50	$>10^{16}$ 2.3 0.05 30~50	$>10^{15}$ 4~5 0.3 30~45
最高使用導體溫度 (℃) MAX.OPERATION CONDUCTOR TEMPERATURE (℃)			90	75	90
最高短路導體溫度 (℃) MAX.CONDUCTOR TEMPERATURE AT SHORT CIRCUIT (℃)			250	150	250

3-2XLPE 電力電纜與 PE 電力電纜之比較：
THE COMARISON OF XLPE POWER CABLE WITH PE POWER CABLE：

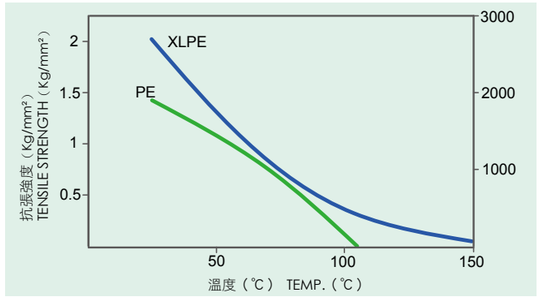
★ 具有優良的加熱變形特性
如圖三所示當 PE 溶解於 110℃（230 ℉）而 XLPE 電力電纜在定額負載之高溫下只發生極小之變形。

★ EXCELLENT CHARACTERISTIC OF HOT DEFORMATION
While polyethylene melts at about 110℃ (230 ℉) XLPE deforms only very little under specified load at high temperature as show in Fig.3.



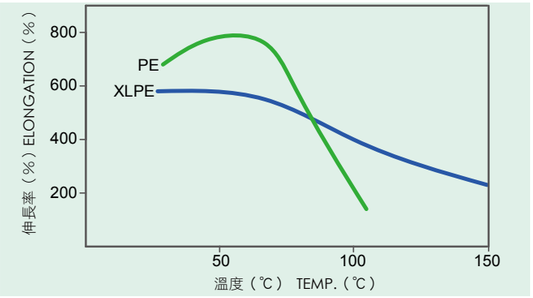
圖三 (Fig.3)

★ 具有優良的機械特性
如圖四、五 XLPE 電力電纜在高溫下具有卓越的機械特性。



圖四 (Fig.4)

★ EXCELLENT MECHANICAL PROPERTIES
As shown in Fig.4.and 5.XLPE has superior mechanical properties even at high temperature.



圖五 (Fig.5)

★ 具有優良的耐油、耐化學藥品特性
PE 有卓越的耐油、耐化學藥品之特性，而這特性亦被 XLPE 更有效的運用。當 PE 之彎曲面接油或化學藥品時會發生龜裂之傾向。而 XLPE 卻如表一所示，具有非常優良的耐環境龜裂特性。

★ EXCELLENT RESISTANCE TO OIL AND CHEMICALS
Polyethylene excels in resistances to oil and chemicals. This characteristic is further improved in XLPE. Polyethylene's bending surface tends to crack while contact with oil or certain chemicals. As is shown in Table 1.XLPE is very resistant to environmental stress cracking.

★ 具有容許較大的短路電流容量
當我們使用電力電纜時，必須對短路故障之過電流要充分的了解。從不同的試驗中我們得到如表二之數據，從表上我們可確知 XLPE 電力電纜在短路狀況下導體可容較高之溫度，因此 XLPE 如表一所示，具有非常優良的耐環境龜裂特性。

★ POSSESS LARGER ALLOWABLE SHORT-TIME CURRENT CAPACITY
When we use a power cable, we must make a full study of over current which runs through in case of short-circuit accident. From various experiments, we ascertain that as shown in Table 2, XLPE Cable has a higher maximum conductor temperature in short-circuit. Therefore it allows larger short-time current than conventional polyethylene insulated power cable.

◆表二．最大之導體容許溫度
Table 2. MAXIMUM ALLOWABLE CONDUCTTOR TEMPERATURE

種類 TYPE	正常連續 NORMAL OPERATION	緊急超載 EMERGENCY OVERLOAD CONDITION	接地故障 SHORT-CIRCUIT CONDITION
XLPE 電力電纜 XLPE CABLE	90℃ (194 ℉)	130℃ (266 ℉)	250℃ (482 ℉)
PE 電力電纜 POLYETHYLENE CABLE	75℃ (167 ℉)	90℃ (194 ℉)	140℃ (284 ℉)

★ 具有抗較高的電壓及電暈特性
在常溫下 XLPE 電力電纜與 PE 電力電纜之 AC 破壞電壓、衝擊破壞電壓、電暈水準幾乎相近，但在溫升時，XLPE 電力電纜就卓越於 PE 電力電纜。

★ HIGH WITHSTAND VOLTAGE AND CORONA RESISTANCE
The A.C. breakdown voltage of cable is at normal temperature, nearly the same and, at elevated temperature , higher than that of conventional polyethylene insulated power cable. XLPE cable is almost equal to polyethlene power cable. In respect to impulse breakdown votatge and corona resistance.
For extra high voltage,XLPE power cables we use XLPE containing a special addition which we have developed to ensure excellent properties.

交連聚乙烯絕緣聚氯乙烯被覆電力電纜構造表
XLPE POWER CABLE STRUCTURE TABLE

◆表三 0~600V 單芯 / Table 3 0~600V SINGLE CORE

CNS 2655, C 2047

標稱截面積 NOMINAL CROSS SECTION AREA	導體 CONDUCTOR		最小平均絕緣厚度 MIN.THICKNESS OF INSULATION	最小平均被覆厚度 MIN.THICKNESS OF SHEATH	最大導體電阻 (20℃) MAX. CONDUCTOR RESISTANCE AT 20℃		最大導體電阻 (20℃) MAX. CONDUCTOR RESISTANCE AT 20℃	試驗電壓 TEST VOLTAGE	最小絕緣電阻 MIN. INSULATION RESISTANCE	標準單長 STANDARD LENGTH	約計完成外徑（參考值） APPROX. OVERALL DIAMETER	約計重量（參考值） APPROX. WEIGHT
	股數 / 素線徑 NUMBER AND NOMINAL DIAMETER OF WIRES	外徑 OUTSIDE DIAMETER			軟銅絞線 ANNEALED COPPER CONDUCTOR		鍍錫軟銅絞線 TIN COATED COPPER CONDUCTOR					
mm²	股數 /mm	mm	mm	mm	Ω/km		Ω/km	KV	MΩ.km	m	mm	kg/km
	1/1.6	1.6	0.76	0.38	8.92		9.29	3.5	2500	300	4.2	49
	1/2.0	2.0	0.76	0.38	5.65		5.83	3.5	2000	300	4.3	63
	1/2.6	2.6	0.76	0.38	3.35		3.45	3.5	2000	300	4.9	87
	1/3.2	3.2	1.14	0.38	2.21		2.28	5.5	2000	300	6.7	128
2.0	7/0.6	1.8	0.76	0.38	9.24		9.63	3.5	2500	300	4.4	51
3.5	7/0.8	2.4	0.76	0.38	5.20		5.41	3.5	2000	300	5.0	71
5.5	7/1.0	3.0	0.76	0.38	3.33		3.47	3.5	2000	300	5.6	94
8	7/1.2	3.6	1.14	0.38	2.31		2.41	5.5	1500	300	6.6	134
14	7/1.6	4.8	1.14	0.76	1.30		1.35	5.5	1500	300	8.6	203
22	7/2.0	6.0	1.14	0.76	0.824		0.849	5.5	1500	300	9.8	288
(30)	7/2.3	6.9	1.40	0.76	0.623		0.642	7.0	1000	300	11.3	364
38	7/2.6	7.8	1.40	0.76	0.487		0.502	7.0	1000	300	12.1	450
(50)	19/1.8	9.0	1.40	1.14	0.378		0.394	7.0	1000	300	14.6	570
60	19/2.0	10.0	1.40	1.14	0.303		0.313	7.0	1000	300	15.6	679
(80)	19/2.3	11.5	1.40	1.14	0.229		0.237	7.0	800	300	16.9	860
100	19/2.6	13.0	1.40	1.14	0.180		0.185	7.0	800	300	18.5	1083
(125)	19/2.9	14.5	1.65	1.65	0.144		0.149	8.0	800	300	21.6	1360
150	37/2.3	16.1	1.65	1.65	0.118		0.121	8.0	800	300	23.4	1676
200	37/2.6	18.2	1.65	1.65	0.0922		0.0951	8.0	800	200	25.5	2091
250	61/2.3	20.7	1.65	1.65	0.0722		0.0744	8.0	600	200	28.0	2665
325	61/2.6	23.4	2.03	1.65	0.0565		0.0582	10.0	600	200	31.4	3380
400	61/2.9	26.1	2.03	1.65	0.0454		0.0468	10.0	600	200	34.1	4147
500	61/3.2	28.8	2.03	1.65	0.0373		0.0384	10.0	600	150	36.8	4990
600	91/2.9	31.9	2.41	2.41	0.0304		0.0314	10.0	600	150	38.5	6105
800	127/2.8	36.4	2.41	2.41	0.0234		0.0241	10.0	400	150	46.9	7883
1000	127/3.2	41.6	2.41	2.41	0.0179		0.0185	10.0	400	150	52.1	10160

