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PVC 절연 전력용 케이블  
PVC Insulate Power Cable

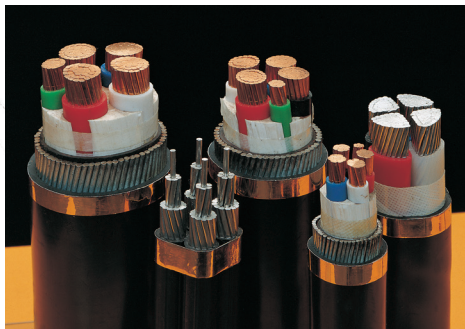


송·배전선  
나동선 및 알루미늄선  
Copper and Aluminium Wire



부록  
Appendix

# 21C CABLE NEW LEADER



DAEWON



1964년 대원전선이 창업된 이래 저희 대원가족은 전선제조 공업에서 가장 중요한 것은 품질이라고 굳게 믿어왔습니다.

저희들은 그동안 국내외 고객의 주문에 대처하기 위하여 품질개선과 생산성 향상을 위한 끊임없는 노력을 하고 있습니다.

연구개발, 교육훈련, 설비개선, 생산성 향상 및 품질관리 활동을 통하여 대원전선은 우수한 전선 메이커로서의 위치를 고수하기 위해 노력하고 동시에 진보된 기술과 설비에 다양한 투자를 계속함으로써 경쟁력을 강화할 것입니다.

품질에서 가장 우수하고 가격에서 가장 경쟁력 있는 대원전선이 되기위한 저희들의 결의와 소망은 항상 계속될 것입니다.

그동안 대원전선의 발전과 성장을 지켜 보아 주시고 성원하여 주신 여러분께 진심으로 감사드리며 앞으로도 관심과 아낌없는 지도 편달을 부탁드립니다.

From the foundation of Daewon Cable Co, Ltd. in 1964, it has been our firm belief that quality is the crucial factor in electrical wire and cable manufacturing industry.

We are making our ceaseless-daily struggle for the improvement of quality and productivity to cater the most sophisticated and challenging customers demand in home and at abroad. through year-around R&D efforts, employee training, facility improvement, productivity enhancement and QC campaign, we maintain our stand as the finest cable and wire manufacturer.

At the same time we continue our extensive investment in the most advanced technology and facility.

All these together will further enhance our competitiveness.

Our determination and zeal to remain the most competitive wire and cable manufacturer in quality and price terms will never end.

# 절연 전선

## PVC Insulated Wire

DAEWON CABLE

- 450/750V 저독성 난연 가교 폴리올레핀 절연 전선(HF-IX,  $\alpha$ -Slip)
- 300/500V 기기 배선용 단심 비닐 절연 전선(HIV)
- 450/750V 일반용 단심 비닐 절연 전선(IV)
- Building wire (XHHW/SIS, THW, XHHW)
- 옥외용 비닐 절연 전선(OW)
- 알루미늄 가교 폴리에틸렌 절연 전선
- USE-2



# 450/750V 저독성 난연 가교 폴리올레핀 절연전선

KSC 3341

## 450/750V HF-IX, $\alpha$ -Slip

450/750V 이하의 일반 전기 공작물이나 전기기기의 배선에 사용하는 저독성 난연 가교 폴리올레핀으로 절연한 전선이다.

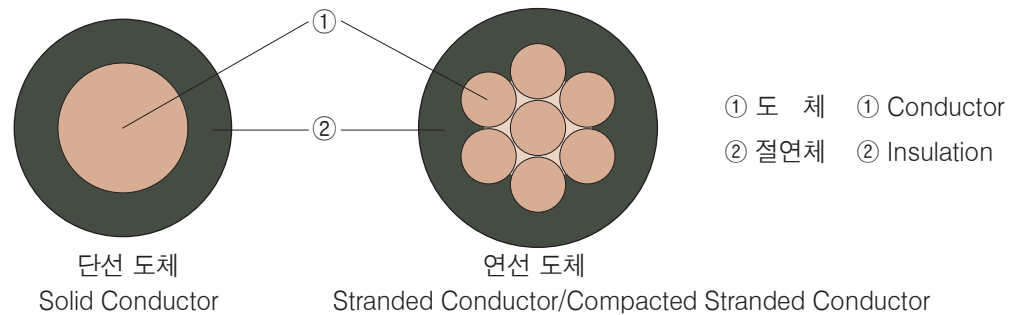
It is used mainly in wiring of electric apparatus and equipment under 450/750V grade, and insulated with compound mainly composed of halogen free flame retardant resin.

### 구 조

- 1.도체 : 전기용 연동선(원형 연동선, 연동연선)
- 2.절연체 : 저독성 난연 가교 폴리올레핀
- 3.절연체 색상 : 흑색, 백색, 적색, 녹색, 황색, 청색
- 4.최고 허용 온도 : 90℃

### Construction

- 1.Conductor : Annealed copper Wire (Solid, Circular stranded)
2. Insulation : Halogen free flame retardant cross-linked polyolefin
- 3.Color of Insulation : Black, White Red, Green, Yellow, Blue
- 4.Maximum allowable temperature : 90℃



Conductor			Nominal Insulation Thickness mm	Minimum Overall Diameter mm	Maximum Overall Diameter mm	Approx. Weight kg/km	Maximum Conductor Resistance at 20℃ Ω/km	Standard Length m
Sectional Area mm <sup>2</sup>	Dia. of Wire No./mm	Approx. Outer Diameter mm						
1.5	1/1.38	1.38	0.7	2.6	3.3	20	12.1	300
1.5	7/0.53	1.59	0.7	2.7	3.4	22	12.1	
2.5	1/1.78	1.78	0.8	3.2	4.0	31	7.41	
2.5	7/0.67	2.01	0.8	3.3	4.1	34	7.41	
4	1/2.25	2.25	0.8	3.6	4.6	47	4.61	
4	7/0.85	2.55	0.8	3.8	4.7	50	4.61	
6	1/2.76	2.76	0.8	4.1	5.2	67	3.08	
6	7/1.04	3.12	0.8	4.3	5.4	70	3.08	
10	7/1.35	4.05	1.0	5.6	7.0	120	1.83	
16	C.C	4.7	1.0	6.4	8.0	170	1.15	
25	C.C	5.9	1.2	8.1	10.1	270	0.727	
35	C.C	6.9	1.2	9.0	11.3	365	0.524	
50	C.C	8.1	1.4	10.6	13.2	500	0.387	
70	C.C	9.7	1.4	12.1	15.1	680	0.268	
95	C.C	11.3	1.6	14.1	17.6	940	0.193	
120	C.C	12.8	1.6	15.6	19.4	1170	0.153	
150	C.C	14.4	1.8	17.3	21.6	1450	0.124	
185	C.C	15.9	2.0	19.3	24.1	1820	0.0991	
240	C.C	18.3	2.2	22.0	27.5	2370	0.0754	
300	C.C	20.3	2.4	24.5	30.6	2950	0.0601	

※ C.C : Circular Compact stranded shape

# 300/500V 기기배선용 단심비닐절연전선

KSC IEC 60227-3

## 300/500V HIV

300/500V 이하의 일반 전기 공작물이나 전기 기기의 배선에 사용하는 비닐 절연 전선으로 내열성 가소제를 첨가한 수지로 절연한 전선이다.

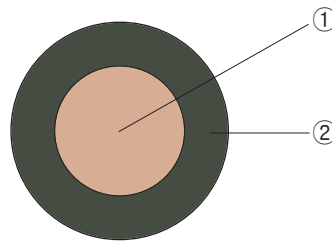
It is used mainly in wiring of electric apparatus and equipment under 300/500V grade, and insulated with compound mainly composed of PVC resin including heat resistant plasticizer.

### ■ 구조

1. 도체 : 전기용연동선 (원형연동선)
2. 절연체 : 내열성염화비닐수지 (PVC/E)
3. 절연체 색상 : 흑색, 백색, 적색, 녹색, 황색, 청색
4. 최고 허용 온도 : 90℃

### ■ Construction

1. Conductor : Annealed copper Wire (Solid)
2. Insulation : PVC (PVC/E)
3. Color of Insulation : Black, White Red, Green, Yellow, Blue
4. Maximum allowable temperature : 90℃



- ① 도체      ① Conductor  
② 절연체    ② Insulation

단선도체  
Solid Conductor

Conductor			Nominal Insulation Thickness mm	Max. Overall Diameter mm	Max. Conductor Resistance at. 20℃ Ω/km	Min. Insulation Resistance at 90℃ MΩ.km	Approx. Weight kg/km	Standard Length m
Sectional Area mm <sup>2</sup>	Dia. of Wire No./mm	Approx. Outer Diameter mm						
1.5	1/1.38	1.38	0.7	3.2	12.1	0.011	21	300
2.5	1/1.78	1.78	0.8	3.9	7.4	0.009	32	300

# 450/750V 일반용 단심비닐절연전선

KSC IEC 60227-3

## 450/750V IV

450/750V 이하의 일반 전기 공작물이나 전기 기기의 배선에 사용하는 비닐 절연 전선으로 염화 비닐 혼합물로 절연한 전선이다.

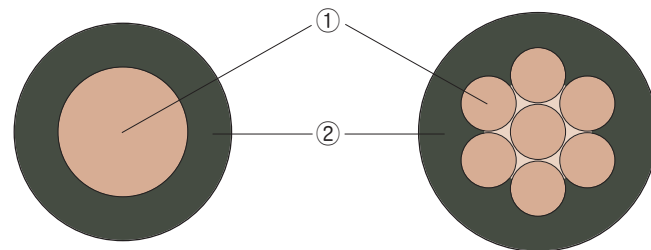
It is used mainly in wiring of electric apparatus and equipment under 450/750V grade, and insulated with compound mainly composed of PVC resin.

### ■ 구조

1. 도 체 : 전기용 연동선 (원형 연동선, 연동 연선)
2. 절 연 체 : 내열성 염화 비닐 수지 (PVC/C)
3. 절 연 체 색 상 : 흑색, 백색, 적색, 녹색, 황색, 청색
4. 최고 허용 온도 : 70℃

### ■ Construction

1. Conductor : Annealed copper Wire (Solid, Circular stranded)
2. Insulation : PVC (PVC/C)
3. Color of Insulation : Black, White Red, Green, Yellow, Blue
4. Maximum allowable temperature : 70℃



단선도체  
Solid Conductor

연선도체  
Stranded Conductor

- ① 도체 ① Conductor  
② 절연체 ② Insulation

Conductor			Nominal Insulation Thickness mm	Max. Overall Diameter mm	Max. Conductor Resistance at 20℃ Ω/km	Min. Insulation Resistance at 70℃ MΩ.km	Approx. Weight kg/km	Standard Length m
Sectional Area mm <sup>2</sup>	Dia. of Wire No./mm	Approx. Outer Diameter mm						
1.5	1/1.38	1.38	0.7	3.2	12.1	0.011	20	300
1.5	7/0.53	1.59		3.3	12.1	0.010	22	
2.5	1/1.78	1.78		3.9	7.41	0.010	32	
2.5	7/0.67	2.01	0.8	4.0	7.41	0.009	34	
4	1/2.25	2.25		4.4	4.61	0.0085	47	
4	7/0.85	2.55		4.6	4.61	0.0077	50	
6	1/2.76	2.76		5.0	3.08	0.0070	67	
6	7/1.04	3.12		5.2	3.08	0.0065	70	
10	1/3.57	3.57	1.0	6.4	1.83	0.0070	115	
10	7/1.35	4.05		6.7	1.83	0.0065	120	
16	C.C	4.7		7.8	1.15	0.0050	175	
25	C.C	5.9	1.2	9.7	0.727	0.0050	270	
35	C.C	6.9		10.9	0.524	0.0040	365	
50	C.C	8.1	1.4	12.8	0.387	0.0050	505	
70	C.C	9.7		14.6	0.268	0.0035	685	
95	C.C	11.3	1.6	17.1	0.193	0.0035	940	
120	C.C	12.8		18.8	0.153	0.0032	1170	
150	C.C	14.4	1.8	20.9	0.124	0.0032	1460	
185	C.C	15.9	2.0	23.3	0.0991	0.0032	1820	
240	C.C	18.3	2.2	26.6	0.0754	0.0032	2370	
300	C.C	20.3	2.4	29.6	0.0601	0.0030	2960	
400	C.C	23.1	2.6	33.2	0.0470	0.0028	3820	

※ C.C : Circular Compact stranded shape

## 0.6/1kV 난연 가교폴리에틸렌 절연전선

### 0.6/1kV XHHW/SIS

0.6/1kV 이하의 일반 전기 공작물이나 전기기의 배선에 사용하는 난연 가교 폴리에틸렌으로 절연한 전선이다.

It is used mainly in wiring of electric apparatus and equipment under 0.6/1kV grade, and insulated with compound mainly composed of flame retardant XLPE resin.

#### ■ 구 조

1. 도 체 : 주석도금 연동연선(class 2 or class 5)
2. 절 연 체 : 난연 가교 폴리에틸렌
3. 절연 체 색 상 : 흑색, 적색, 녹색, 황색, 청색, 회색, 녹/황색
4. 최고 허용 온도 : 90℃

#### ■ Construction

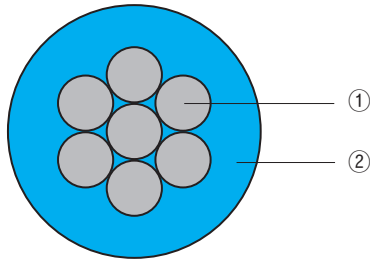
1. Conductor : Annealed tinned copper Wire (class 2 or class5)
2. Insulation : Flame retardant cross-linked polyethylene
3. Color of Insulation : Black, Red, Green, Yellow Blue, Grey, Green/Yellow
4. Maximum allowable temperature : 90℃

#### ■ 특 성

1. 난 연 시 험 : VW-1, VTFT

#### ■ Charaderistic

1. Flame retardant test : VW-1, VTFT



- ①도체 (Conductor) : class 2 or class 5  
②절연체 (Insulation) : FR-XLPE

#### ■ 0.6/1kV XHHW/SIS (Class 2)

Conductor			Nominal Insulation Thickness mm	Min. Insulation Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at. 20℃ Ω/km	Minimum Insulation Resistance at. 15℃ MΩ/km	Approx. Weight kg/km
Sectional Area mm <sup>2</sup>	Dia. of Wire No./mm	Approx. Outer Diameter mm						
1.5	7/0.53	1.59	0.76	0.69	3.3	12.2	910	25
2.5	7/0.67	2.01	0.76	0.69	3.8	7.56	815	40
4	7/0.85	2.55	0.76	0.69	4.4	4.7	685	55
6	7/1.04	3.12	0.76	0.69	4.9	3.11	565	75
10	7/1.35	4.05	1.14	1.02	6.6	1.16	650	120
16	7/1.7	5.1	1.14	1.02	7.7	0.734	454	180
25	7/2.14	6.42	1.14	1.02	9.0	0.529	445	275
35	7/2.52	7.56	1.14	1.02	10.1	0.391	370	375
50	19/1.78	8.9	1.4	1.27	12.0	0.270	355	505
70	19/2.14	10.7	1.4	1.27	13.9	0.195	320	710
95	19/2.52	12.6	1.4	1.27	15.8	0.154	290	970
120	37/2.03	14.21	1.65	1.47	17.9	0.126	280	1225
150	37/2.25	15.75	1.65	1.47	19.4	0.100	255	1485
185	37/2.52	17.64	1.65	1.47	21.3	0.0762	225	1845
240	61/2.25	20.25	1.65	1.47	23.9	0.0607	205	2445
300	61/2.52	22.68	2.03	1.83	27.1	0.0475	220	3090

**■ 0.6/1kV XHHW/SIS (Class 5)**

Conducto			Nominal Insulation Thickness mm		Approx. Overall Diameter mm	Maximum Conductor Resistance at. 20℃ Ω/km	Minimum Insulation Resistance at. 15℃ MΩ/km	Approx. Weight kg/km
Sectional Area mm <sup>2</sup>	Construction Max. Dia. mm	Approx. Overall Diameter Approx. mm						
			Average	Minimum				
1.5	0.26	1.58	0.76	0.69	3.4	13.7	910	25
2.5	0.26	2.04	0.76	0.69	3.9	8.21	815	40
4	0.31	2.59	0.76	0.69	4.4	5.09	685	55
6	0.31	3.17	0.76	0.69	5.0	3.39	565	75
10	0.41	4.73	1.14	1.02	7.3	1.95	650	125
16	0.41	5.88	1.14	1.02	8.4	1.24	454	180
25	0.41	7.32	1.14	1.02	9.9	0.795	445	270
35	0.41	8.72	1.14	1.02	11.3	0.565	370	370
50	0.41	10.6	1.4	1.27	13.8	0.393	355	535
70	0.51	12.53	1.4	1.27	15.7	0.277	320	740
95	0.51	14.45	1.4	1.27	18.0	0.210	290	960
120	0.51	16.3	1.65	1.47	20.0	0.164	280	1230
150	0.51	18.25	1.65	1.47	21.9	0.132	255	1510
185	0.51	20.23	1.65	1.47	23.9	0.108	225	1830
240	0.51	23.17	1.65	1.47	26.8	0.0817	205	2395
300	0.51	26.13	2.03	1.83	30.6	0.0654	220	3060

# Building Wire(Type THW)

UL83

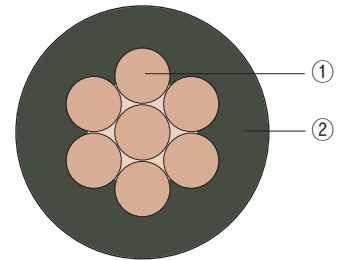
## 600V THW

### VOLTAGE RATING : 600V

CONDUCTOR TEMPERATURE : 75℃ (167 F)

DESCRIPTION : Solid or stranded, plain annealed copper conductor  
600V Class TW (moisture-resistant PVC) insulation,  
finish lubrication.

SPECIFICATION : UL83



① 도체 ① Conductor

② 절연체 ② Insulation

### Solid Conductor

Conductor		Insulation Thickness mm	Approx. Overall Diameter mm	Approx. Weight kg/km
AWG	Approx. Diameter mm			
14	1.63	0.76	3.3	30
12	2.05	0.76	3.7	40
10	2.59	0.76	4.2	60
8	3.26	1.14	5.7	100

### Stranded Conductor

Conductor			Insulation Thickness mm	Approx. Overall Diameter mm	Approx. Weight kg/km
AWG or MCM	NO. and Dia. of Wire No./mm	Approx. Diameter mm			
14	7/0.62	1.86	0.76	3.5	30
12	7/0.78	2.34	0.76	4.0	45
10	7/0.98	2.94	0.76	4.5	65
8	7/1.23	3.69	1.14	6.1	105
6	7/1.56	4.68	1.52	7.9	170
4	7/1.96	5.88	1.52	9.1	250
2	7/2.47	7.41	1.52	10.7	380
1	19/1.69	8.45	2.03	12.8	495
1/0	19/1.89	9.45	2.03	13.8	605
2/0	19/2.13	10.6	2.03	15.0	750
3/0	19/2.39	11.9	2.03	16.3	925
4/0	19/2.68	13.4	2.03	17.7	1,140
250	37/2.09	14.6	2.41	19.8	1,360
300	37/2.29	16.0	2.41	21.2	1,610
350	37/2.47	17.3	2.41	22.4	1,855
400	37/2.64	18.5	2.41	23.6	2,100
500	37/2.95	20.7	2.41	25.8	2,590
600	61/2.52	22.7	2.79	28.6	3,190
1,000	61/3.25	29.3	2.79	35.2	5,170

# Building Wire(Type XHHW)

**UL 44**

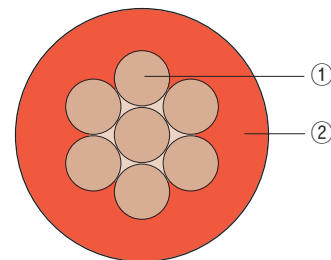
## 600V XHHW

### ■ VOLTAGE RATING : 600V

MAXIMUM CONDUCTOR TEMPERATURE : 90°C in dry locations and  
75°C in wet locations.

DESCRIPTION: Solid or stranded, plain annealed copper  
conductor(No.14AWG and larger) 600V Class  
XHHW (600V Flame resistant XLPE insulated  
Wire) insulation.

SPECIFICATION: UL 44



① 도체      ① Conductor

② 절연체      ② Insulation

### ■ Solid Conductor

Conductor		Insulation Thickness mm	Approx. Overall Diameter mm	Approx. Weight kg/km
AWG	Approx. Diameter mm			
14	1.63	0.76	3.2	30
12	2.05	0.76	3.6	40
10	2.59	0.76	4.1	60

### ■ Stranded Conductor

Conductor			Insulation Thickness mm	Approx. Overall Diameter mm	Approx. Weight kg/km
AWG or MCM	NO. and Dia. of Wire No./mm	Approx. Diameter mm			
14	7/0.62	1.85	0.76	3.4	30
12	7/0.78	2.34	0.76	3.9	40
10	7/0.98	2.95	0.76	4.5	60
8	7/1.23	3.70	1.14	6.0	100
6	7/1.56	4.67	1.14	7.2	150
4	7/1.96	5.88	1.14	8.5	230
2	7/2.47	7.42	1.14	10.0	350
1	19/1.69	8.43	1.40	11.6	450
1/0	19/1.89	9.46	1.40	12.6	550
2/0	19/2.13	10.6	1.40	13.8	690
3/0	19/2.39	11.9	1.40	15.1	860
4/0	19/2.68	13.4	1.40	16.6	1,070
250	37/2.09	14.6	1.65	18.3	1,270
300	37/2.29	16.0	1.65	19.7	1,510
350	37/2.47	17.3	1.65	21.0	1,750
400	37/2.64	18.5	1.65	22.2	1,990
450	37/2.80	19.6	1.65	23.3	2,250
500	37/2.95	20.7	1.65	24.4	2,460
600	61/2.52	22.7	2.03	27.3	3,030
700	61/2.72	24.5	2.03	29.1	3,510
750	61/2.82	25.3	2.03	29.9	3,730
800	61/2.91	26.2	2.03	30.8	3,990
900	61/3.09	27.8	2.03	32.4	4,480
1,000	61/3.25	29.3	2.03	34.0	4,930

## 옥외용 비닐절연전선

ES 124-020 ~ 084

### Outdoor Weather Proof PVC Insulated Wire(600V OW)

저압 가공전선로에 사용되며 전기용 경동선을 도체로 하여 PVC로 피복한 절연전선으로 종전의 면 절연전선보다 내후성 및 내구성이 우수하다.

It is used for overhead low-voltage distribution line and composed of hard-drawn copper wire and PVC insulation.

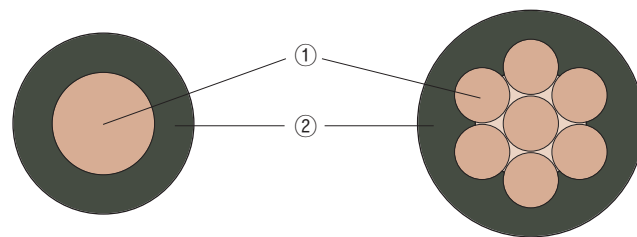
It is superior to conventional cotton insulated wire and highly weather proof and safe use over a long period is assured.

#### 구 조

1. 도 체 : 전기용 경동선
2. 절 연 체 : PVC
3. 절연체 색상 : 흑색

#### Construction

1. Conductor : Hard-drawn copper wire
2. Insulation : PVC
3. Color of Insulation : Black



단선 도체  
Solid Conductor

연선 도체  
Stranded Conductor

- ① 도 체 ① Conductor  
② 절연체 ② Insulation

#### 단선도체 Solid Conductor

Conductor		P.V.C Insulation Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20℃ Ω/Km	Test Voltage V/1mim	Tensile Load kgf	Approx. Weight kg/km	Standard Length m
Diameter mm	Sectionl Area mm²							
2.0	3.142	0.4	2.8	5.83	3,000	134.0	32	300
2.6	5.309	0.5	3.6	3.45	3,000	223.2	54	300
3.2	8.042	0.6	4.4	2.28	3,000	333.0	81	200
4.0	12.57	1.0	6.0	1.46	3,000	499.1	135	200
5.0	19.64	1.2	7.4	0.932	3,000	759.8	210	200

#### 연선도체 Stranded Conductor

Conductor			PVC Insulation Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20℃ Ω/km	Test Voltage V/1min.	Tensile Load kgf	Approx. Weight kg/km	Standard Length m
Nominal Sectional Area mm²	Number& Diameter of Wire No./mm	Outer Diameter mm							
14	7/1.6	4.8	1.0	6.8	1.35	3,000	574	160	300
22	7/2.0	6.0	1.2	8.4	0.849	3,000	889	250	300
30	7/2.3	6.9	1.2	9.3	0.642	3,000	1,160	320	300
38	7/2.6	7.8	1.4	11.0	0.502	3,000	1,480	410	300
50	19/1.8	9.0	1.4	12.0	0.394	3,000	1,960	520	300
60	19/2.0	10.0	1.4	13.0	0.313	3,000	2,410	630	300
80	19/2.3	11.5	1.5	14.5	0.237	3,000	3,160	820	300
100	19/2.6	13.0	1.5	16.0	0.185	3,000	4,010	1,030	300

## 알루미늄 가교 폴리에틸렌 절연 전선

## 한전구매 시방서

### Aluminium Conductor Cross-linked Polyethylene Insulated Wire

(특)고압 가공 전선로에 사용한다.