◆表四 0~600V 二芯 / Table 4 0~600V TWO CORES

mm²	股數 /mm	mm	mm	mm	Ω/km		Ω/km	KV	MΩ.km	m	mm	kg/km
	1/1.6	1.6	0.76	1.14	9.10		9.48	3.5	2500	300	9.4	110
	1/2.0	2.0	0.76	1.14	5.76		5.95	3.5	2000	300	10.2	140
	1/2.6	2.6	0.76	1.14	3.42		3.52	3.5	2000	300	11.4	195
	1/3.2	3.2	1.14	1.14	2.25		2.33	5.5	2000	300	14.4	322
2.0	7/0.6	1.8	0.76	1.14	9.42		9.82	3.5	2500	300	9.8	116
3.5	7/0.8	2.4	0.76	1.14	5.30		5.52	3.5	2000	300	11.0	160
5.5	7/1.0	3.0	0.76	1.14	3.40		3.54	3.5	2000	300	12.2	213
8	7/1.2	3.6	1.14	1.52	2.36		2.46	5.5	1500	300	16.0	341
14	7/1.6	4.8	1.14	1.52	1.33		1.38	5.5	1500	300	18.4	502
22	7/2.0	6.0	1.14	1.52	0.840		0.866	5.5	1500	300	20.8	699
(30)	7/2.3	6.9	1.40	2.03	0.635		0.655	7.0	1000	300	24.5	875
38	7/2.6	7.8	1.40	2.03	0.497		0.512	7.0	1000	300	26.6	927
(50)	19/1.8	9.0	1.40	2.03	0.386		0.402	7.0	1000	300	28.8	1205
60	19/2.0	10.0	1.40	2.03	0.309		0.319	7.0	1000	300	31.0	1683
(80)	19/2.3	11.5	1.40	2.03	0.234		0.241	7.0	800	300	33.9	2090
100	19/2.6	13.0	1.40	2.03	0.184		0.189	7.0	800	300	36.8	2615
(125)	19/2.9	14.5	1.65	2.03	0.147		0.152	8.0	800	300	42.5	3240
150	37/2.3	16.1	1.65	2.03	0.120		0.123	8.0	800	300	46.3	4053
200	37/2.6	18.2	1.65	2.79	0.0940		0.0970	8.0	800	300	50.3	5003
250	61/2.3	20.7	1.65	2.79	0.0736		0.0759	8.0	600	200	55.3	6313
325	61/2.6	23.4	2.03	2.79	0.0576		0.0594	10.0	600	200	62.1	7985

※ 依 CNS 2655 規定，8mm² 以上之導體得予以半壓縮或全壓縮處理。
According to CNS 2655, for conductor size larger than 8mm², both compressed and compact stranded conductors are available.

交連聚乙烯絕緣聚氯乙烯被覆電力電纜構造表
XLPE POWER CABLE STRUCTURE TABLE

◆表五 0~600V 三芯 / Table 5 0~600V THREE CORES

CNS 2655, C 2047

標稱截面積 NOMINAL CROSS SECTION AREA	導體 CONDUCTOR		最小平均絕緣厚度 MIN.THICKNESS OF INSULATION	最小平均被覆厚度 MIN.THICKNESS OF SHEATH	最大導體電阻 (20℃) MAX. CONDUCTOR RESISTANCE AT 20℃		最大導體電阻 (20℃) MAX. CONDUCTOR RESISTANCE AT 20℃	試驗電壓 TEST VOLTAGE	最小絕緣電阻 MIN. INSULATION RESISTANCE	標準單長 STANDARD LENGTH	約計完成外徑（參考值） APPROX. OVERALL DIAMETER	約計重量（參考值） APPROX. WEIGHT
	股數 / 素線徑 NUMBER AND NOMINAL DIAMETER OF WIRES	外徑 OUTSIDE DIAMETER			軟銅絞線 ANNEALED COPPER CONDUCTOR		鍍錫軟銅絞線 TIN COATED COPPER CONDUCTOR					
mm²	股數 /mm	mm	mm	mm	Ω/km		Ω/km	KV	MΩ.km	m	mm	kg/km
	1/1.6	1.6	0.76	1.14	9.10		9.48	3.5	2500	300	9.9	135
	1/2.0	2.0	0.76	1.14	5.76		5.95	3.5	2000	300	10.8	177
	1/2.6	2.6	0.76	1.14	3.42		3.52	3.5	2000	300	12.1	253
	1/3.2	3.2	1.14	1.52	2.25		2.33	5.5	2000	300	16.1	414
2.0	7/0.6	1.8	0.76	1.14	9.42		9.82	3.5	2500	300	10.4	142
3.5	7/0.8	2.4	0.76	1.14	5.30		5.52	3.5	2000	300	11.6	200
5.5	7/1.0	3.0	0.76	1.14	3.40		3.54	3.5	2000	300	12.9	272
8	7/1.2	3.6	1.14	1.52	2.36		2.46	5.5	1500	300	17.0	431
14	7/1.6	4.8	1.14	1.52	1.33		1.38	5.5	1500	300	19.5	649
22	7/2.0	6.0	1.14	2.03	0.840		0.866	5.5	1500	300	25.1	971
(30)	7/2.3	6.9	1.40	2.03	0.635		0.655	7.0	1000	300	26.3	1246
38	7/2.6	7.8	1.40	2.03	0.497		0.512	7.0	1000	300	28.3	1533
(50)	19/1.8	9.0	1.40	2.03	0.386		0.402	7.0	1000	300	30.5	1879
60	19/2.0	10.0	1.40	2.03	0.309		0.319	7.0	1000	300	33.0	2271
(80)	19/2.3	11.5	1.40	2.03	0.234		0.241	7.0	800	300	35.8	2856
100	19/2.6	13.0	1.40	2.03	0.184		0.189	7.0	800	300	39.3	3604
(125)	19/2.9	14.5	1.65	2.79	0.147		0.152	8.0	800	300	44.6	4539
150	37/2.3	16.1	1.65	2.79	0.120		0.123	8.0	800	300	49.4	5560
200	37/2.6	18.2	1.65	2.79	0.0940		0.0970	8.0	800	200	53.7	6907
250	61/2.3	20.7	1.65	2.79	0.0736		0.0759	8.0	600	200	59.1	8769
325	61/2.6	23.4	2.03	2.79	0.0576		0.0594	10.0	600	200	66.5	11120

◆表六 0~600V 四芯 / Table 6 0~600V FOUR CORES

mm²	股數 /mm	mm	mm	mm	Ω/km		Ω/km	KV	MΩ.km	m	mm	kg/km
	1/1.6	1.6	0.76	1.14	9.10		9.48	3.5	2500	300	10.7	166
	1/2.0	2.0	0.76	1.14	5.76		5.95	3.5	2000	300	11.7	219
	1/2.6	2.6	0.76	1.14	3.42		3.52	3.5	2000	300	13.1	317
	1/3.2	3.2	1.15	1.52	2.25		2.33	5.5	2000	300	16.8	488
2.0	7/0.6	1.8	0.76	1.14	9.42		9.82	3.5	2500	300	11.2	174
3.5	7/0.8	2.4	0.76	1.14	5.30		5.52	3.5	2000	300	12.7	252
5.5	7/1.0	3.0	0.76	1.52	3.40		3.54	3.5	2000	300	14.9	373
8	7/1.2	3.6	1.15	1.52	2.36		2.46	5.5	1500	300	18.5	545
14	7/1.6	4.8	1.15	1.52	1.33		1.38	5.5	1500	300	22.4	885
22	7/2.0	6.0	1.15	2.03	0.840		0.866	5.5	1500	300	25.3	1251
(30)	7/2.3	6.9	1.40	2.03	0.635		0.655	7.0	1000	300	27.5	1620
38	7/2.6	7.8	1.40	2.03	0.497		0.512	7.0	1000	300	31.1	1960
(50)	19/1.8	9.0	1.40	2.03	0.386		0.402	7.0	1000	300	33.8	2490
60	19/2.0	10.0	1.40	2.03	0.309		0.319	7.0	1000	300	36.4	2943
(80)	19/2.3	11.5	1.40	2.79	0.234		0.241	7.0	800	300	41.2	4150
100	19/2.6	13.0	1.40	2.79	0.184		0.189	7.0	800	300	45.1	4845
(125)	19/2.9	14.5	1.65	2.79	0.147		0.152	8.0	800	200	49.6	6280
150	37/2.3	16.1	1.65	2.79	0.120		0.123	8.0	800	200	54.5	7191
200	37/2.6	18.2	1.65	2.79	0.0940		0.0970	8.0	800	200	59.4	8961
250	61/2.3	20.7	1.65	2.79	0.0736		0.0759	8.0	600	200	65.4	11400
325	61/2.6	23.4	2.03	3.56	0.0576		0.0594	10.0	600	200	75.2	14760

※ 依 CNS 2655 規定，8mm² 以上之導體得予以半壓縮或全壓縮處理。
According to CNS 2655, for conductor size larger than 8mm², both compressed and compact stranded conductors are available.