This wire is used for high voltage overhead transmission lines.

#### ■ 구 조

1. 도 체 : 전기용 경알루미늄선, 강심 알루미늄연선, 알루미늄 피복강심 알루미늄연선
2. 절 연 체 : XLPE
3. 절연체색 : 흑색

#### ■ Construction

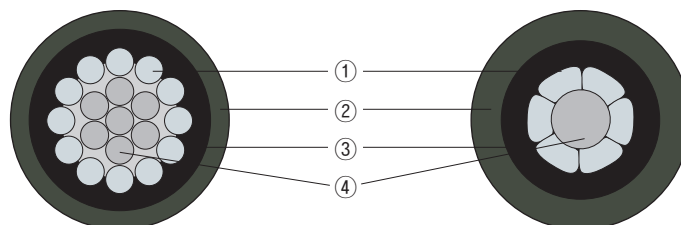
1. Conductor : Hard-drawn aluminium wire or Aluminium stranded conductors steel reinforced or Aluminium Stranded Conductors Aluminium clad steel Wire reinforced
2. Insulation : XLPE
3. Colour of the Insulation : Black

#### ■ 3개연 Triplex(DV-3R)

종 류	기 호
고압 강심 알루미늄 절연전선	6.6kV ACSR-OC
특고압 강심 알루미늄 절연전선	22.9kV-y ACSR-OC
고압 경 알루미늄 절연전선	6.6kV HAL-OC
특고압 경 알루미늄 절연전선	22.9kV-y HAL-OC
고압 알루미늄 피복강심 알루미늄 절연전선	6.6kV ACSR/AW-OC
특고압 알루미늄 피복 강심 알루미늄 절연전선	22.9kV ACSR/AW-OC

#### ■ Classes and Symbols

No. of cores	색
ACSP Outdoor XLPE Insulated Wire for 6.6KV	6.6kV ACSR-OC
ACSR Outdoor XLPE Insulated Wire for 22.9KV-Y	22.9kV-Y ACSR-OC
HAL Outdoor XLPE Insulated Wire for 6.6KV	6.6kV HAL-OC
HAL Outdoor XLPE Insulated Wire for 22.9KV-Y	22.9kV-Y HAL-OC
ACSR/AW Outdoor XLPE Insulated Wire for 6.6KV	6.6kV ACSR/AW-OC
ACSR/AW Outdoor XLPE Insulated Wire for 22.9KV	22.9kV ACSR/AW-OC



① 도체

② 절 연 체

③ 반도체층

④ 아연도금강선 또는 AL 복강선

① Conductor

② Insulation

③ Semi-conducting layer

④ Zinc-coated steel Wire or Aluminium clad steel wire

**■ 강심알루미늄절연전선 (ACSR-OC)**

Voltage Grade	Conductor				Insulation Thickness mm	Overall Diameter mm	Max. Conductor Resistance at 20℃ Ω/km	Test Voltage kV/1min.	Tensile Load at break kgf	Approx. Weight kg/km	Min. Insulation Resistance at 20℃ MΩ · km	Standard length m
	Nominal Sectional Area mm²	NO. & dia. oc wire or shape		Outer Diameter mm								
		Al	St									
6.6kV	32	6/SB	1/2.6	7.2	2.0	11.2	0.928	12	1,090	185	1,500	900
	58	6/SB	1/3.5	9.7	2.5	14.7	0.512	12	1,900	325	1,500	600
	95	6/SB	1/3.5	12.0	2.5	17.0	0.313	12	2,360	455	1,000	300
22.9kV	32	6/SB	1/2.6	7.2	3.0	13.2	0.928	25	1,090	215	2,000	900
	58	6/SB	1/3.5	9.7	3.0	15.7	0.512	25	1,900	340	1,500	600
	95	6/SB	1/3.5	12.0	3.5	19.0	0.313	25	2,360	540	1,500	600
	160	18/SB	1/3.2	15.4	4.0	23.4	0.186	25	3,080	740	1,500	600

**■ 강심알루미늄절연전선 (HAL-OC)**

Voltage Grade	Conductor			Insulation Thickness mm	Overall Diameter mm	Max. Conductor Resistance at 20℃ Ω/km	Test Voltage kV/1min.	Tensile Load at break kgf	Approx. Weight kg/km	Min. Insulation Resistance at 20℃ MΩ · km	Standard length m
	Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Outer Diameter mm								
6.6kV	150	19/3.2	16.0	2.5	21.0	0.193	12	2,270	600	1,000	300
22.9kV	150	19/3.2	16.0	4.0	24.0	0.193	25	2,270	650	1,500	600

**■ 알루미늄피복강심 알루미늄절연전선 (ACSR/AW-OC)**

Voltage Grade	Conductor				Insulation Thickness mm	Overall Diameter mm	Max. Conductor Resistance at 20℃ Ω/km	Test Voltage kV/1min.	Tensile Load at break kgf	Approx. Weight kg/km	Min. Insulation Resistance at 20℃ MΩ · km	Standard length m
	Nominal Sectional Area mm²	NO. & dia. oc wire or shape		Outer Diameter mm								
		Al	St									
6.6kV	32	6/SB	1/2.6	7.2	2.0	11.2	0.877	12	1,090	180	1,500	900
	58	6/SB	1/3.5	9.7	2.5	14.7	0.484	12	1,900	315	1,500	600
	95	6/SB	1/3.5	12.0	2.5	17.0	0.302	12	2,360	445	1,000	300
22.9kV	32	6/SB	1/2.6	7.2	3.0	13.2	0.877	25	1,090	210	2,000	900
	58	6/SB	1/3.5	9.7	3.0	15.7	0.484	25	1,900	330	1,500	600
	95	6/SB	1/3.5	12.0	3.5	19.0	0.302	25	2,360	530	1,500	600
	160	18/SB	1/3.2	15.4	4.0	23.4	0.183	25	3,080	730	1,500	600

## Underground Service Entrance Cable(Type USE-2) UL 44 & 854 600V USE-2/RHW-2

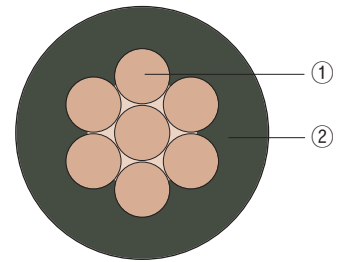
### ■ VOLTAGE RATING : 600V

MAXIMUM CONDUCTOR TEMPERATURE : 90°C wet or dry location

DESCRIPTION: Solid or s stranded, copper conductor 600V Class

USE-2/RHW-2 (600V FR-XLPE insulated Wire)  
insulation

SPECIFICATION: UL44 & UL854



①도체

① Conductor

②절연체

② Insulation

### ■ Solid Conductorn

Conductor		Insulation Thickness mm	Overall Diameter mm	Approx. Weight kg · km
AWG	Approx. Diameter mm			
14	1.63	1.14	4.3	30
12	2.05	1.14	4.7	43
10	2.59	1.14	5.2	62
8	3.26	1.52	6.7	100

### ■ Stranded Conductorn

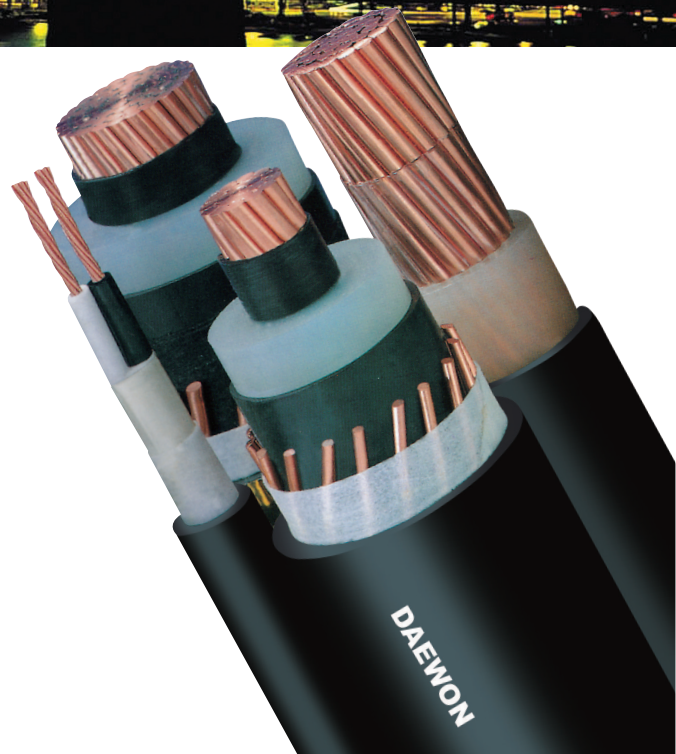
Conductor			Insulation Thickness mm	Overall Diameter mm	Approx. Weight kg · km
AWG or MCM	NO. and Dia. of Wire No./mm	Approx. Diameter mm			
14	7/0.62	1.85	1.14	4.5	32
12	7/0.78	2.34	1.14	5.0	45
10	7/0.98	2.95	1.14	5.6	65
8	7/1.23	3.70	1.52	7.2	105
6	7/1.56	4.67	1.52	8.2	155
4	7/1.96	5.88	1.52	9.4	230
2	7/2.47	7.42	1.52	11.0	350
1	19/1.69	8.43	2.03	13.0	460
1/0	19/1.89	9.46	2.03	14.0	560
2/0	19/2.13	10.6	2.03	15.2	700
3/0	19/2.39	11.9	2.03	16.5	865
4/0	19/2.68	13.4	2.03	18.0	1075
250	37/2.09	14.6	2.41	20.0	1290
300	37/2.29	16.0	2.41	21.5	1530

# 전력용 및 제어용 케이블

## Power & Control Cable

DAEWON CABLE

- 0.6/1kV 비닐절연 비닐시스 케이블
- 0.6/1kV 제어용 케이블
- 자동차용 극박육 저압전선
- 엘리베이터용 비닐절연 비닐피복 케이블
- 0.6/1kV 가교 폴리에틸렌 케이블
- 6/10kV 가교 폴리에틸렌 케이블
- 22.9kV 동심 중성선 전력 케이블



# 0.6/1kV 비닐절연비닐시스케이블

KS C IEC 60502-1

## 0.6/1kV PVC Insulated PVC Sheathed Cable (VV)

장기간사용하여도내마모성및내후성이우수하여정격 전압0.6/1kV 이하의저압회로에널리사용된다.

This cable has superior weather proof and anti-friction property, permitting of use for a long period of time and widely used for a low tension distribution wire under 0.6/1kV grade.