交連聚乙烯絕緣聚氯乙烯被覆電力電纜構造表
XLPE POWER CABLE STRUCTURE TABLE

◆表七 601~2000V 單芯 / Table 7 601~2000V SINGLE CORE

CNS 2655, C 2047

標稱截面積 NOMINAL CROSS SECTION AREA	導體 CONDUCTOR		最小平均絕緣厚度 MIN.THICKNESS OF INSULATION	最小平均被覆厚度 MIN.THICKNESS OF SHEATH	最大導體電阻 (20℃) MAX. CONDUCTOR RESISTANCE AT 20℃		最大導體電阻 (20℃) MAX. CONDUCTOR RESISTANCE AT 20℃	試驗電壓 TEST VOLTAGE	最小絕緣電阻 MIN. INSULATION RESISTANCE	標準單長 STANDARD LENGTH	約計完成外徑（參考值） APPROX. OVERALL DIAMETER	約計重量（參考值） APPROX. WEIGHT
	股數 / 素線徑 NUMBER AND NOMINAL DIAMETER OF WIRES	外徑 OUTSIDE DIAMETER			軟銅絞線 ANNEALED COPPER CONDUCTOR		鍍錫軟銅絞線 TIN COATED COPPER CONDUCTOR					
mm²	股數 /mm	mm	mm	mm	Ω/km		Ω/km	KV	MΩ.km	m	mm	kg/km
2.0	7/0.6	1.8	1.14	0.38	9.24		9.63	5.5	3500	300	7.3	56
3.5	7/0.8	2.4	1.14	0.38	5.20		5.41	5.5	3000	300	7.9	74
5.5	7/1.0	3.0	1.14	0.38	3.33		3.47	5.5	2500	300	8.4	98
8	7/1.2	3.6	1.40	0.38	2.31		2.41	7.0	2500	300	9.6	133
14	7/1.6	4.8	1.40	0.76	1.30		1.35	7.0	2000	300	11.6	200
22	7/2.0	6.0	1.40	0.76	0.824		0.849	7.0	2000	300	12.8	284
(30)	7/2.3	6.9	1.65	0.76	0.623		0.642	8.0	1500	300	14.5	276
38	7/2.6	7.8	1.65	0.76	0.487		0.502	8.0	1500	300	15.6	451
(50)	19/1.8	9.0	1.65	1.14	0.378		0.394	8.0	1500	300	17.0	560
60	19/2.0	10.0	1.65	1.14	0.303		0.313	8.0	1500	300	18.6	690
(80)	19/2.3	11.5	1.65	1.14	0.229		0.237	8.0	1000	300	20.1	930
100	19/2.6	13.0	1.65	1.14	0.180		0.185	8.0	1000	300	21.6	1098
(125)	19/2.9	14.5	1.90	1.65	0.144		0.149	9.5	1000	300	24.2	1450
150	37/2.3	16.1	1.90	1.65	0.118		0.121	9.5	1000	300	26.3	1692
200	37/2.6	18.2	1.90	1.65	0.0922		0.0951	9.5	800	300	28.4	2111
250	61/2.3	20.7	1.90	1.65	0.0722		0.0744	9.5	800	200	30.9	2669
325	61/2.6	23.4	2.29	1.65	0.0565		0.0582	11.5	800	200	34.4	3391
400	61/2.9	26.1	2.29	1.65	0.0454		0.0468	11.5	800	200	37.1	4154
500	61/3.2	28.8	2.29	1.65	0.0373		0.0384	11.5	600	150	39.7	4996

◆表八 601~2000V 三芯 / Table 8 601~2000V THREE CORES

mm²	股數 /mm	mm	mm	mm	Ω/km		Ω/km	KV	MΩ.km	m	mm	kg/km
2.0	7/0.6	1.8	1.14	1.14	9.42		9.82	5.5	3500	300	13.8	179
3.5	7/0.8	2.4	1.14	1.14	5.30		5.52	5.5	3000	300	15.0	241
5.5	7/1.0	3.0	1.14	1.52	3.40		3.54	5.5	2500	300	18.0	348
8	7/1.2	3.6	1.40	1.52	2.36		2.46	7.0	2500	300	20.5	473
14	7/1.6	4.8	1.40	1.52	1.33		1.38	7.0	2000	300	23.0	698
22	7/2.0	6.0	1.40	2.03	0.840		0.866	7.0	2000	300	28.0	1040
(30)	7/2.3	6.9	1.65	2.03	0.635		0.655	8.0	1500	300	31.3	1320
38	7/2.6	7.8	1.65	2.03	0.497		0.512	8.0	1500	300	32.8	1615
(50)	19/1.8	9.0	1.65	2.03	0.386		0.402	8.0	1500	300	35.5	1990
60	19/2.0	10.0	1.65	2.03	0.309		0.319	8.0	1500	300	37.5	2363
(80)	19/2.3	11.5	1.65	2.03	0.234		0.241	8.0	1000	300	42.1	3210
100	19/2.6	13.0	1.65	2.03	0.184		0.189	8.0	1000	300	44.0	3703
125	19/2.9	14.5	1.90	2.79	0.147		0.152	9.5	1000	200	51.8	4751
150	37/2.3	16.1	1.90	2.79	0.120		0.123	9.5	1000	200	55.3	5671
200	37/2.6	18.2	1.90	2.79	0.0940		0.0970	9.5	800	150	60.0	7039
250	61/2.3	20.7	1.90	2.79	0.0736		0.0759	9.5	800	150	65.0	8853
325	61/2.6	23.4	2.29	2.79	0.0576		0.0594	11.5	800	150	73.0	11240

※ 依 CNS 2655 規定，8mm² 以上之導體得予以半壓縮或全壓縮處理。
According to CNS 2655, for conductor size larger than 8mm², both compressed and compact stranded conductors are available.

交連聚乙烯絕緣聚氯乙烯被覆電力電纜構造表
XLPE POWER CABLE STRUCTURE TABLE

◆表九 2001~5000V 單芯 / Table 9 2001~5000V SINGLE CORE

CNS 2655, C 2047

標稱截面積 NOMINAL CROSS SECTION AREA	導體 CONDUCTOR		最小平均絕緣厚度 MIN.THICKNESS OF INSULATION	最小平均被覆厚度 MIN.THICKNESS OF SHEATH	最大導體電阻 (20℃) MAX. CONDUCTOR RESISTANCE AT 20℃		最大導體電阻 (20℃) MAX. CONDUCTOR RESISTANCE AT 20℃	試驗電壓 TEST VOLTAGE	最小絕緣電阻 MIN. INSULATION RESISTANCE	標準單長 STANDARD LENGTH	約計完成外徑（參考值） APPROX. OVERALL DIAMETER	約計重量（參考值） APPROX. WEIGHT
	股數 / 素線徑 NUMBER AND NOMINAL DIAMETER OF WIRES	外徑 OUTSIDE DIAMETER			軟銅絞線 ANNEALED COPPER CONDUCTOR		鍍錫軟銅絞線 TIN COATED COPPER CONDUCTOR					
mm²	股數 /mm	mm	mm	mm	Ω/km		Ω/km	KV	MΩ.km	m	mm	kg/km
8	7/1.2	3.6	2.29	1.14	2.31		2.41	18	3000	300	14	244
14	7/1.6	4.8	2.29	1.52	1.30		1.35	18	3000	300	16	330
22	7/2.0	6.0	2.29	1.52	0.824		0.849	18	2500	300	17.5	448
(30)	7/2.3	6.9	2.29	1.52	0.623		0.642	18	2000	300	18.5	530
38	7/2.6	7.8	2.29	1.52	0.487		0.502	18	2000	300	19	644
(50)	19/1.8	9.0	2.29	1.52	0.378		0.394	18	2000	300	20	780
60	19/2.0	10.0	2.29	1.52	0.303		0.313	18	2000	300	21	897
(80)	19/2.3	11.5	2.29	2.03	0.229		0.237	18	1500	300	23.5	1170
100	19/2.6	13.0	2.29	2.03	0.180		0.185	18	1500	300	25	1393
(125)	19/2.9	14.5	2.29	2.03	0.144		0.149	18	1500	300	27	1760
150	37/2.3	16.1	2.29	2.03	0.118		0.121	18	1500	300	28.5	1950
200	37/2.6	18.2	2.29	2.03	0.0922		0.0951	18	1000	300	30.5	2386
250	61/2.3	20.7	2.29	2.03	0.0722		0.0744	18	1000	200	33.5	2987
325	61/2.6	23.4	2.29	2.03	0.0565		0.0582	18	1000	200	36	3698
400	61/2.9	26.1	2.29	2.03	0.0454		0.0468	18	800	200	39	4510
500	61/3.2	28.8	2.29	2.03	0.0373		0.0384	18	800	150	41.5	5356
600	91/2.9	31.9	3.56	2.79	0.0304		0.0314	18	800	150	50	6678
800	127/2.8	36.4	3.56	2.79	0.0234		0.0241	18	800	150	55	8468
1000	127/3.2	41.6	3.56	2.79	0.0179		0.0185	18	600	150	60	10810

◆表十 2001~5000V 三芯 / Table 10 2001~5000V THREE CORES

mm²	股數 /mm	mm	mm	mm	Ω/km		Ω/km	KV	MΩ.km	m	mm	kg/km
8	7/1.2	3.6	2.29	2.03	2.36		2.46	18	3000	300	29	849
14	7/1.6	4.8	2.29	2.03	1.33		1.38	18	3000	300	32	1246
22	7/2.0	6.0	2.29	2.03	0.840		0.866	18	2500	300	34	1431
(30)	7/2.3	6.9	2.29	2.03	0.635		0.655	18	2000	300	36	1710
38	7/2.6	7.8	2.29	2.03	0.497		0.512	18	2000	300	38	2077
(50)	19/1.8	9.0	2.29	2.03	0.386		0.402	18	2000	300	40.5	2520
60	19/2.0	10.0	2.29	2.03	0.309		0.319	18	2000	300	42.5	2899
(80)	19/2.3	11.5	2.29	2.79	0.234		0.241	18	1500	300	47	3850
100	19/2.6	13.0	2.29	2.79	0.184		0.189	18	1500	300	50.5	4514
(125)	19/2.9	14.5	2.29	2.79	0.147		0.152	18	1500	200	54	5490
150	37/2.3	16.1	2.29	2.79	0.120		0.123	18	1500	200	57.5	6323
200	37/2.6	18.2	2.29	2.79	0.0940		0.0970	18	1000	150	62	7659
250	61/2.3	20.7	2.29	2.79	0.0736		0.0759	18	1000	150	68	9668
325	61/2.6	23.4	2.29	3.58	0.0576		0.0594	18	1000	150	76	12220

※ 依 CNS 2655 規定，8mm² 以上之導體得予以半壓縮或全壓縮處理。
According to CNS 2655, for conductor size larger than 8mm², both compressed and compact stranded conductors are available.