### 구 조

- 1.도 체: 전기용연동선(원형연선, 원형압축연선)
- 2.절 연 체: 염화비닐수지
- 3.절연체색: 착색

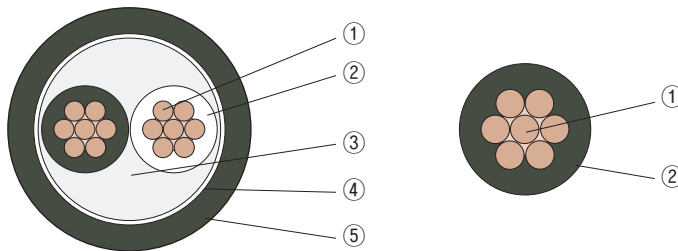
선심수	색
2 심	흑, 백
3 심	흑, 백, 적
4 심	흑, 백, 적, 녹

### Construction

1. Conductor : Annealed copper Wire  
(Concentric Circular, Compact Circular)
2. Insulation : PVC
3. Core Identification : Colouring Method

No. of cores	Colour
2 cores	black, White
3 cores	black, White, Red
4 cores	black, White, Red, Green

### 4.피복체: 염화비닐수지



### 4.Sheath : PVC

- |       |              |
|-------|--------------|
| ① 도체  | ① Conductor  |
| ② 절연체 | ② Insulation |
| ③ 개재물 | ③ Filler     |
| ④ 테이프 | ④ Tape       |
| ⑤ 피복체 | ⑤ Sheath     |

### 단심 Single Core

Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20°C Ω/km	Test Voltage V/5min.	Approx. Weight kg/km	Standard Length m
Nominal Sectional Area mm²	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
1.5	7/0.53	1.59	0.8	1.4	6.5	12.1	3500	55	300
2.5	7/0.67	2.01			7.0	7.41		70	
4	7/0.85	2.55			8.0	4.61		95	
6	7/1.04	3.12	8.5		3.08	120			
10	7/1.35	4.05	9.5		1.83	170			
16	C.C.	4.7	10.0		1.15	225			
25	C.C.	5.9	1.2		11.5	0.727		335	
35	C.C.	6.9			12.5	0.524		435	
50	C.C.	8.1	1.4		14.0	0.387		585	
70	C.C.	9.7			15.5	0.268		775	
95	C.C.	11.3	1.6	1.5	18.0	0.193		1060	200
120	C.C.	12.8			19.5	0.153		1300	
150	C.C.	14.4	1.8	1.6	21.5	0.124		1610	
185	C.C.	15.9	2.0	1.7	24.0	0.0991		1990	
240	C.C.	18.3	2.2	1.8	27.0	0.0754		2580	
300	C.C.	20.3	2.4	1.9	29.5	0.0601		3200	150
400	C.C.	23.1	2.6	2.0	33.0	0.0470		4110	
500	C.C.	26.5	2.8	2.1	37.0	0.0366		5160	
630	C.C.	30.2		2.2	41.0	0.0283		6570	

※CC:원형압축

## ■ 2심 Two Core

Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20°C Ω/km	Test Voltage V/5min.	Approx. Weight kg/km	Standard Length m	
Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm								
1.5	7/0.53	1.59	0.8	1.8	10.5	12.1	3500	130	300	
2.5	7/0.67	2.01			11.5	7.41		165		
4	7/0.85	2.55			13.5	4.61		230		
6	7/1.04	3.12	14.5		3.08	285				
10	7/1.35	4.05	16.5		1.83	400				
16	C.C.	4.7	18		1.15	525				
25	C.C.	5.9	21		0.727	775				
35	C.C.	6.9	23.5		0.524	990				
50	C.C.	8.1	26.5		0.387	1310				
70	C.C.	9.7	1.4	1.9	30	0.268		1775		
95	C.C.	11.3		1.6	2.0	34.5		0.193		2390
120	C.C.	12.8			2.1	37.5		0.153		2940
150	C.C.	14.4	1.8	2.2	42	0.124		3630	200	
185	C.C.	15.9	2.0	2.3	46	0.0991		4480		
240	C.C.	18.3	2.2	2.5	52	0.0754		5760		
300	C.C.	20.3	2.4	2.7	57	0.0601		7150		

※CC:원형 압축

## ■ 3심 Three Core

Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20°C Ω/km	Test Voltage V/5min.	Approx. Weight kg/km	Standard Length m
Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
1.5	7/0.53	1.59	0.8	1.8	11.0	12.1	3500	160	300
2.5	7/0.67	2.01			12.0	7.41		200	
4	7/0.85	2.55			14.0	4.61		290	
6	7/1.04	3.12	15.5		3.08	370			
10	7/1.35	4.05	17.5		1.83	525			
16	C.C.	4.7	19.0		1.15	700			
25	C.C.	5.9	1.2		22.5	0.727		1045	
35	C.C.	6.9			24.5	0.524		1360	
50	C.C.	8.1	1.4		28	0.387		1840	
70	C.C.	9.7		1.9	31.5	0.268		2455	
95	C.C.	11.3	1.6	2.1	36.5	0.193		3350	
120	C.C.	12.8		2.2	40	0.153		4120	
150	C.C.	14.4	1.8	2.3	44.5	0.124		5100	200
185	C.C.	15.9	2.0	2.5	49	0.0991		6330	
240	C.C.	18.3	2.2	2.7	55.5	0.0754		8220	
300	C.C.	20.3	2.4	2.8	61	0.0601		10140	

※CC:원형 압축

**■ 4심 Four Core**

Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20 °C Ω/km	Test Voltage V/5min.	Approx. Weight kg/km	Standard Length m
Nominal Sectional Area mm²	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
1.5	7/0.53	1.59	0.8	1.8	12.0	12.1	3500	190	300
2.5	7/0.67	2.01			13.0	7.41		240	
4	7/0.85	2.55			15.5	4.61		350	
6	7/1.04	3.12	1.0		17.0	3.08		455	
10	7/1.35	4.05			19.0	1.83		655	
16	C.C.	4.7			20.5	1.15		885	
25	C.C.	5.9	1.2		24.5	0.727		1350	
35	C.C.	6.9			27	0.524		1760	
50	C.C.	8.1		1.4	31	0.387		2390	
70	C.C.	9.7	2.0		35	0.268		3190	
95	C.C.	11.3	1.6		2.2	40.5		0.193	
120	C.C.	12.8		2.3	44	0.153		5380	
150	C.C.	14.4		1.8	2.5	49.5		0.124	6680
185	C.C.	15.9	2.0	2.6	54	0.0991		8270	200
240	C.C.	18.3	2.2	2.9	61.5	0.0754		10740	
300	C.C.	20.3	2.4	3.1	68	0.0601		13310	

※ CC: 원형 압축

## 0.6/1kV 제어용케이블

## KS C IEC 60502-1/ K 60502-1

### 0.6/1kV Control Cable

발전소, 변전소등의0.6/1kV 이하의원격제어용으로 적합한케이블로서특히, 종전의연피고무케이블에 비해서매우가벼우며가요성, 난연성, 내마모성등이우수하며심선식별이선명한케이블이다.

This cable is designed for use in remote and substation. It is lighter and more flexible control system under 0.6/1kV in power plant than conventional rubber insulated lead sheathed control cable, also excellent in fireproof and antifriction quality.

#### ■구조

- 1.도체: 전기용연동선  
(단선, 원형연선)
- 2.절연체: PVC, XLPE
- 3.절연체색: 착색또는색테이프

선심수	색
2 심	흑, 백
3 심	흑, 백, 적
4 심	흑, 백, 적, 녹

4. 피복체: 염화비닐수지

#### ■ Construction

- 1.Conductor : Annealed copper Wire  
(Solid, Concentric Circular)
- 2.Insulation : PVC, XLPE
3. Core Identification : Colouring Method or Color Tape

No. of cores	Colour
2 cores	black, White
3 cores	black, White, Red
4 cores	black, White, Red, Green

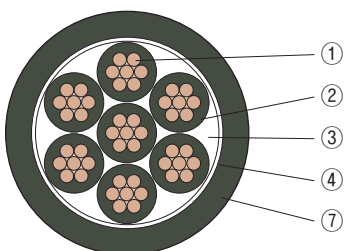
4. Sheath : PVC

#### ■종류및기호

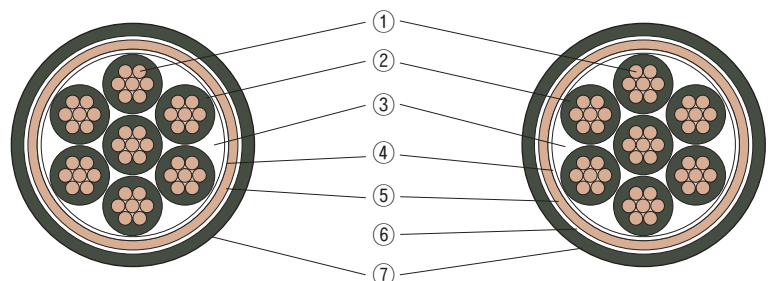
종류	기호
0.6/1kV 비닐절연비닐피복제어용케이블	0.6/1kV CVV
- 동테이프차폐케이블	0.6/1kV CVV-S
- 연동선편조차폐케이블	0.6/1kV CVV-SB
0.6/1kV XLPE 절연비닐피복제어용케이블	0.6/1kV CCV
-동테이프 차폐 케이블	0.6/1kV CCV-S
-연동선 편조 차폐 케이블	0.6/1kV CCV-SB

#### ■Class and Symbol

Class	Symbol
0.6/1kV PVC Insulated PVC Sheathed Control Cable	0.6/1kV CVV
- Copper Tape Shield	0.6/1kV CVV-S
- Shield Braid	0.6/1kV CVV-SB
0.6/1kV XLPE Insulated PVC Sheathed Control Cable	0.6/1kV CCV
- Copper Tape Shield	0.6/1kV CCV-S
- Shield Braid	0.6/1kV CCV-SB



0.6/1 kV CVV  
0.6/1 kV CCV



0.6/1 kV CWV-SB  
0.6/1 kV CCV-SB

0.6/1 kV CWV-S  
0.6/1 kV CCV-S

- ① 도체
- ② 절연체
- ③ 개재물
- ④ 바인더테이프
- ⑤ 차폐층
- ⑥ 바인더테이프
- ⑦ 피복체

- ① Conductor
- ② Insulation
- ③ Filler
- ④ Binder Tape
- ⑤ Shield (Copper Tape,Shield Braid)
- ⑥ Binder Tape
- ⑦ Sheath

**■ 0.6/1kV CVV**

Nominal of Cores	Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20℃ Ω/km	Test Voltage V/5min	Approx. Weight kg/km	Standard Length m
	Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
2	1.5	7/0.53	1.59	0.8	1.8	10.5	12.1	3500	130	300
	2.5	7/0.67	2.01	0.8		11.5	7.41		165	
	4	7/0.85	2.55	1.0		13.5	4.61		230	
	6	7/1.04	3.12	1.0		14.5	3.08		285	
	10	7/1.35	4.05	1.0		16.5	1.83		400	
3	1.5	7/0.53	1.59	0.8	1.8	11	12.1	3500	160	300
	2.5	7/0.67	2.01	0.8		12	7.41		200	
	4	7/0.85	2.55	1.0		14	4.61		290	
	6	7/1.04	3.12	1.0		15.5	3.08		370	
	10	7/1.35	4.05	1.0		17.5	1.83		525	
4	1.5	7/0.53	1.59	0.8	1.8	12	12.1	3500	190	300
	2.5	7/0.67	2.01	0.8		13	7.41		240	
	4	7/0.85	2.55	1.0		15.5	4.61		350	
	6	7/1.04	3.12	1.0		17	3.08		455	
	10	7/1.35	4.05	1.0		19	1.83		655	
5	1.5	7/0.53	1.59	0.8	1.8	13	12.1	3500	225	300
	2.5	7/0.67	2.01	0.8		14	7.41		290	
	4	7/0.85	2.55	1.0		17	4.61		420	
	6	7/1.04	3.12	1.0		18.5	3.08		545	
	10	7/1.35	4.05	1.0		21	1.83		790	
6	1.5	7/0.53	1.59	0.8	1.8	14	12.1	3500	260	300
	2.5	7/0.67	2.01	0.8		15.5	7.41		335	
	4	7/0.85	2.55	1.0		18	4.61		490	
	6	7/1.04	3.12	1.0		20	3.08		645	
	10	7/1.35	4.05	1.0		22.5	1.83		945	
7	1.5	7/0.53	1.59	0.8	1.8	14	12.1	3500	280	300
	2.5	7/0.67	2.01	0.8		15.5	7.41		360	
	4	7/0.85	2.55	1.0		18	4.61		540	
	6	7/1.04	3.12	1.0		20	3.08		705	
	10	7/1.35	4.05	1.0		22.5	1.83		1035	
8	1.5	7/0.53	1.59	0.8	1.8	15	12.1	3500	315	300
	2.5	7/0.67	2.01	0.8		16.5	7.41		405	
	4	7/0.85	2.55	1.0		19.5	4.61		600	
	6	7/1.04	3.12	1.0		21.5	3.08		795	
	10	7/1.35	4.05	1.0		24.5	1.83		1180	
10	1.5	7/0.53	1.59	0.8	1.8	17.5	12.1	3500	390	300
	2.5	7/0.67	2.01	0.8		19	7.41		510	
	4	7/0.85	2.55	1.0		23	4.61		755	
	6	7/1.04	3.12	1.0		25	3.08		980	
	10	7/1.35	4.05	1.0		29	1.83		1500	
12	1.5	7/0.53	1.59	0.8	1.8	18	12.1	3500	445	300
	2.5	7/0.67	2.01	0.8		19.5	7.41		580	
	4	7/0.85	2.55	1.0		23.5	4.61		870	
	6	7/1.04	3.12	1.0		26	3.08		1150	
	10	7/1.35	4.05	1.0		29.5	1.83		1740	
15	1.5	7/0.53	1.59	0.8	1.8	19	12.1	3500	530	300
	2.5	7/0.67	2.01	0.8		21	7.41		705	
	4	7/0.85	2.55	1.0		25.5	4.61		1050	
	6	7/1.04	3.12	1.0		28	3.08		1380	
20	1.5	7/0.53	1.59	0.8	1.8	21	12.1	3500	670	300
	2.5	7/0.67	2.01	0.8		23	7.41		890	
	4	7/0.85	2.55	1.0		28	4.61		1360	
	6	7/1.04	3.12	1.0		31	3.08		1800	
25	1.5	7/0.53	1.59	0.8	1.8	23	12.1	3500	770	300
	2.5	7/0.67	2.01	0.8	1.9	25.5	7.41		1040	
	4	7/0.85	2.55	1.0		29.5	4.61		1530	
30	1.5	7/0.53	1.59	0.8	1.8	25	12.1	3500	935	300
	2.5	7/0.67	2.01	0.8	1.9	28	7.41		1270	
	4	7/0.85	2.55	1.0		33.5	4.61		1900	
40	1.5	7/0.53	1.59	0.8	1.8	27.5	12.1	3500	1170	300
	2.5	7/0.67	2.01	0.8	1.9	31	7.41		1590	
50	1.5	7/0.53	1.59	0.8	1.9	30.5	12.1	3500	1490	300
	2.5	7/0.67	2.01	0.8	2.0	34	7.41		1980	

**■ 0.6/1kV CW-S**

Nominal of Cores	Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20℃ Ω/km	Test Voltage V/5min	Approx. Weight kg/km	Standard Length m
2	1.5	7/0.53	1.59	0.8	1.8	10.5	12.1	3500	140	300
	2.5	7/0.67	2.01	0.8		11.5	7.41		175	
	4	7/0.85	2.55	1.0		13.5	4.61		240	
	6	7/1.04	3.12	1.0		14.5	3.08		300	
	10	7/1.35	4.05	1.0		16.5	1.83		385	
3	1.5	7/0.53	1.59	0.8	1.8	11	12.1	3500	170	300
	2.5	7/0.67	2.01	0.8		12	7.41		210	
	4	7/0.85	2.55	1.0		14	4.61		300	
	6	7/1.04	3.12	1.0		15.5	3.08		380	
	10	7/1.35	4.05	1.0		17.5	1.83		535	
4	1.5	7/0.53	1.59	0.8	1.8	12	12.1	3500	205	300
	2.5	7/0.67	2.01	0.8		13	7.41		260	
	4	7/0.85	2.55	1.0		15.5	4.61		365	
	6	7/1.04	3.12	1.0		16.5	3.08		475	
	10	7/1.35	4.05	1.0		19	1.83		675	
5	1.5	7/0.53	1.59	0.8	1.8	13	12.1	3500	230	300
	2.5	7/0.67	2.01	0.8		14	7.41		300	
	4	7/0.85	2.55	1.0		16.5	4.61		445	
	6	7/1.04	3.12	1.0		18	3.08		570	
	10	7/1.35	4.05	1.0		20.5	1.83		825	
6	1.5	7/0.53	1.59	0.8	1.8	14	12.1	3500	265	300
	2.5	7/0.67	2.01	0.8		15	7.41		345	
	4	7/0.85	2.55	1.0		18	4.61		520	
	6	7/1.04	3.12	1.0		19.5	3.08		670	
	10	7/1.35	4.05	1.0		22.5	1.83		975	
7	1.5	7/0.53	1.59	0.8	1.8	14	12.1	3500	285	300
	2.5	7/0.67	2.01	0.8		15	7.41		380	
	4	7/0.85	2.55	1.0		18	4.61		560	
	6	7/1.04	3.12	1.0		19.5	3.08		725	
	10	7/1.35	4.05	1.0		22.5	1.83		1070	
8	1.5	7/0.53	1.59	0.8	1.8	15	12.1	3500	320	300
	2.5	7/0.67	2.01	0.8		16	7.41		430	
	4	7/0.85	2.55	1.0		19.5	4.61		630	
	6	7/1.04	3.12	1.0		21.5	3.08		820	
	10	7/1.35	4.05	1.0		24.5	1.83		1210	
10	1.5	7/0.53	1.59	0.8	1.8	17	12.1	3500	395	300
	2.5	7/0.67	2.01	0.8		19	7.41		520	
	4	7/0.85	2.55	1.0		23	4.61		800	
	6	7/1.04	3.12	1.0		25	3.08		1040	
	10	7/1.35	4.05	1.0		29	1.83		1520	
12	1.5	7/0.53	1.59	0.8	1.8	17.5	12.1	3500	450	300
	2.5	7/0.67	2.01	0.8		19.5	7.41		590	
	4	7/0.85	2.55	1.0		23.5	4.61		915	
	6	7/1.04	3.12	1.0		26	3.08		1200	
	10	7/1.35	4.05	1.0		29.5	1.83		1760	
15	1.5	7/0.53	1.59	0.8	1.8	19	12.1	3500	540	300
	2.5	7/0.67	2.01	0.8		21	7.41		710	
	4	7/0.85	2.55	1.0		25.5	4.61		1100	
	6	7/1.04	3.12	1.0		28	3.08		1460	
20	1.5	7/0.53	1.59	0.8	1.8	21	12.1	3500	680	300
	2.5	7/0.67	2.01	0.8		23	7.41		935	
	4	7/0.85	2.55	1.0		28	4.61		1410	
	6	7/1.04	3.12	1.0		31	3.08		1870	
25	1.5	7/0.53	1.59	0.8	1.8	23.5	12.1	3500	820	300
	2.5	7/0.67	2.01	0.8		26.5	7.41		1110	
	4	7/0.85	2.55	1.0	1.9	32	4.61		1770	
30	1.5	7/0.53	1.59	0.8	1.8	25	12.1	3500	960	300
	2.5	7/0.67	2.01	0.8		28	7.41		1290	
	4	7/0.85	2.55	1.0	1.9	34	4.61		2000	
40	1.5	7/0.53	1.59	0.8	1.8	28	12.1	3500	1220	300
	2.5	7/0.67	2.01	0.8	1.9	31.5	7.41		1680	
50	1.5	7/0.53	1.59	0.8	1.9	31	12.1	3500	1500	300
	2.5	7/0.67	2.01	0.8	2.0	34.5	7.41		2090	

# ■ 0.6/1kV CW-SB

Nominal of Cores	Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20℃ Ω/km	Test Voltage V/5min	Approx. Weight kg/km	Standard Length m
2	1.5	7/0.53	1.59	0.8	1.8	10.5	12.1	3500	150	300
	2.5	7/0.67	2.01	0.8		11.5	7.41		185	
	4	7/0.85	2.55	1.0		13.5	4.61		255	
	6	7/1.04	3.12	1.0		14.5	3.08		320	
	10	7/1.35	4.05	1.0		16.5	1.83		440	
3	1.5	7/0.53	1.59	0.8	1.8	11	12.1	3500	180	300
	2.5	7/0.67	2.01	0.8		12	7.41		220	
	4	7/0.85	2.55	1.0		14.5	4.61		320	
	6	7/1.04	3.12	1.0		15.5	3.08		400	
	10	7/1.35	4.05	1.0		17.5	1.83		570	
4	1.5	7/0.53	1.59	0.8	1.8	12	12.1	3500	215	300
	2.5	7/0.67	2.01	0.8		13	7.41		270	
	4	7/0.85	2.55	1.0		15.5	4.61		390	
	6	7/1.04	3.12	1.0		17	3.08		500	
	10	7/1.35	4.05	1.0		19	1.83		705	
5	1.5	7/0.53	1.59	0.8	1.8	13	12.1	3500	245	300
	2.5	7/0.67	2.01	0.8		14	7.41		310	
	4	7/0.85	2.55	1.0		17	4.61		465	
	6	7/1.04	3.12	1.0		18.5	3.08		600	
	10	7/1.35	4.05	1.0		21	1.83		855	
6	1.5	7/0.53	1.59	0.8	1.8	14	12.1	3500	280	300
	2.5	7/0.67	2.01	0.8		15.5	7.41		365	
	4	7/0.85	2.55	1.0		18	4.61		545	
	6	7/1.04	3.12	1.0		20	3.08		700	
	10	7/1.35	4.05	1.0		23	1.83		1020	
7	1.5	7/0.53	1.59	0.8	1.8	14	12.1	3500	295	300
	2.5	7/0.67	2.01	0.8		15.5	7.41		405	
	4	7/0.85	2.55	1.0		18	4.61		585	
	6	7/1.04	3.12	1.0		20	3.08		760	
	10	7/1.35	4.05	1.0		23	1.83		1110	
8	1.5	7/0.53	1.59	0.8	1.8	15	12.1	3500	340	300
	2.5	7/0.67	2.01	0.8		16.5	7.41		455	
	4	7/0.85	2.55	1.0		19.5	4.61		660	
	6	7/1.04	3.12	1.0		21.5	3.08		865	
	10	7/1.35	4.05	1.0		24.5	1.83		1260	
10	1.5	7/0.53	1.59	0.8	1.8	17.5	12.1	3500	420	300
	2.5	7/0.67	2.01	0.8		19	7.41		550	
	4	7/0.85	2.55	1.0		23	4.61		840	
	6	7/1.04	3.12	1.0		25	3.08		1090	
	10	7/1.35	4.05	1.0		29	1.83		1600	
12	1.5	7/0.53	1.59	0.8	1.8	18	12.1	3500	475	300
	2.5	7/0.67	2.01	0.8		19.5	7.41		620	
	4	7/0.85	2.55	1.0		23.5	4.61		960	
	6	7/1.04	3.12	1.0		26	3.08		1260	
	10	7/1.35	4.05	1.0		30.5	1.83		1890	
15	1.5	7/0.53	1.59	0.8	1.8	19	12.1	3500	565	300
	2.5	7/0.67	2.01	0.8		21	7.41		740	
	4	7/0.85	2.55	1.0		25.5	4.61		1170	
	6	7/1.04	3.12	1.0		28	3.08		1530	
20	1.5	7/0.53	1.59	0.8	1.8	21	12.1	3500	710	300
	2.5	7/0.67	2.01	0.8		23.5	7.41		980	
	4	7/0.85	2.55	1.0		28.5	4.61		1470	
	6	7/1.04	3.12	1.0		32	3.08		2000	
25	1.5	7/0.53	1.59	0.8	1.8	24	12.1	3500	870	300
	2.5	7/0.67	2.01	0.8		26.5	7.41		1180	
	4	7/0.85	2.55	1.0		33	4.61		1830	
30	1.5	7/0.53	1.59	0.8	1.8	25.5	12.1	3500	1010	300
	2.5	7/0.67	2.01	0.8		28	7.41		1370	
	4	7/0.85	2.55	1.0		35.5	4.61		2180	
40	1.5	7/0.53	1.59	0.8	1.8	28.5	12.1	3500	1300	300
	2.5	7/0.67	2.01	0.8	1.9	32	7.41		1860	
50	1.5	7/0.53	1.59	0.8	1.9	31.5	12.1	3500	1630	300
	2.5	7/0.67	2.01	0.8	2.0	35.5	7.41		2240	