交連聚乙烯絕緣聚氯乙烯被覆電力電纜構造表
XLPE POWER CABLE STRUCTURE TABLE

◆表十一 5001~8000V 中性點接地系統 單芯 / Table 11 5001~8000V NEUTRAL GROUNDED SYSTEM SINGLE CORE

CNS 2655, C 2047

標稱截面積 NOMINAL CROSS SECTION AREA	導體 CONDUCTOR		最小平均絕緣厚度 MIN.THICKNESS OF INSULATION	最小平均被覆厚度 MIN.THICKNESS OF SHEATH	最大導體電阻 (20℃) MAX. CONDUCTOR RESISTANCE AT 20℃		最大導體電阻 (20℃) MAX. CONDUCTOR RESISTANCE AT 20℃	試驗電壓 TEST VOLTAGE	最小絕緣電阻 MIN. INSULATION RESISTANCE	標準單長 STANDARD LENGTH	約計完成外徑（參考值） APPROX. OVERALL DIAMETER	約計重量（參考值） APPROX. WEIGHT
	股數 / 素線徑 NUMBER AND NOMINAL DIAMETER OF WIRES	外徑 OUTSIDE DIAMETER			軟銅絞線 ANNEALED COPPER CONDUCTOR		鍍錫軟銅絞線 TIN COATED COPPER CONDUCTOR					
mm²	股數 /mm	mm	mm	mm	Ω/km		Ω/km	KV	MΩ.km	m	mm	kg/km
14	7/1.6	4.8	2.92	1.53	1.30		1.35	23	3500	300	17.5	391
22	7/2.0	6.0	2.92	1.53	0.824		0.849	23	3000	300	19	491
(30)	7/2.3	6.9	2.92	1.53	0.623		0.642	23	2500	300	19.5	580
38	7/2.6	7.8	2.92	1.53	0.487		0.502	23	2500	300	20.5	693
(50)	19/1.8	9.0	2.92	2.03	0.378		0.394	23	2000	300	22	890
60	19/2.0	10.0	2.92	2.03	0.303		0.313	23	2000	300	23.5	1003
(80)	19/2.3	11.5	2.92	2.03	0.229		0.237	23	2000	300	25	1300
100	19/2.6	13.0	2.92	2.03	0.180		0.185	23	2000	300	26.5	1456
(125)	19/2.9	14.5	2.92	2.03	0.144		0.149	23	1500	300	28.5	1780
150	37/2.3	16.1	2.92	2.03	0.118		0.121	23	1500	300	30	2018
200	37/2.6	18.2	2.92	2.03	0.0922		0.0951	23	1500	200	32	2460
250	61/2.3	20.7	2.92	2.03	0.0722		0.0744	23	1500	200	35	3067
325	61/2.6	23.4	2.92	2.03	0.0565		0.0582	23	1500	150	37.5	3782
400	61/2.9	26.1	2.92	2.03	0.0454		0.0468	23	1500	150	40	4578
500	61/3.2	28.8	2.92	2.03	0.0373		0.0384	23	1000	150	43	5452
600	91/2.9	31.9	4.45	2.80	0.0304		0.0314	23	1000	150	52	6788
800	127/2.8	36.4	4.45	2.80	0.0234		0.0241	23	800	150	57	8587
1000	127/3.2	41.6	4.45	2.80	0.0179		0.0185	23	600	150	62.5	10940

◆表十二 5001~8000V 中性點接地系統 三芯 / Table 12 5001~8000V NEUTRAL GROUNDED SYSTEM THREE CORES

mm²	股數 /mm	mm	mm	mm	Ω/km		Ω/km	KV	MΩ.km	m	mm	kg/km
14	7/1.6	4.8	2.92	2.03	1.33		1.38	23	3500	300	34.5	1263
22	7/2.0	6.0	2.92	2.03	0.840		0.866	23	3000	300	37	1590
(30)	7/2.3	6.9	2.92	2.03	0.635		0.655	23	2500	300	38.5	1930
38	7/2.6	7.8	2.92	2.03	0.497		0.512	23	2500	300	41	2256
(50)	19/1.8	9.0	2.92	2.80	0.386		0.402	23	2000	300	44.5	2760
60	19/2.0	10.0	2.92	2.80	0.309		0.319	23	2000	300	47	3274
(80)	19/2.3	11.5	2.92	2.80	0.234		0.241	23	2000	200	51	4100
100	19/2.6	13.0	2.92	2.80	0.184		0.189	23	2000	200	53.5	4750
(125)	19/2.9	14.5	2.92	2.80	0.147		0.152	23	1500	150	57	5690
150	37/2.3	16.1	2.92	2.80	0.120		0.123	23	1500	150	60.5	6586
200	37/2.6	18.2	2.92	2.80	0.0940		0.0970	23	1500	150	65	8011
250	61/2.3	20.7	2.92	2.80	0.0736		0.0759	23	1000	150	71	9970
325	61/2.6	23.4	2.92	3.58	0.0576		0.0594	23	1000	150	79	12560

※ 依 CNS 2655 規定，8mm² 以上之導體得予以半壓縮或全壓縮處理。
According to CNS 2655, for conductor size larger than 8mm², both compressed and compact stranded conductors are available.

交連聚乙烯絕緣聚氯乙烯被覆電力電纜構造表
XLPE POWER CABLE STRUCTURE TABLE

◆表十三 5001~8000V 中性點不接地系統 單芯 / Table 13 5001~8000V NEUTRAL UNGROUNDED SYSTEM SINGLE CORE

CNS 2655, C 2047

標稱截面積 NOMINAL CROSS SECTION AREA	導體 CONDUCTOR		最小平均絕緣厚度 MIN.THICKNESS OF INSULATION	最小平均被覆厚度 MIN.THICKNESS OF SHEATH	最大導體電阻 (20℃) MAX. CONDUCTOR RESISTANCE AT 20℃		最大導體電阻 (20℃) MAX. CONDUCTOR RESISTANCE AT 20℃	試驗電壓 TEST VOLTAGE	最小絕緣電阻 MIN. INSULATION RESISTANCE	標準單長 STANDARD LENGTH	約計完成外徑（參考值） APPROX. OVERALL DIAMETER	約計重量（參考值） APPROX. WEIGHT
	股數 / 素線徑 NUMBER AND NOMINAL DIAMETER OF WIRES	外徑 OUTSIDE DIAMETER			軟銅絞線 ANNEALED COPPER CONDUCTOR		鍍錫軟銅絞線 TIN COATED COPPER CONDUCTOR					
mm²	股數 /mm	mm	mm	mm	Ω/km		Ω/km	KV	MΩ.km	m	mm	kg/km
14	7/1.6	4.8	3.56	1.53	1.30		1.35	28	3500	300	19	460
22	7/2.0	6.0	3.56	1.53	0.824		0.849	28	3000	300	20	560
(30)	7/2.3	6.9	3.56	2.03	0.623		0.642	28	2500	300	21.5	670
38	7/2.6	7.8	3.56	2.03	0.487		0.502	28	2500	300	23	790
(50)	19/1.8	9.0	3.56	2.03	0.378		0.394	28	2000	300	24	950
60	19/2.0	10.0	3.56	2.03	0.303		0.313	28	2000	300	25	1065
(80)	19/2.3	11.5	3.56	2.03	0.229		0.237	28	2000	300	27	1330
100	19/2.6	13.0	3.56	2.03	0.180		0.185	28	2000	300	28	1525
(125)	19/2.9	14.5	3.56	2.03	0.144		0.149	28	1500	300	29.5	1790
150	37/2.3	16.1	3.56	2.03	0.118		0.121	28	1500	300	31	2095
200	37/2.6	18.2	3.56	2.03	0.0922		0.0951	28	1500	200	34	2545
250	61/2.3	20.7	3.56	2.03	0.0722		0.0744	28	1000	200	36	3155
325	61/2.6	23.4	3.56	2.03	0.0565		0.0582	28	1000	150	39	3880
400	61/2.9	26.1	3.56	2.03	0.0454		0.0468	28	1000	150	41.5	4680
500	61/3.2	28.8	3.56	2.80	0.0373		0.0384	28	1000	150	46	5735
600	91/2.9	31.9	4.45	2.80	0.0304		0.0314	28	1000	150	52	6915
800	127/2.8	36.4	4.45	2.80	0.0234		0.0241	28	800	150	57	8725
1000	127/3.2	41.6	4.45	2.80	0.0179		0.0185	28	800	150	62.5	11090

◆表十四 5001~8000V 中性點不接地系統 三芯 / Table 14 5001~8000V NEUTRAL UNGROUNDED SYSTEM THREE CORES

mm²	股數 /mm	mm	mm	mm	Ω/km		Ω/km	KV	MΩ.km	m	mm	kg/km
14	7/1.6	4.8	3.56	2.03	1.33		1.38	28	3500	300	37.5	1500
22	7/2.0	6.0	3.56	2.03	0.840		0.866	28	3000	300	40	1840
(30)	7/2.3	6.9	3.56	2.03	0.635		0.655	28	2500	300	42	2120
38	7/2.6	7.8	3.56	2.03	0.497		0.512	28	2500	300	43.5	2450
(50)	19/1.8	9.0	3.56	2.80	0.386		0.402	28	2000	300	46	3050
60	19/2.0	10.0	3.56	2.80	0.309		0.319	28	2000	300	49	3505
(80)	19/2.3	11.5	3.56	2.80	0.234		0.241	28	2000	200	53	4280
100	19/2.6	13.0	3.56	2.80	0.184		0.189	28	2000	200	56	4990
(125)	19/2.9	14.5	3.56	2.80	0.147		0.152	28	1500	150	60	6130
150	37/2.3	16.1	3.56	2.80	0.120		0.123	28	1500	150	63	6865
200	37/2.6	18.2	3.56	2.80	0.0940		0.0970	28	1500	150	68.5	8320
250	61/2.3	20.7	3.56	3.58	0.0736		0.0759	28	1500	150	74	10570
325	61/2.6	23.4	3.56	3.58	0.0576		0.0594	28	1500	150	80	12930

※ 依 CNS 2655 規定，8mm² 以上之導體得予以半壓縮或全壓縮處理。
According to CNS 2655, for conductor size larger than 8mm², both compressed and compact stranded conductors are available.

交連聚乙烯絕緣聚氯乙烯被覆電力電纜構造表
XLPE POWER CABLE STRUCTURE TABLE

◆表十五 8001~15000V 中性點接地系統 單芯 / Table 15 8001~15000V NEUTRAL GROUNDED SYSTEM SINGLE CORE

CNS 2655, C 2047

標稱截面積 NOMINAL CROSS SECTION AREA	導體 CONDUCTOR		最小平均絕緣厚度 MIN.THICKNESS OF INSULATION	最小平均被覆厚度 MIN.THICKNESS OF SHEATH	最大導體電阻 (20℃) MAX. CONDUCTOR RESISTANCE AT 20℃		最大導體電阻 (20℃) MAX. CONDUCTOR RESISTANCE AT 20℃	試驗電壓 TEST VOLTAGE	最小絕緣電阻 MIN. INSULATION RESISTANCE	標準單長 STANDARD LENGTH	約計完成外徑（參考值） APPROX. OVERALL DIAMETER	約計重量（參考值） APPROX. WEIGHT
	股數 / 素線徑 NUMBER AND NOMINAL DIAMETER OF WIRES	外徑 OUTSIDE DIAMETER			軟銅絞線 ANNEALED COPPER CONDUCTOR		鍍錫軟銅絞線 TIN COATED COPPER CONDUCTOR					
mm²	股數 /mm	mm	mm	mm	Ω/km		Ω/km	KV	MΩ.km	m	mm	kg/km
(30)	7/2.3	6.9	4.45	2.03	0.623		0.642	35	3500	300	23	710
38	7/2.6	7.8	4.45	2.03	0.487		0.502	35	3500	300	25	856
(50)	19/1.8	9.0	4.45	2.03	0.378		0.394	35	3000	300	26	1020
60	19/2.0	10.0	4.45	2.03	0.303		0.313	35	3000	300	27	1130
(80)	19/2.3	11.5	4.45	2.03	0.229		0.237	35	2500	200	29	1380
100	19/2.6	13.0	4.45	2.03	0.180		0.185	35	2500	200	30	1590
(125)	19/2.9	14.5	4.45	2.03	0.144		0.149	35	2000	200	32	1910
150	37/2.3	16.1	4.45	2.03	0.118		0.121	35	2000	200	34	2167
200	37/2.6	18.2	4.45	2.03	0.0922		0.0951	35	2000	200	36	2628
250	61/2.3	20.7	4.45	2.03	0.0722		0.0744	35	1500	200	38	3246
325	61/2.6	23.4	4.45	2.03	0.0565		0.0582	35	1500	200	41	3976
400	61/2.9	26.1	4.45	2.03	0.0454		0.0468	35	1500	150	43.5	4785
500	61/3.2	28.8	4.45	2.80	0.0373		0.0384	35	1500	150	48.5	5850
600	91/2.0	31.9	5.59	2.80	0.0304		0.0314	35	1000	150	55	7021
800	127/2.8	36.4	5.59	2.80	0.0234		0.0241	35	1000	150	59	8841
1000	127/3.2	41.6	5.59	2.80	0.0179		0.0185	35	1000	150	65	11220

◆表十六 8001~15000V 中性點接地系統 三芯 / Table 16 8001~15000V NEUTRAL GROUNDED SYSTEM THREE CORES

mm²	股數 /mm	mm	mm	mm	Ω/km		Ω/km	KV	MΩ.km	m	mm	kg/km
(30)	7/2.3	6.9	4.45	2.80	0.635		0.655	35	3500	200	48	2510
38	7/2.6	7.8	4.45	2.80	0.497		0.512	35	3500	200	49.5	2840
(50)	19/1.8	9.0	4.45	2.80	0.386		0.402	35	3000	200	52	3320
60	19/2.0	10.0	4.45	2.80	0.309		0.319	35	3000	200	54	3744
(80)	19/2.3	11.5	4.45	2.80	0.234		0.241	35	2500	150	57.5	4430
100	19/2.6	13.0	4.45	2.80	0.184		0.189	35	2500	150	60.5	5084
(125)	19/2.9	14.5	4.45	2.80	0.147		0.152	35	2000	150	65	6180
150	37/2.3	16.1	4.45	2.80	0.120		0.123	35	2000	150	68.5	7176
200	37/2.6	18.2	4.45	2.80	0.0940		0.0970	35	2000	150	73	8441
250	61/2.3	20.7	4.45	3.58	0.0736		0.0759	35	1500	150	80	10920
325	61/2.6	23.4	4.45	3.58	0.0576		0.0594	35	1500	150	86	13310

※ 依 CNS 2655 規定，8mm² 以上之導體得予以半壓縮或全壓縮處理。
According to CNS 2655, for conductor size larger than 8mm², both compressed and compact stranded conductors are available.

交連聚乙烯絕緣聚氯乙烯被覆電力電纜構造表
XLPE POWER CABLE STRUCTURE TABLE

◆表十七 8001~15000V 中性點不接地系統 單芯 / Table 17 8001~15000V NEUTRAL UNGROUNDED SYSTEM SINGLE CORE

CNS 2655, C 2047

標稱截面積 NOMINAL CROSS SECTION AREA	導體 CONDUCTOR		最小平均絕緣厚度 MIN.THICKNESS OF INSULATION	最小平均被覆厚度 MIN.THICKNESS OF SHEATH	最大導體電阻 (20℃) MAX. CONDUCTOR RESISTANCE AT 20℃		最大導體電阻 (20℃) MAX. CONDUCTOR RESISTANCE AT 20℃	試驗電壓 TEST VOLTAGE	最小絕緣電阻 MIN. INSULATION RESISTANCE	標準單長 STANDARD LENGTH	約計完成外徑（參考值） APPROX. OVERALL DIAMETER	約計重量（參考值） APPROX. WEIGHT
	股數 / 素線徑 NUMBER AND NOMINAL DIAMETER OF WIRES	外徑 OUTSIDE DIAMETER			軟銅絞線 ANNEALED COPPER CONDUCTOR		鍍錫軟銅絞線 TIN COATED COPPER CONDUCTOR					
mm²	股數 /mm	mm	mm	mm	Ω/km		Ω/km	KV	MΩ.km	m	mm	kg/km
(30)	7/2.3	6.9	5.59	2.03	0.623		0.642	44	3500	200	25	820
38	7/2.6	7.8	5.59	2.03	0.487		0.502	44	3500	200	27	964
(50)	19/1.8	9.0	5.59	2.03	0.378		0.394	44	3000	200	28	1130
60	19/2.0	10.0	5.59	2.03	0.303		0.313	44	3000	200	29.5	1244
(80)	19/2.3	11.5	5.59	2.03	0.229		0.237	44	2500	150	31.5	1510
100	19/2.6	13.0	5.59	2.03	0.180		0.185	44	2500	150	33	1721
(125)	19/2.9	14.5	5.59	2.03	0.144		0.149	44	2500	150	34.5	2150
150	37/2.3	16.1	5.59	2.03	0.118		0.121	44	2500	150	36	2310
200	37/2.6	18.2	5.59	2.03	0.0922		0.0951	44	2000	150	38	2767
250	61/2.3	20.7	5.59	2.03	0.0722		0.0744	44	2000	150	40.5	3392
325	61/2.6	23.4	5.59	2.80	0.0565		0.0582	44	2000	150	45	4130
400	61/2.9	26.1	5.59	2.80	0.0454		0.0468	44	1500	150	47.5	5124
500	61/3.2	28.8	5.59	2.80	0.0373		0.0384	44	1500	150	50	6031
600	91/2.9	31.9	5.59	2.80	0.0304		0.0314	44	1500	150	55	7266
800	127/2.8	36.4	5.59	2.80	0.0234		0.0241	44	1500	150	60	9013
1000	127/3.2	41.6	5.59	2.80	0.0179		0.0185	44	1000	150	65	11500

◆表十八 8001~15000V 中性點不接地系統 三芯 / Table 18 8001~15000V NEUTRAL UNGROUNDED SYSTEM THREE CORES

mm²	股數 /mm	mm	mm	mm	Ω/km		Ω/km	KV	MΩ.km	m	mm	kg/km
(30)	7/2.3	6.9	5.59	2.80	0.635		0.655	44	3500	150	52.5	2910
38	7/2.6	7.8	5.59	2.80	0.497		0.512	44	3500	150	54.5	3168
(50)	19/1.8	9.0	5.59	2.80	0.386		0.402	44	3000	150	57.0	3690
60	19/2.0	10.0	5.59	2.80	0.309		0.319	44	3000	150	59	4098
(80)	19/2.3	11.5	5.59	2.80	0.234		0.241	44	2500	150	63.0	5020
100	19/2.6	13.0	5.59	2.80	0.184		0.189	44	2500	150	66.5	5669
(125)	19/2.9	14.5	5.59	2.80	0.147		0.152	44	2500	150	69.5	6680
150	37/2.3	16.1	5.59	2.80	0.120		0.123	44	2500	150	73	7606
200	37/2.6	18.2	5.59	3.58	0.0940		0.0972	44	2000	150	80	9369
250	61/2.3	20.7	5.59	3.58	0.0736		0.0759	44	2000	150	85	11420
325	61/2.6	23.4	5.59	3.58	0.0576		0.0594	44	2000	150	91	13960

※ 依 CNS 2655 規定，8mm² 以上之導體得予以半壓縮或全壓縮處理。
According to CNS 2655, for conductor size larger than 8mm², both compressed and compact stranded conductors are available.