**■ 0.6/1kV CCV**

Nominal of Cores	Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20℃ Ω/km	Test Voltage V/5min	Approx. Weight kg/km	Standard Length m
	Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
2	1.5	7/0.53	1.59	0.7	1.8	10.5	12.1	3500	120	300
	2.5	7/0.67	2.01			11	7.41		145	
	4	7/0.85	2.55			12.5	4.61		190	
	6	7/1.04	3.12			13.5	3.08		245	
	10	7/1.35	4.05			15.5	1.83		350	
3	1.5	7/0.53	1.59	0.7	1.8	11	12.1	3500	140	300
	2.5	7/0.67	2.01			11.5	7.41		180	
	4	7/0.85	2.55			13	4.61		240	
	6	7/1.04	3.12			14	3.08		315	
	10	7/1.35	4.05			16	1.83		455	
4	1.5	7/0.53	1.59	0.7	1.8	11.5	12.1	3500	170	300
	2.5	7/0.67	2.01			12.5	7.41		215	
	4	7/0.85	2.55			14	4.61		295	
	6	7/1.04	3.12			15.5	3.08		385	
	10	7/1.35	4.05			17.5	1.83		580	
5	1.5	7/0.53	1.59	0.7	1.8	12.5	12.1	3500	190	300
	2.5	7/0.67	2.01			13.5	7.41		260	
	4	7/0.85	2.55			15	4.61		350	
	6	7/1.04	3.12			16.5	3.08		460	
	10	7/1.35	4.05			19	1.83		695	
6	1.5	7/0.53	1.59	0.7	1.8	13.5	12.1	3500	230	300
	2.5	7/0.67	2.01			14.5	7.41		300	
	4	7/0.85	2.55			16.5	4.61		410	
	6	7/1.04	3.12			18	3.08		545	
	10	7/1.35	4.05			21	1.83		835	
7	1.5	7/0.53	1.59	0.7	1.8	13.5	12.1	3500	245	300
	2.5	7/0.67	2.01			14.5	7.41		320	
	4	7/0.85	2.55			16.5	4.61		440	
	6	7/1.04	3.12			18	3.08		600	
	10	7/1.35	4.05			21	1.83		905	
8	1.5	7/0.53	1.59	0.7	1.8	14.5	12.1	3500	270	300
	2.5	7/0.67	2.01			15.5	7.41		360	
	4	7/0.85	2.55			17.5	4.61		495	
	6	7/1.04	3.12			19.5	3.08		670	
	10	7/1.35	4.05			22.5	1.83		1030	
10	1.5	7/0.53	1.59	0.7	1.8	16.5	12.1	3500	330	300
	2.5	7/0.67	2.01			18	7.41		450	
	4	7/0.85	2.55			20.5	4.61		625	
	6	7/1.04	3.12			22.5	3.08		835	
	10	7/1.35	4.05			26.5	1.83		1280	
12	1.5	7/0.53	1.59	0.7	1.8	17	12.1	3500	370	300
	2.5	7/0.67	2.01			18.5	7.41		515	
	4	7/0.85	2.55			21	4.61		720	
	6	7/1.04	3.12			23.5	3.08		960	
	10	7/1.35	4.05			27	1.83		1530	
15	1.5	7/0.53	1.59	0.7	1.8	18	12.1	3500	440	300
	2.5	7/0.67	2.01			20	7.41		615	
	4	7/0.85	2.55			22.5	4.61		870	
	6	7/1.04	3.12			25	3.08		1170	
20	1.5	7/0.53	1.59	0.7	1.8	20	12.1	3500	550	300
	2.5	7/0.67	2.01			22	7.41		780	
	4	7/0.85	2.55			25	4.61		1110	
	6	7/1.04	3.12			28	3.08		1510	
25	1.5	7/0.53	1.59	0.7	1.8	22.5	12.1	3500	670	300
	2.5	7/0.67	2.01			25	7.41		965	
	4	7/0.85	2.55			28.5	4.61		1340	
30	1.5	7/0.53	1.59	0.7	1.8	24	12.1	3500	775	300
	2.5	7/0.67	2.01			26.5	7.41		1100	
	4	7/0.85	2.55			30	4.61		1580	
40	1.5	7/0.53	1.59	0.7	1.8	26.5	12.1	3500	1000	300
	2.5	7/0.67	2.01			29.5	7.41		1450	
50	1.5	7/0.53	1.59	0.7	1.8	29	12.1	3500	1210	300
	2.5	7/0.67	2.01			33	7.41		1740	

# ■ 0.6/1kV CCV-S

Nominal of Cores	Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20℃ Ω/km	Test Voltage V/5min	Approx. Weight kg/km	Standard Length m
	Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
2	1.5	7/0.53	1.59	0.7	1.8	10	12.1	3500	130	300
	2.5	7/0.67	2.01			11	7.41		155	
	4	7/0.85	2.55			12	4.61		200	
	6	7/1.04	3.12			13	3.08		255	
	10	7/1.35	4.05			15	1.83		365	
3	1.5	7/0.53	1.59	0.7	1.8	10.5	12.1	3500	150	300
	2.5	7/0.67	2.01			11.5	7.41		190	
	4	7/0.85	2.55			12.5	4.61		250	
	6	7/1.04	3.12			14	3.08		330	
	10	7/1.35	4.05			16	1.83		470	
4	1.5	7/0.53	1.59	0.7	1.8	11.5	12.1	3500	180	300
	2.5	7/0.67	2.01			12.5	7.41		225	
	4	7/0.85	2.55			14	4.61		305	
	6	7/1.04	3.12			15	3.08		400	
	10	7/1.35	4.05			17.5	1.83		595	
5	1.5	7/0.53	1.59	0.7	1.8	12.5	12.1	3500	200	300
	2.5	7/0.67	2.01			13.5	7.41		270	
	4	7/0.85	2.55			15	4.61		360	
	6	7/1.04	3.12			16.5	3.08		475	
	10	7/1.35	4.05			19	1.83		715	
6	1.5	7/0.53	1.59	0.7	1.8	13	12.1	3500	245	300
	2.5	7/0.67	2.01			14.5	7.41		315	
	4	7/0.85	2.55			16	4.61		425	
	6	7/1.04	3.12			18	3.08		560	
	10	7/1.35	4.05			20.5	1.83		855	
7	1.5	7/0.53	1.59	0.7	1.8	13	12.1	3500	255	300
	2.5	7/0.67	2.01			14.5	7.41		335	
	4	7/0.85	2.55			16	4.61		455	
	6	7/1.04	3.12			18	3.08		620	
	10	7/1.35	4.05			20.5	1.83		925	
8	1.5	7/0.53	1.59	0.7	1.8	14	12.1	3500	285	300
	2.5	7/0.67	2.01			15.5	7.41		375	
	4	7/0.85	2.55			17.5	4.61		515	
	6	7/1.04	3.12			19	3.08		690	
	10	7/1.35	4.05			22.5	1.83		1050	
10	1.5	7/0.53	1.59	0.7	1.8	16.5	12.1	3500	345	300
	2.5	7/0.67	2.01			18	7.41		470	
	4	7/0.85	2.55			20	4.61		645	
	6	7/1.04	3.12			22.5	3.08		870	
	10	7/1.35	4.05			26	1.83		1300	
12	1.5	7/0.53	1.59	0.7	1.8	17	12.1	3500	385	300
	2.5	7/0.67	2.01			18.5	7.41		530	
	4	7/0.85	2.55			21	4.61		740	
	6	7/1.04	3.12			23	3.08		985	
	10	7/1.35	4.05			27	1.83		1560	
15	1.5	7/0.53	1.59	0.7	1.8	18	12.1	3500	455	300
	2.5	7/0.67	2.01			20	7.41		635	
	4	7/0.85	2.55			22.5	4.61		890	
	6	7/1.04	3.12			25	3.08		1200	
20	1.5	7/0.53	1.59	0.7	1.8	20	12.1	3500	570	300
	2.5	7/0.67	2.01			22	7.41		805	
	4	7/0.85	2.55			25	4.61		1140	
	6	7/1.04	3.12			28	3.08		1550	
25	1.5	7/0.53	1.59	0.7	1.8	22.5	12.1	3500	695	300
	2.5	7/0.67	2.01			25	7.41		955	
	4	7/0.85	2.55			28	4.61		1370	
30	1.5	7/0.53	1.59	0.7	1.8	23.5	12.1	3500	800	300
	2.5	7/0.67	2.01			26.5	7.41		1130	
	4	7/0.85	2.55			30	4.61		1620	
40	1.5	7/0.53	1.59	0.7	1.8	26.5	12.1	3500	1030	300
	2.5	7/0.67	2.01			29.5	7.41		1490	
50	1.5	7/0.53	1.59	0.7	1.8	29	12.1	3500	1240	300
	2.5	7/0.67	2.01		1.9	32.5	7.41		1770	

**■ 0.6/1kV CCV-SB**

Nominal of Cores	Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20℃ Ω/km	Test Voltage V/5min	Approx. Weight kg/km	Standard Length m
2	1.5	7/0.53	1.59	0.7	1.8	10.5	12.1	3500	135	300
	2.5	7/0.67	2.01			11	7.41		170	
	4	7/0.85	2.55			12	4.61		210	
	6	7/1.04	3.12			13.5	3.08		270	
	10	7/1.35	4.05			15.5	1.83		385	
3	1.5	7/0.53	1.59	0.7	1.8	11	12.1	3500	155	300
	2.5	7/0.67	2.01			11.5	7.41		200	
	4	7/0.85	2.55			13	4.61		265	
	6	7/1.04	3.12			14	3.08		345	
	10	7/1.35	4.05			16	1.83		495	
4	1.5	7/0.53	1.59	0.7	1.8	11.5	12.1	3500	190	300
	2.5	7/0.67	2.01			12.5	7.41		240	
	4	7/0.85	2.55			14	4.61		320	
	6	7/1.04	3.12			15.5	3.08		420	
	10	7/1.35	4.05			17.5	1.83		620	
5	1.5	7/0.53	1.59	0.7	1.8	12.5	12.1	3500	210	300
	2.5	7/0.67	2.01			13.5	7.41		280	
	4	7/0.85	2.55			15	4.61		380	
	6	7/1.04	3.12			16.5	3.08		500	
	10	7/1.35	4.05			19	1.83		740	
6	1.5	7/0.53	1.59	0.7	1.8	13.5	12.1	3500	255	300
	2.5	7/0.67	2.01			14.5	7.41		335	
	4	7/0.85	2.55			16.5	4.61		445	
	6	7/1.04	3.12			18	3.08		590	
	10	7/1.35	4.05			21	1.83		875	
7	1.5	7/0.53	1.59	0.7	1.8	13.5	12.1	3500	265	300
	2.5	7/0.67	2.01			14.5	7.41		355	
	4	7/0.85	2.55			16.5	4.61		480	
	6	7/1.04	3.12			18	3.08		645	
	10	7/1.35	4.05			21	1.83		960	
8	1.5	7/0.53	1.59	0.7	1.8	14.5	12.1	3500	305	300
	2.5	7/0.67	2.01			16	7.41		400	
	4	7/0.85	2.55			17.5	4.61		540	
	6	7/1.04	3.12			19.5	3.08		720	
	10	7/1.35	4.05			22.5	1.83		1100	
10	1.5	7/0.53	1.59	0.7	1.8	16.5	12.1	3500	365	300
	2.5	7/0.67	2.01			18	7.41		495	
	4	7/0.85	2.55			20.5	4.61		675	
	6	7/1.04	3.12			23	3.08		915	
	10	7/1.35	4.05			26.5	1.83		1370	
12	1.5	7/0.53	1.59	0.7	1.8	17	12.1	3500	410	300
	2.5	7/0.67	2.01			19	7.41		560	
	4	7/0.85	2.55			21	4.61		770	
	6	7/1.04	3.12			23.5	3.08		1050	
	10	7/1.35	4.05			27.5	1.83		1630	
15	1.5	7/0.53	1.59	0.7	1.8	18	12.1	3500	480	300
	2.5	7/0.67	2.01			20	7.41		665	
	4	7/0.85	2.55			22.5	4.61		935	
	6	7/1.04	3.12			25.5	3.08		1260	
20	1.5	7/0.53	1.59	0.7	1.8	20	12.1	3500	600	300
	2.5	7/0.67	2.01			22.5	7.41		850	
	4	7/0.85	2.55			25	4.61		1190	
	6	7/1.04	3.12			28.5	3.08		1640	
25	1.5	7/0.53	1.59	0.7	1.8	22.5	12.1	3500	740	300
	2.5	7/0.67	2.01			25.5	7.41		1040	
	4	7/0.85	2.55			28.5	4.61		1440	
30	1.5	7/0.53	1.59	0.7	1.8	24	12.1	3500	850	300
	2.5	7/0.67	2.01			27	7.41		1220	
	4	7/0.85	2.55			30.5	4.61		1770	
40	1.5	7/0.53	1.59	0.7	1.8	27	12.1	3500	1090	300
	2.5	7/0.67	2.01			30	7.41		1610	
50	1.5	7/0.53	1.59	0.7	1.8	29.5	12.1	3500	1360	300
	2.5	7/0.67	2.01			33.5	7.41		1900	