交連聚乙烯絕緣聚氯乙烯被覆電力電纜構造表
XLPE POWER CABLE STRUCTURE TABLE

◆表十九 15001~25000V 中性點接地系統 單芯 / Table 19 15001~25000V NEUTRAL GROUNDED SYSTEM SINGLE CORE

CNS 2655, C 2047

標稱截面積 NOMINAL CROSS SECTION AREA	導體 CONDUCTOR		最小平均絕緣厚度 MIN.THICKNESS OF INSULATION	最小平均被覆厚度 MIN.THICKNESS OF SHEATH	最大導體電阻 (20℃) MAX. CONDUCTOR RESISTANCE AT 20℃		最大導體電阻 (20℃) MAX. CONDUCTOR RESISTANCE AT 20℃	試驗電壓 TEST VOLTAGE	最小絕緣電阻 MIN. INSULATION RESISTANCE	標準單長 STANDARD LENGTH	約計完成外徑（參考值） APPROX. OVERALL DIAMETER	約計重量（參考值） APPROX. WEIGHT
	股數 / 素線徑 NUMBER AND NOMINAL DIAMETER OF WIRES	外徑 OUTSIDE DIAMETER			軟銅絞線 ANNEALED COPPER CONDUCTOR		鍍錫軟銅絞線 TIN COATED COPPER CONDUCTOR					
mm²	股數 /mm	mm	mm	mm	Ω/km		Ω/km	KV	MΩ.km	m	mm	kg/km
(30)	7/2.3	6.9	6.6	2.03	0.623		0.642	52	3600	300	28.0	930
38	7/2.6	7.8	6.6	2.03	0.487		0.502	52	3600	300	29.5	1060
(50)	19/1.8	9.0	6.6	2.03	0.378		0.394	52	3000	300	31.0	1220
60	19/2.0	10.0	6.6	2.03	0.303		0.313	52	3000	300	32	1340
(80)	19/2.3	11.5	6.6	2.03	0.229		0.237	52	2800	200	33.5	1690
100	19/2.6	13.0	6.6	2.03	0.180		0.185	52	2800	200	35	1850
(125)	19/2.9	14.5	6.6	2.03	0.144		0.149	52	2000	200	36.5	2170
150	37/2.3	16.1	6.6	2.03	0.118		0.121	52	2000	200	38	2480
200	37/2.6	18.2	6.6	2.03	0.0922		0.0951	52	2000	200	40	2940
250	61/2.3	20.7	6.6	2.03	0.0722		0.0744	52	1800	200	42.5	3560
325	61/2.6	23.4	6.6	2.79	0.0565		0.0582	52	1500	200	47	4500
400	61/2.9	26.1	6.6	2.79	0.0454		0.0468	52	1500	150	50	5390
500	61/3.2	28.8	6.6	2.79	0.0373		0.0384	52	1500	150	52	6300

◆表二十 15001~25000V 中性點接地系統 三芯 / Table 20 15001~25000V NEUTRAL GROUNDED SYSTEM THREE CORES

mm²	股數 /mm	mm	mm	mm	Ω/km		Ω/km	KV	MΩ.km	m	mm	kg/km
(30)	7/2.3	6.9	6.6	2.80	0.635		0.655	52	3600	200	57.5	3320
38	7/2.6	7.8	6.6	2.80	0.497		0.512	52	3600	200	59	3520
(50)	19/1.8	9.0	6.6	2.80	0.386		0.402	52	3000	200	62	4090
60	19/2.0	10.0	6.6	2.80	0.309		0.319	52	3000	200	64	4440
(80)	19/2.3	11.5	6.6	2.80	0.234		0.241	52	2800	150	68	5410
100	19/2.6	13.0	6.6	2.80	0.184		0.189	52	2800	150	71	6100
(125)	19/2.9	14.5	6.6	3.58	0.147		0.152	52	2000	150	76	7050
150	37/2.3	16.1	6.6	3.58	0.120		0.123	52	2000	150	80	8410
200	37/2.6	18.2	6.6	3.58	0.0940		0.0970	52	2000	150	84	9930
250	61/2.3	20.7	6.6	3.58	0.0736		0.0759	52	1800	150	89	11930
325	61/2.6	23.4	6.6	3.58	0.0576		0.0594	52	1500	150	96	14480

※ 依 CNS 2655 規定，8mm² 以上之導體得予以半壓縮或全壓縮處理。
According to CNS 2655, for conductor size larger than 8mm², both compressed and compact stranded conductors are available.

交連聚乙烯絕緣聚氯乙烯被覆電力電纜構造表
XLPE POWER CABLE STRUCTURE TABLE

◆表二十一 15001~25000V 中性點不接地系統 單芯 / Table 21 15001~25000V NEUTRAL UNGROUNDED SYSTEM SINGLE CORE

CNS 2655, C 2047

標稱截面積 NOMINAL CROSS SECTION AREA	導體 CONDUCTOR		最小平均絕緣厚度 MIN.THICKNESS OF INSULATION	最小平均被覆厚度 MIN.THICKNESS OF SHEATH	最大導體電阻 (20℃) MAX. CONDUCTOR RESISTANCE AT 20℃		最大導體電阻 (20℃) MAX. CONDUCTOR RESISTANCE AT 20℃	試驗電壓 TEST VOLTAGE	最小絕緣電阻 MIN. INSULATION RESISTANCE	標準單長 STANDARD LENGTH	約計完成外徑（參考值） APPROX. OVERALL DIAMETER	約計重量（參考值） APPROX. WEIGHT
	股數 / 素線徑 NUMBER AND NOMINAL DIAMETER OF WIRES	外徑 OUTSIDE DIAMETER			軟銅絞線 ANNEALED COPPER CONDUCTOR		鍍錫軟銅絞線 TIN COATED COPPER CONDUCTOR					
mm²	股數 /mm	mm	mm	mm	Ω/km		Ω/km	KV	MΩ.km	m	mm	kg/km
(30)	7/2.3	6.9	8.76	2.03	0.623		0.642	64	4500	200	33.0	1060
38	7/2.6	7.8	8.76	2.03	0.487		0.502	64	4500	200	34.5	1300
(50)	19/1.8	9.0	8.76	2.03	0.378		0.394	64	3800	200	35.0	1460
60	19/2.0	10.0	8.76	2.03	0.303		0.313	64	3800	200	36.5	1590
(80)	19/2.3	11.5	8.76	2.03	0.229		0.237	64	3500	150	38.0	1880
100	19/2.6	13.0	8.76	2.03	0.180		0.185	64	3500	150	39.5	2100
(125)	19/2.9	14.5	8.76	2.03	0.144		0.149	64	3200	150	41.0	2410
150	37/2.3	16.1	8.76	2.03	0.118		0.121	64	3200	150	43	2740
200	37/2.6	18.2	8.76	2.80	0.0922		0.0951	64	2800	150	46.5	3370
250	61/2.3	20.7	8.76	2.80	0.0722		0.0744	64	2800	150	49	4060
325	61/2.6	23.4	8.76	2.80	0.0565		0.0582	64	2400	150	51.5	4880
400	61/2.9	26.1	8.76	2.80	0.0454		0.0468	64	2000	150	54	5740
500	61/3.2	28.8	8.76	2.80	0.0373		0.0384	64	2000	150	57	6670

◆表二十二 15001~25000V 中性點不接地系統 三芯 / Table 22 15001~25000V NEUTRAL UNGROUNDED SYSTEM THREE CORES

mm²	股數 /mm	mm	mm	mm	Ω/km		Ω/km	KV	MΩ.km	m	mm	kg/km
(30)	7/2.3	6.9	8.76	2.80	0.635		0.655	64	4500	150	68	4150
38	7/2.6	7.8	8.76	2.80	0.497		0.512	64	4500	150	70	4380
(50)	19/1.8	9.0	8.76	3.58	0.386		0.402	64	3800	150	72	5010
60	19/2.0	10.0	8.76	3.58	0.309		0.319	64	3800	150	76	5620
(80)	19/2.3	11.5	8.76	3.58	0.234		0.241	64	3500	150	79	6230
100	19/2.6	13.0	8.76	3.58	0.184		0.189	64	3500	150	83	7280
(125)	19/2.9	14.5	8.76	3.58	0.147		0.152	64	3200	150	86	8150
150	37/2.3	16.1	8.76	3.58	0.120		0.123	64	3200	150	90	9420
200	37/2.6	18.2	8.76	3.58	0.0940		0.0972	64	2800	150	94	10980
250	61/2.3	20.7	8.76	3.58	0.0736		0.0759	64	2800	150	99	13230
325	61/2.6	23.4	8.76	3.58	0.0576		0.0594	64	2400	150	105	15850

※ 依 CNS 2655 規定，8mm² 以上之導體得予以半壓縮或全壓縮處理。
According to CNS 2655, for conductor size larger than 8mm², both compressed and compact stranded conductors are available.

引用標準：
ACCORDING to the following standards:
CNS 386 試驗篩 Testing sieves.
CNS 670 鍍錫軟銅單電線 Tin Coated Annealed Copoer Wire.
CNS 672 鍍錫軟銅絞電線 Tin Coated Annealed Stranded Copper Wires.
CNS 685 絕緣電線導體直流電阻檢驗標準 Testing Standard for D.C. Resistance of Insulated Conductors.
CNS 689 塑膠絕緣電線電纜檢驗法 Method of Test for Plastic Insulated Wires and Cables.
CNS 1364 裸軟銅單電線 Bare annealed Electrical Copper Wire.
CNS 1365 裸軟銅絞電線 Bare Soft Stranded Copper Wires.

XLPE 電力電纜之檢驗及品質保證

INSPECITION AND QUALITY ASSURANCE OF XLPE POWER CABLE

在基本設計上 XLPE 電力電纜被認為是一整條品質均勻之電纜，故以樣品之壽命即能代表鋪設系統整條之壽命。
其品質保證需含下列兩項：

一、內部放電品質保證：
XLPE 電纜之絕緣之材料的耐電壓壽命與電暈壽命，我們認為極相似，內部之放電是電纜壽命減弱之主要因素，所以電纜要在正常工作電壓下得到預期之壽命，則必須確保無電暈現象。

二、關於安全問題的確保：
在短時間之電壓上升如突波及接地故障時，電纜還能安全承受。

以上兩項不同因素，當後者發生或其他缺點如有微裂處電位集中，即產生前者所述之內部放電現象。
XLPE 電纜必須保證整條電纜無以上兩項不良因素，無論如何 XLPE 電纜之破壞處被認為是整條電纜之最脆弱點，由該處最開始產生輕微的電樹現象，所以必須對整條電纜做品質保證試驗，而樣品破壞試驗只是對電纜設計之印證試驗，下表 (表二十三) 為本公司分別依電纜使用條件做施工前試驗。

關於電暈試驗，本公司有一套特殊的遮蔽屋，電暈檢出器及雜波干擾濾波器設備，能指出電纜本身電暈放電在 1PC 以下。至於新的保證試驗在本公司試驗技術研究努力下，能有效的找出電纜不良處而不傷及其他良好的電纜部分。

Designwise, a XLPE power cable is deemed as a homogeneous quality product, so that the life expectance of a statistically chosen sample can well represent the whole cable.
Generally speaking, quality assurance should include the following two points.