## 자동차용극박육저압전선

### Very Thin Low-voltage Cables for Automobiles

#### ■ 구조

1. 도 체 : 연동선
2. 절 연 체
  - AVSS : PVC
  - AVX : 조사가교PVC
  - AEX : 조사가교PE

#### ■ 용도

- AVSS : 경량화, 도형화를요구하는배선
- AVX, AEX : 엔진및내열을요구하는배선

#### ■ Construction

1. Conductor : Annealed stranded copper
2. Insulation
  - AVSS : Polyvinylchloride
  - AVX : Crosslinked Polyvinylchloride
  - AEX : Crosslinked Polyethylene

#### ■ Specification

- JASO D 608
- KIS-ES-1019 AVSS
- KIS-ES-1016 AUX, AEX

#### ■ AVSS

공 칭 단면적	도체 Conductor			절연체 두께	케이블외경 Overall Diameter		도체 저항	표준 길이
	소선수/소선경	계산 단면적	외경		표준 Standard mm	최대 Maximum mm		
Nominal Size mm <sup>2</sup>	No./Dia.of Wire No./mm	Calculated Area mm <sup>2</sup>	Outer Diameter mm	Insulation Thickness mm	표준 Standard mm	최대 Maximum mm	Conductor Resistance at 20℃ Ω/Km	Standard Length m
0.3	7/0.26	0.3716	0.8	0.3	1.4	1.5	50.2	1000
0.5	7/0.32	0.5629	1.0	0.3	1.6	1.7	32.7	1000
0.85	19/0.24	0.8595	1.2	0.3	1.8	1.9	21.7	1000
1.25	19/0.29	1.2550	1.5	0.3	2.1	2.2	14.9	500
2	37/0.26	1.9644	1.8	0.4	2.6	2.7	9.5	500

#### ■ AVX, AEX

공 칭 단면적	도체 Conductor			절연체 두께	케이블외경 Overall Diameter		도체 저항	개산중량		표준 길이
	소선수/소선경	계산 단면적	외경		표준 Standard mm	최대 Maximum mm		AEX kg/km	AVX kg/km	
Nominal Size mm <sup>2</sup>	No./Dia.of Wire No./mm	Calculated Area mm <sup>2</sup>	Outer Diameter mm	Insulation Thickness mm	표준 Standard mm	최대 Maximum mm	Conductor Resistance at 20℃ Ω/Km	AEX kg/km	AVX kg/km	Standard Length m
0.3f	12/0.18	0.3054	0.72	0.5	1.72	1.82	0.053	5.57	5.55	500
0.3	7/0.26	0.3716	0.79	0.5	1.79	1.89	0.0479	6.32	6.30	500
0.5f	20/0.18	0.5089	0.93	0.5	1.93	2.03	0.0367	7.88	7.86	500
0.5	7/0.32	0.5630	0.98	0.5	1.98	2.08	0.0327	8.48	8.45	500
0.75f	30/0.18	0.7634	1.14	0.5	2.14	2.24	0.0244	10.65	10.63	500
0.85f	34/0.18	0.8652	1.21	0.5	2.21	2.31	0.0205	11.78	11.70	500
0.85	11/0.32	0.8847	1.22	0.5	2.22	2.32	0.0208	11.93	11.90	500
1.25f	50/0.18	1.272	1.47	0.6	2.67	2.79	0.0147	17.19	17.15	500
1.25	16/0.32	1.287	1.48	0.6	2.68	2.80	0.0143	17.34	17.30	500
2f	79/0.18	2.010	1.85	0.6	3.05	3.17	0.00868	24.88	24.83	300
2	25/0.32	2.091	1.88	0.6	3.08	3.20	0.00881	25.68	25.64	300
3f	119/0.18	3.028	2.27	0.7	3.67	3.81	0.00580	36.84	36.78	300
3	41/0.32	3.297	2.36	0.7	3.76	3.90	0.00559	39.50	39.50	300
5f	207/0.18	5.268	3.00	0.8	4.60	4.76	0.00320	61.10	61.34	300
5	65/0.32	5.228	2.98	0.8	4.58	4.74	0.00352	61.00	60.90	300
8f	315/0.18	8.016	3.70	0.8	5.30	5.46	0.00200	88.46	88.63	150
8	50/0.45	7.952	3.67	0.8	5.27	5.43	0.00232	87.77	87.94	150
15	84/0.45	13.359	4.90	1.1	7.10	7.30	0.00138	150.50	150.30	300
15f	589/0.18	14.96	5.10	1.1	7.30	7.52	0.00120	165.80	165.60	300
20	126/0.45	20.039	6.60	1.1	8.80	9.02	0.00089	230.60	230.40	300

# 0.6/1kV 가교폴리에틸렌케이블

KS C IEC 60502-1

## 0.6/1kV XLPE Insulated Power Cable (CV)

0.6/1kV의 전력회로에 사용하며 전기적, 물리적, 화학적 특성이 우수한 케이블이다.

This cable is designed for the purpose of using in power distribution line, having excellent electrical, physical and chemical properties.

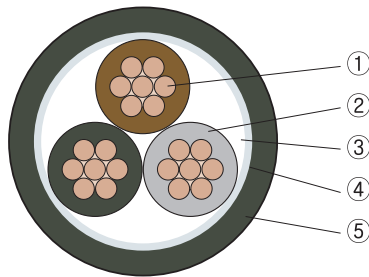
### 구 조

1. 도 체 : 전기용연동선  
(원형, 원형압축연선)
2. 절 연 체 : XLPE
3. 선 심 식 별 : 착색 또는 색테이프

선심수	색
2 심	갈, 흑
3 심	갈, 흑, 회
4 심	갈, 흑, 회, 청

※ 상기 색상은 기본 색상이며, 요청에 의해 변경 가능함.

4. 피복체 : PVC



### Construction

1. Conductor : Annealed copper Wire  
(Concentric Circular, Compact Circular)
2. Insulation : XLPE
3. Core Identification : Colouring Method or Color Tape

No. of cores	Colour
2 cores	Brown, Black
3 cores	Brown, Black, Gray
4 cores	Brown, Black, Gray, Blue

※ Above colors are basic colors and can be changed upon request.

4. Sheath : PVC

- |           |               |
|-----------|---------------|
| ① 도 체     | ① Conductor   |
| ② 절연체     | ② Insulation  |
| ③ 개재물     | ③ Filler      |
| ④ 바인더 테이프 | ④ Binder Tape |
| ⑤ 피복체     | ⑤ Sheath      |

### 단심 Single Core

Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20 °C Ω/km	Test Voltage V/5min.	Approx. Weight kg/km	Standard Length m
Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
1.5	7/0.53	1.59	0.7	1.4	6.0	12.1	3500	50	300
2.5	7/0.67	2.01			6.4	7.41		65	
4	7/0.85	2.55			7.0	4.61		80	
6	7/1.04	3.12			7.5	3.08		105	
10	7/1.35	4.05			8.5	1.83		150	
16	C.C.	4.7			9.1	1.15		205	
25	C.C.	5.9	0.9	1.5	11	0.727		310	
35	C.C.	6.9			12	0.524		405	
50	C.C.	8.1			13.5	0.387		545	
70	C.C.	9.7	1.1		15	0.268		735	
95	C.C.	11.3			17	0.193		990	
120	C.C.	12.8	1.2	18.5	0.153	1230			
150	C.C.	14.4	1.4	1.6	21	0.124		1530	
185	C.C.	15.9	1.6		22.5	0.0991		1890	
240	C.C.	18.3	1.7		25.5	0.0754		2450	
300	C.C.	20.3	1.8	1.8	28	0.0601		3030	200
400	C.C.	23.1	2.0	1.9	31.5	0.0470		3920	
500	C.C.	26.5	2.2	2.0	35.5	0.0366		4930	
630	C.C.	30.2	2.4	2.2	40	0.0283		6350	150

※ CC: 원형 압축

## ■ 2심 Two Core

Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20 °C Ω/km	Test Voltage V/5min.	Approx. Weight kg/km	Standard Length m
Nominal Sectional Area mm²	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
1.5	7/0.53	1.59	0.7	1.8	10.5	12.1	3500	120	300
2.5	7/0.67	2.01			11	7.41		145	
4	7/0.85	2.55			12.5	4.61		190	
6	7/1.04	3.12			13.5	3.08		245	
10	7/1.35	4.05			15.5	1.83		350	
16	C.C.	4.7			16.5	1.15		475	
25	C.C.	5.9	0.9		20	0.727		705	
35	C.C.	6.9			22	0.524		920	
50	C.C.	8.1	1.0		24.5	0.387		1230	
70	C.C.	9.7	1.1		28	0.268		1660	
95	C.C.	11.3			1.9	32		0.193	
120	C.C.	12.8	1.2	2.0	35.5	0.153	2770	200	
150	C.C.	14.4	1.4	2.2	40	0.124	3450		
185	C.C.	15.9	1.6	2.3	44	0.0991	4270		
240	C.C.	18.3	1.7	2.5	49.5	0.0754	5500		
300	C.C.	20.3	1.8	2.6	54	0.0601	6780		

※CC:원형 압축

## ■ 3심 Three Core

Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20℃ Ω/km	Test Voltage V/5min.	Approx. Weight kg/km	Standard Length m	
Nominal Sectional Area mm²	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm								
1.5	7/0.53	1.59	0.7	1.8	11	12.1	3500	140	300	
2.5	7/0.67	2.01			11.5	7.41		180		
4	7/0.85	2.55			13	4.61		240		
6	7/1.04	3.12			14	3.08		315		
10	7/1.35	4.05			16	1.83		455		
16	C.C.	4.7			17.5	1.15		635		
25	C.C.	5.9	0.9		21	0.727		960		
35	C.C.	6.9			23	0.524		1270		
50	C.C.	8.1	1.0		26	0.387		1700		
70	C.C.	9.7	1.1		1.9	30.5		0.268		2340
95	C.C.	11.3			2.0	34		0.193		3140
120	C.C.	12.8	1.2	2.1	38	0.153		3910	200	
150	C.C.	14.4	1.4	2.3	42.5	0.124		4870		
185	C.C.	15.9	1.6	2.4	47	0.0991		6040		
240	C.C.	18.3	1.7	2.6	53	0.0754		7810		
300	C.C.	20.3	1.8	2.7	58	0.0601		9690		

※CC:원형 압축

# ■ 4심 Four Core

Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20℃ Ω/km	Test Voltage V/5min.	Approx. Weight kg/km	Standard Length m
Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
1.5	7/0.53	1.59	0.7	1.8	11.5	12.1	3500	170	300
2.5	7/0.67	2.01			12.5	7.41		215	
4	7/0.85	2.55			14	4.61		295	
6	7/1.04	3.12			15.5	3.08		385	
10	7/1.35	4.05			17.5	1.83		580	
16	C.C.	4.7			19	1.15		800	
25	C.C.	5.9	0.9	1.9	23	0.727		1230	
35	C.C.	6.9			25.5	0.524		1630	
50	C.C.	8.1	1.0	2	29	0.387		2210	
70	C.C.	9.7	1.1	2	33.5	0.268		3030	
95	C.C.	11.3		2.1	38	0.193		4100	
120	C.C.	12.8	1.2	2.3	42.5	0.153		5130	200
150	C.C.	14.4	1.4	2.4	47.5	0.124		6340	
185	C.C.	15.9	1.6	2.6	52.5	0.0991		7910	
240	C.C.	18.3	1.7	2.8	59	0.0754		10220	
300	C.C.	20.3	1.8	3.0	65	0.0601		12670	

※ CC: 원형 압축

## 6/10kV 가교폴리에틸렌케이블

KS C IEC 60502-2

### 6/10 KV XLPE Insulated Power Cable (CV, CVT)

6/10kV의 전력회로에 사용하며 전기적, 물리적, 화학적 특성이 우수한 케이블이다.

This cable is designed for the purpose of using in power distribution line, having excellent electrical, physical and chemical properties.