(1) Q.A. of free from internal discharge: since the inclination of V-t cure of XLPE cable is known to be very akin to that of the corona life of XLPE. Internal discharge is considered to be a major factor of cable deterioration and thus XLPE cable should be guaranteed to be completely corona-free under possible working voltage to obtain the expected life expectancy.

(2) Q.A. against safety: cable should withstand the transient voltage rise, such as; surge or at the time of earth fault.

These two symptoms are considered to be caused by different factors. Whenever a transient voltage rise is occurred or abnormal concentration of electrical potential around minor crack area, the above-mentioned internal discharge will follow accordingly. In any circumstance, XLPE power cable should be guaranteed without the foregoing two defects, Usually the damaged area of a cable is considered the weakest point, A electrical treeing phenomenon is formed starting at this area, therefore a Q.A. test is necessary for whole length of cable, while the sample breakdown test is only for design confirmation. Table23 shows our pre-installation test according to applications of the cables.

As regarding corona test, our factory is equipped with a special shield room, corona detector and interfering wave filter, able to detect corona discharge of cable itself below 1PC.Other new Q.A. tests able to detect defects without damaging good portion of the cable are available under our incessant technique research.

◆表二十三 (Table23)　　S : Sample Test　R : Full Reel Test

試驗項目 TESTITEM	方式 SPECIMEN	對象 OBJECT
構造及尺寸 Construction & Dimensions	S	全電纜 All voltage grade cable
絕緣電阻 Insulation Resistance	R	全電纜 All voltage grade cable
靜電容量 Capacitance	R	15kV 及以上電纜 15kV & above cable
導電電阻 Conductor Resistance	R	全電纜 All voltage grade cable
電暈水準 Corona level	R	15kV 及以上電纜 15kV & above cable
tan δ	R	15kV 及以上電纜 15kV & above cable
tan δ（加溫 Increasing Temp.）	S	15kV 及以上電纜 15kV & above cable
AC 耐電壓 AC High voltage test	R	全電纜 All voltage grade cable
AC 長時間耐電壓 AC Long-time voltage test	S	15kV 及以上電纜 15kV & above cable
衝擊破壞電壓 Impulse voltage test	S	15kV 及以上電纜 15kV & above cable
物理特性 Physical Properties	S	全電纜 All voltage grade cable
氣孔及異物 Vold & Contaminant test	S	15kV 及以上電纜 15kV & above cable

XLPE 電力電纜安全電流值及鋪設條件

AMPACITIES AND INSTALLED CONDITION OF XLPE CABLE

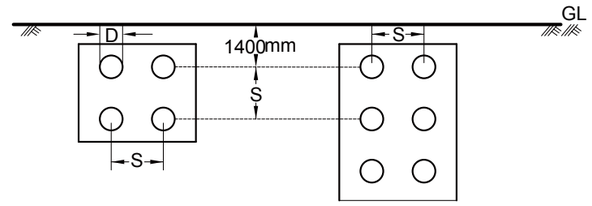
表二十六 ~ 三十之安全電流值是依下列圖表鋪設條件及下列條件計算所得：

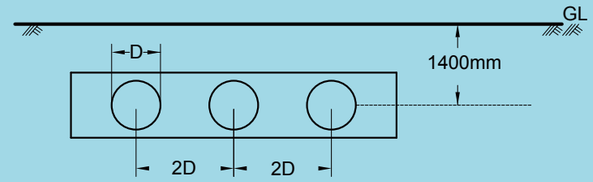
最大 XLPE 電纜之導體容許溫度：連續使用 90℃
緊急情況 130℃
接地故障 250℃

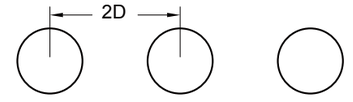
Allowable current of XLPE cable is calculated on the following conditions

Maximum allowance temperature of the XLPE insulated cable is as follows:
CONTINUANCE : 90℃
EMERGENCY : 130℃
SHORT CIRCUIT 250 DEG℃

◆圖六 (Fig.6)

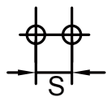
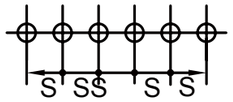
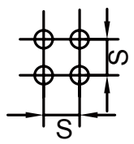
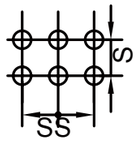
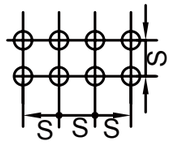
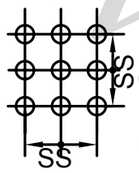
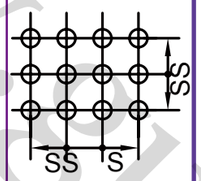
<table>
<tr><th>鋪設方法
INSTALLATION METHOD</th><th>基底周溫
BASE TEMPERATURE</th><th>鋪設情況
CONDITION OF INSTALLATION</th></tr>
<tr><td>線渠 IN DUCTS</td><td>25℃土壤固有熱阻
THERMAL RESISTIVITY OF SOIL
100℃ cm/w</td><td> 

<table>
<tr><th>線渠
IN DUCTS</th><th>電纜外徑 (mm)
CABLE OVERALL DIAMETER</th><th>D(mm)</th><th>S(mm)</th></tr>
<tr><td rowspan="2">一線渠一條電纜
SINGLE CABLE IN ONE DUCT</td><td>75 以下
75AND BELOW</td><td>100</td><td>260</td></tr>
<tr><td>75.1 以上
75.1 AND OVER</td><td>150</td><td>310</td></tr>
<tr><td>1 孔 3 條
THREE CABLE IN ONE DUCT</td><td>全部 ALL</td><td>200</td><td>360</td></tr>
</table></td></tr>
<tr><td>直理 DIRECT BURYING</td><td>25℃土壤固有熱阻
THERMAL RESISTIVITY OF SOIL
100℃ cm/w</td><td> 

單芯電纜：三條平行
SINGLE CORE CABLE : 3 FLAT INSTALLATION
二芯或三芯電纜：單條鋪設
2 CORES OR 3 CORES CABLE : SINGLE CABLE INSTALLATION</td></tr>
<tr><td>架空 AERIAL</td><td>40℃</td><td> 

三條單芯電纜間距為 2D
THREE CABLES OF ONE CORE
2D DISTANCE BETWEEN CENTER OF CABLES</td></tr>
</table>

◆表二十四 電纜在空氣中群體鋪設之遞減係數
Table 24 REDUCTION FACTOR OF CURRENT CAPACITY IN CASE MANY CABLES ARE INSTALLED AIR

	遞減係數 REDUCTION FACTOR OF CURRENT CAPACITY				
	1	2	3	6	
電纜配置 CABLE ARRANGEMENT					
	1.0	0.85 0.95 1.00	0.80 0.95 1.00	0.70 0.90 0.95	
	4	6	8	9	12
					
S=d	0.70	0.60	—	—	—
S=2d	0.90	0.90	0.85	0.80	0.80
S=3d	0.95	0.95	0.90	0.85	0.85

S: 兩中心距離 d: 電纜外徑 S:DISTANCE BETWEEN CENTER OF CABLE d:OVERALL DIAMETER OF CABLE

◆表二十五 周圍 (基底) 溫度修正係數 / Table 25 RATING FACTOR FOR VARIATION OF AMBIENT TEMPERATURE

周圍 (基底) 溫度修正係數 RATING FACTOR FOR VARIATION OF AMBIENT TEMPERATURE		
基溫℃ BASE TEMPERATURE	直埋或線渠 DIRECT BURYING OR IN DUCT	空氣中 IN AIR
10	1.11	1.26
15	1.07	1.22
20	1.04	1.18
25	1.00	1.14
30	0.96	1.10
35	0.92	1.05
40	0.88	1.00
45	0.83	0.95
50	0.78	0.89
55	0.73	0.84
60	0.68	0.78

◆表二十六 600V 交連 PE 電力電纜安全電流 (安培)
Table 26 600V RATED CURRENT FOR XLPE CABLE (Ampere)

公稱斷面積 Nominal Cross Section Area mm or mm²	空氣中 (周溫 40℃) IN AIR (Ambient Temp. 40℃)			直埋 (基溫 25℃) DIRECT BURYING (BASE TEMPERATURE : 25℃)			線渠 (基溫 25℃) IN DUCT (BASE TEMPERATURE : 25℃)			
	單芯 1-CORE	二芯 2-CORES	三芯 3-CORES	單芯 1-CORE	二芯 2-CORES	三芯 3-CORES	單芯 1-CORE	二芯 2-CORES	三芯 3-CORES	四芯 4-CORES
	3 條 3 CABLES S=2d	1 條 1 CABLE	1 條 1 CABLE	3 條 3 CABLES S=2d	1 條 1 CABLE	1 條 1 CABLE	4 孔 3 條 4 DUCTS 3 CABLES	4 孔 4 條 4 DUCTS 4 CABLES	4 孔 4 條 4 DUCTS 4 CABLES	6 孔 6 條 6 DUCTS 6 CABLES
1.0	18	16	14	23	23	20	20	16	12	19
1.2	23	20	17	27	27	24	24	19	16	23
1.6	33	28	24	38	39	33	34	26	22	32
2.0	42	37	31	49	51	42	43	34	28	40
2.6	58	51	44	65	58	57	59	46	38	54
3.2	74	66	55	82	84	71	74	57	48	69
2.0	33	28	25	38	38	33	34	26	22	32
3.5	46	40	34	52	54	46	47	36	30	43
5.5	59	52	45	66	69	58	64	47	38	56
8	74	66	56	81	85	71	74	56	48	68
14	105	94	79	110	115	99	105	79	65	95
22	135	125	105	140	155	125	135	100	85	120
30	170	145	125	165	180	150	160	115	99	140
38	190	170	145	190	205	170	185	135	110	165
50	230	200	170	215	235	195	210	160	130	190
60	260	230	195	250	265	220	245	180	150	215
80	315	280	230	285	315	260	285	205	170	250
100	365	315	265	335	345	290	330	235	195	290
125	420	365	310	370	400	330	370	265	220	325
150	480	415	355	415	440	365	420	300	250	365
200	560	495	415	480	505	420	480	340	280	420
250	655	570	540	550	565	475	550	390	320	480
325	760	670	570	625	650	545	630	440	360	545
400	870		625	705		570	710		390	610
500	965			775			780			670

◆表二十七 3300V / 6600V 交連 PE 電力電纜安全電流 (安培)
Table 27 3300V / 6600V RATED CURRENT FOR XLPE CABLE (Ampere)

公稱斷面積 Nominal Cross Section Area mm²	空氣中（周溫 40℃） IN AIR (Ambient Temp. 40℃)			直埋 (基溫 25℃) DIRECT BURYING (BASE TEMPERATURE : 25℃)			線渠（基溫 25℃） IN DUCT (BASE TEMPERATURE : 25℃)			
	單芯 1-CORE	二芯 2-CORES	三芯 3-CORES	單芯 1-CORE	二芯 2-CORES	三芯 3-CORES	單芯 1-CORE	二芯 2-CORES	三芯 3-CORES	四芯 4-CORES
	3 條 3 CABLES S=2d	1 條 1 CABLE	1 條 1 CABLE	3 條 3 CABLES S=2d	1 條 1 CABLE	1 條 1 CABLE	4 孔 3 條 4 DUCTS 3 CABLES	4 孔 4 條 4 DUCTS 4 CABLES	4 孔 4 條 4 DUCTS 4 CABLES	6 孔 6 條 6 DUCTS 6 CABLES
8	79	69	59	80	82	69	78	58	49	71
14	110	98	83	110	110	96	105	80	67	97
22	140	125	105	135	140	120	135	100	84	120
30	170	145	125	165	170	140	165	115	100	140
38	200	175	145	190	195	165	190	135	115	170
50	235	200	175	215	220	190	215	160	130	190
60	265	230	195	245	260	210	245	175	150	220
80	305	—	225	275	—	240	275	—	165	245
100	350	—	260	315	—	275	315	—	185	275
125	410	—	305	360	—	315	360	—	220	320
150	475	—	360	415	—	360	415	—	250	360
200	535	—	410	465	—	405	470	—	275	410
250	645	—	490	545	—	470	550	—	320	475
325	740	—	560	620	—	530	625	—	375	540
400	845	—	—	695	—	—	705	—	—	605
500	1010	—	—	805	—	—	815	—	—	700

◆表二十八 11000V 交連 PE 電力電纜安全電流 (安培)
Table 28 11000V RATED CURRENT FOR XLPE CABLE (Ampere)

公稱斷面積 Nominal Cross Section Area mm²	空氣中（周溫 40℃） IN AIR (Ambient Temp. 40℃)			直埋 (基溫 25℃) DIRECT BURYING (BASE TEMPERATURE : 25℃)			線渠（基溫 25℃） IN DUCT (BASE TEMPERATURE : 25℃)		
	單芯 1-CORE	三芯 3-CORES	單芯三絞 Triplex 3-CORES	單芯 1-CORE	三芯 3-CORES	單芯三絞 Triplex 3-CORES	單芯 1-CORE	三芯 3-CORES	單芯三絞 Triplex 3-CORES
	3 條 3 CABLES S=2d	1 條 1 CABLE	1 條 1 CABLE	3 條 3 CABLES S=2d	1 條 1 CABLE	1 條 1 CABLE	3 條 3 CABLES S=2d	1 條 1 CABLE	1 條 1 CABLE
60	260	195	245	245	210	235	235	180	205
100	355	270	330	330	275	315	315	240	275
150	450	350	425	415	350	395	395	305	345
200	540	420	505	485	410	460	465	360	405
250	615	475	575	545	455	520	520	400	455
325	745	565	670	655	530	595	625	465	520
400	815	645	755	705	595	665	675	525	580
500	940	725	865	795	660	745	765	585	655

◆表二十九 22000V 交連 PE 電力電纜安全電流 (安培)
Table 29 22000V RATED CURRENT FOR XLPE CABLE (Ampere)

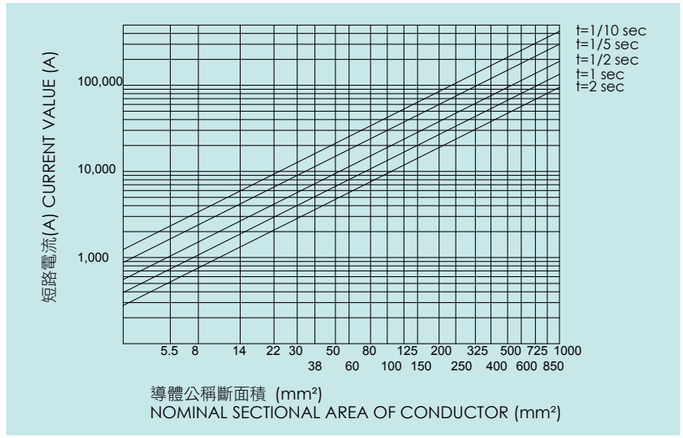
公稱斷面積 Nominal Cross Section Area mm²	空氣中（周溫 40℃） IN AIR (Ambient Temp. 40℃)			直埋 (基溫 25℃) DIRECT BURYING (BASE TEMPERATURE : 25℃)			線渠（基溫 25℃） IN DUCT (BASE TEMPERATURE : 25℃)		
	單芯 1-CORE	三芯 3-CORES	單芯三絞 Triplex 3-CORES	單芯 1-CORE	三芯 3-CORES	單芯三絞 Triplex 3-CORES	單芯 1-CORE	三芯 3-CORES	單芯三絞 Triplex 3-CORES
	3 條 3 CABLES S=2d	1 條 1 CABLE	1 條 1 CABLE	3 條 3 CABLES S=2d	1 條 1 CABLE	1 條 1 CABLE	3 條 3 CABLES S=2d	1 條 1 CABLE	1 條 1 CABLE
60	250	205	245	240	205	235	235	180	205
100	350	275	330	325	275	310	310	245	275
150	445	355	425	410	345	390	390	305	345
200	530	415	500	480	400	455	460	355	405
250	605	475	575	540	450	515	520	400	455
325	715	560	675	625	520	590	600	465	520
400	815	635	765	700	580	660	675	525	580
500	935	720	875	790	655	740	760	590	670

◆表三十 33000V 交連 PE 電力電纜安全電流 (安培)
Table 30 33000V RATED CURRENT FOR XLPE CABLE (Ampere)

公稱斷面積 Nominal Cross Section Area mm²	空氣中（周溫 40℃） IN AIR (Ambient Temp. 40℃)			直埋 (基溫 25℃) DIRECT BURYING (BASE TEMPERATURE : 25℃)			線渠（基溫 25℃ ） IN DUCT (BASE TEMPERATURE : 25℃)		
	單芯 1-CORE	三芯 3-CORES	單芯三絞 Triplex 3-CORES	單芯 1-CORE	三芯 3-CORES	單芯三絞 Triplex 3-CORES	單芯 1-CORE	三芯 3-CORES	單芯三絞 Triplex 3-CORES
	3 條 3 CABLES S=2d	1 條 1 CABLE	1 條 1 CABLE	3 條 3 CABLES S=2d	1 條 1 CABLE	1 條 1 CABLE	3 條 3 CABLES S=2d	1 條 1 CABLE	1 條 1 CABLE
60	255	210	245	240	205	230	235	185	205
100	345	280	330	325	270	310	310	245	275
150	440	355	425	405	340	385	390	305	345
200	530	420	505	475	395	455	460	355	410
250	605	480	575	535	450	510	515	410	465
325	710	555	680	620	515	590	600	470	535
400	810	650	765	695	590	660	670	535	595
500	890	715	880	770	650	735	740	590	670

XLPE 電力電纜之計算參考資料
THE REFERENCE DATA OF XLPE CABLE DESIGN

■ XLPE 電力電纜的接地故障電流曲線圖（最初溫度 90℃，最大導體容許溫度 250℃ ）
■ SHORT-CIRCUIT RATING OF XLPE CABLE
(INLITIAL TEMP. 90℃ , MAX. ALLOWABLE CONDUCTOR TEMP. 250℃)



■ XLPE 電力電纜最小容許彎曲半徑如表三十一
■ MINIMUM BENDING RADIUS OF XLPE CABLE AS SHOW IN TABLE 31

◆表三十一 (Table 31)

種類 TYPE	電纜完成外徑之倍數 A MULTIPLE OF CABLE DIAMETER
單芯有遮蔽電纜 SINGLE-CORE CABLE SHIELDED	10
單芯無遮蔽電纜 SINGLE-CORE CABLE NON-SHIELDED	8
多芯有遮蔽電纜 MULTI-CORE CABLE SHIELDED	8
多芯無遮蔽電纜 MULTI-CORE CABLE NON-SHIELDED	6
單芯分割型導體電纜 SINGLE-CORE CABLE WITH SEGMENTALCONDUCTOR	12
鎧裝電纜 ARMORED CABLE	12

■ XLPE 電力電纜最大容許張力如表三十二
■ ALLOWABLE MAXIMUM PULLING TENSION OF XLPE CABLE AS SHOW IN TABLE 32

◆表三十二 (Table 32)

種類 TYPE	最大容許張力 kgf/mm MAXIMUM ALLOWABLE PULLING TENSION
銅導體 COPPER CONDUCTOR	7
鋁導體 ALUMINUM CONDUCTOR	4

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