#### ■ 구조

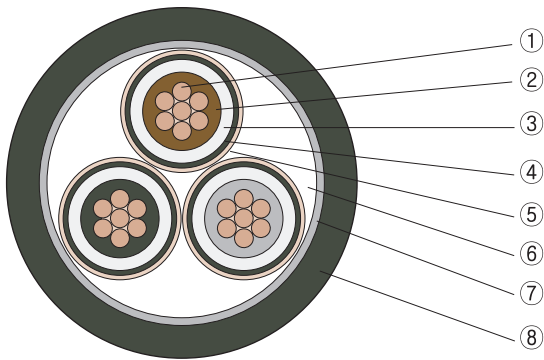
1. 도 체 : 전기용연동성(원형압축)
2. 절 연 체 : XLPE
3. 선심식별 : 갈색, 흑색, 회색
4. 차 페 : 연동테이프
5. 피 복 체 : PVC

※ 상기 색상은 기본 색상이며, 요청에 의해 변경 가능함.

#### ■ Construction

1. Conductor : Annealed copper Wire  
(Compact Circular)
2. Insulation : XLPE
3. Core Identification : Brown, Black, Gray
4. Shield : Copper Tape
5. Sheath : PVC

※ Above colors are basic colors and can be changed upon request.



- |           |                         |
|-----------|-------------------------|
| ① 도 체     | ① Conductor             |
| ② 내부 반도전층 | ② Semi-Conductive layer |
| ③ 절연체     | ③ XLPE                  |
| ④ 외부반도전층  | ④ Semi-Conductive layer |
| ⑤ 연동 테이프  | ⑤ Copper Tape           |
| ⑥ 개재물     | ⑥ Filler                |
| ⑦ 바인더 테이프 | ⑦ Binder Tape           |
| ⑧ 피복체     | ⑧ PVC                   |

#### ■ 단심 Single Core

Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20℃ Ω/km	Test Voltage V/5min.	Approx. Weight kg/km	Standard Length m
Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
16	C.C.	4.7	3.4	1.5	18.5	1.150	21	450	300
25	C.C.	5.9	3.4	1.5	19.5	0.727	21	560	
35	C.C.	6.9	3.4	1.6	21	0.524	21	685	
50	C.C.	8.1	3.4	1.6	22	0.387	21	835	
70	C.C.	9.7	3.4	1.7	24	0.268	21	1060	
95	C.C.	11.3	3.4	1.7	25.5	0.193	21	1340	
120	C.C.	12.8	3.4	1.8	27.5	0.153	21	1610	
150	C.C.	14.4	3.4	1.8	29	0.124	21	1900	
185	C.C.	15.9	3.4	1.9	30.5	0.0991	21	2290	
240	C.C.	18.3	3.4	2.0	33.5	0.0754	21	2890	
300	C.C.	20.3	3.4	2.0	35.5	0.0601	21	3480	
400	C.C.	23.1	3.4	2.2	39	0.0470	21	4420	
500	C.C.	26.5	3.4	2.2	42	0.0366	21	5440	
630	C.C.	30.2	3.4	2.3	46	0.0283	21	6870	

※ CC: 원형압축

**■ 3심일괄형 Three Core**

Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20℃ Ω/km	Test Voltage V/1min.	Approx. Weight kg/km	Standard Length m
Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
16	C.C.	4.7	3.4	2.1	36.5	1.150	21	1510	300
25	C.C.	5.9	3.4	2.2	39	0.727	21	1920	
35	C.C.	6.9	3.4	2.3	41.5	0.524	21	2310	
50	C.C.	8.1	3.4	2.4	44.5	0.387	21	2820	
70	C.C.	9.7	3.4	2.5	48	0.268	21	3520	
95	C.C.	11.3	3.4	2.6	51.5	0.193	21	4440	
120	C.C.	12.8	3.4	2.7	55	0.153	21	5270	
150	C.C.	14.4	3.4	2.8	59	0.124	21	6290	
185	C.C.	15.9	3.4	2.9	62	0.0991	21	7500	
240	C.C.	18.3	3.4	3.1	68	0.0754	21	9410	
300	C.C.	20.3	3.4	3.3	72.5	0.0601	21	11330	

※CC: 원형 압축

## 22.9kV 동심중성선전력케이블

DEB-72595-A/ES-6145-0019/ES-6145-0025

22.9kV Grade XLPEInsulated PVC / HF-PO Sheathed Concentric Neutral Power Cable  
(22.9kV CNCV-W / 22.9kV FR CNCO-W)

22.9kV Grade TR-XLPEInsulated PE Sheathed Concentric Neutral Power Cable  
(22.9kV TR CNCE-W)

22.9kV -y 다중접지계통의지중배전선로용으로전기적,  
물리적, 화학적으로특성이우수한케이블이다.

### ■ 구조

1. 도 체 : 전기용연동선(수밀압축연선)
2. 내부반도전층 : 반도체성 컴파운드  
수트리 억제형반도전성 컴파운드
3. 절 연 체 : XLPE / TR-XLPE
4. 외부반도전층 : 반도체성 컴파운드  
수트리 억제형반도전성 컴파운드
5. 동 심 중 성 선 : 전기용연동선
6. 피 복 체 : PVC / HF-PO  
PE

This cable is the purpose of using in power  
distribution line having excellent electrical, physical  
and chemical properties.

### ■ Construction

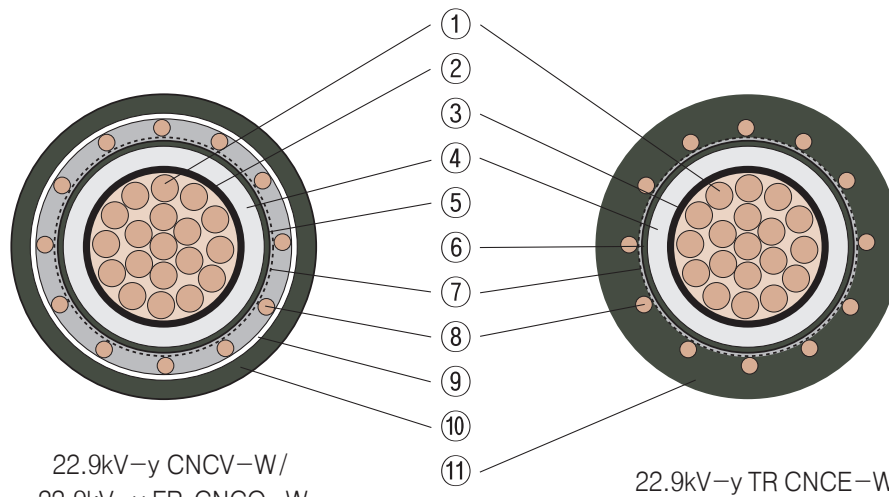
1. Conductor : Annealed copper wire(water blocking  
compact circular)
2. Conductor screen : Semi-conductive compound  
TRSemi-conductive compound
3. Insulation : XLPE / TR-XLPE
4. Insulation screen : Semi-conductive compound  
TRSemi-conductive compound
5. Concentric Neutral Conductor : Annealed copper  
wire
6. Seath : PVC / Halogen Free Polyolefin  
PE

### ■ 종류및기호

종류	기호
22.9kV 가교폴리 에틸렌 절연비닐 피복 동심중성선 수밀형 케이블	22.9kV -y CNCV-W
22.9kV 가교폴리 에틸렌 절연 저독 난연 폴리올레핀 피복 동심중성선 수밀형 케이블	22.9kV -y FR CNCO-W
22.9kV 수트리억제형 폴리에틸렌절연 폴리 에틸렌 피복 동심중성선 수밀형 케이블	22.9kV -y TR CNCE-W

### ■ Class and Symbol

Class	Symbol
22.9kVXLPE insulated PVC Sheathed concentric neutral power cables(Longitudinal and Radial Water Blocking)	22.9kV -y CNCV-W
22.9kV XLPE insulated HF -PO Sheathed concentric neutral power cables(Longitudinal and Radial Water Blocking)	22.9kV -y FR CNCO-W
22.9kV TR- XLPE insulated PE Sheathed concentric neutral power cables(Longitudinal and Radial Water Blocking)	22.9kV -y TR CNCE-W



수밀도체  
내부반도전층  
내부반도전층  
절연체  
외부반도전층  
외부반도전층  
반도전성부풀음테이프  
동심중성선  
비도전성부풀음테이프  
피복  
피복

① Water Blocking Conductor  
② Semi-Conductive Conductor Screen Compound  
③ TR Semi-conductive Compound  
④ XLPE / TR-XLPE Insulation  
⑤ Semi-Conductive Insulation Screen Compound  
⑥ TR Semi-conductive Compound  
⑦ Semi-Conductive Swellable Tape  
⑧ Concentric Neutral Conductor  
⑨ Swellable Tape  
⑩ PVC / HF-PO  
⑪ PE

■ 22.9kV-y CNCV-W

■ 22.9kV-y FR CNCO-W

Conductor			Average Insulation Thickness	Sheath Thickness	Approx Overall Dia mm	Conductor Resistance at 20℃ Ω/km	AC Test Voltage KV/5min	Insulation Resistance at 20℃ MΩ·km	Approx Cable weight kg/km	Standard Reel Length m
Nominal Cross-Sectional Area mm <sup>2</sup>	Shape mm	Approx Outside Dia mm								
60	C.C.	9.3	6.6	3.0	36	0.305	52	3,000	1,610	200
200	C.C.	17.0			45	0.0915	52	2,000	3,630	200
325	C.C.	21.7			51	0.0568	52	2,000	5,320	200
600	C.C.	29.5			61	0.0308	52	1,500	9,430	200

※CC:원형압축

■ 22.9kV-y TR CNCE-W

Conductor			Nominal Insulation Thickness	Nominal Sheath Thickness	Approx Overall Dia mm	Conductor Resistance at 20℃ Ω/km	AC Test Voltage KV/5min	Insulation Resistance at 20℃ MΩ·km	Approx Cable weight kg/km	Standard Reel Length m
Nominal Cross-Sectional Area mm <sup>2</sup>	Shape mm	Approx Outside Dia mm								
60	C.C.	9.3	6.8	3.0	32	0.305	52	3,000	1,470	200
200	C.C.	17.0			42	0.0915	52	2,000	3,480	200
325	C.C.	21.7			49	0.0568	52	2,000	5,380	200
600	C.C.	29.5			59	0.0308	52	1,500	9,270	200

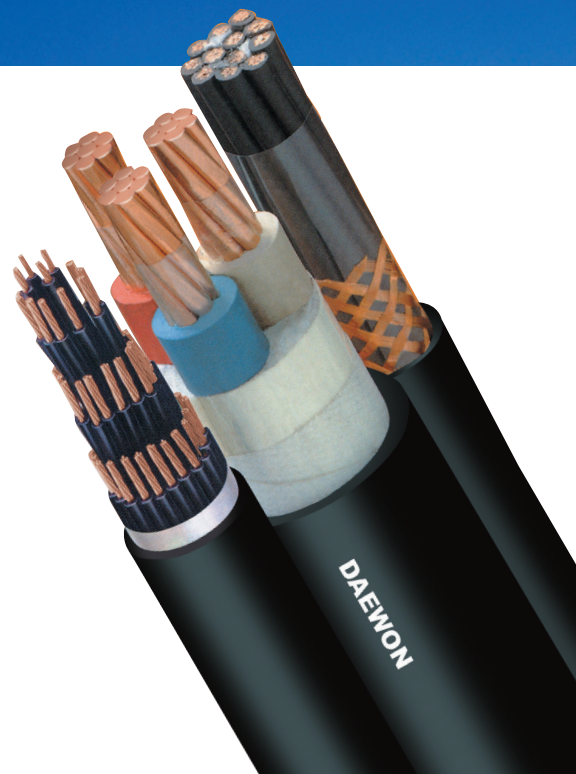
※CC:원형 압축

# 난연케이블

## Flame Retardant Cable

DAEWON CABLE

- 0.6/1kV TRAY용 난연 제어용 케이블(0.6/1kV TFR-CV)
- 0.6/1kV 트레이용 난연 접지 비닐절연 전선
- 0.6/1kV TRAY용 난연 전력용 케이블(0.6/1kV TFR-CV)
- 6/10kV TRAY용 난연 전력 케이블(6/10kV TFR-CV)
- 0.6/1kV 화재 경보용 내열 전선, 0.61kV 소방용 내화전선
- 0.6/1kV 저독성 난연 제어용 케이블(0.6/1kV HF-CCO)
- 0.6/1kV 저독성 난연 전력용 케이블(0.6/1kV HF-CO)
- 6/10kV 저독성 난연 전력용 케이블(6/10kV HF-CO)
- 소방신호용 케이블(UL Style No. 2095)



## 난연케이블

### Flame Retardant Cables

산업제반 시설이 복잡하고 다양화 되면서, 전기 사용량 증가에 따라, 전기 화재위험이 증가 하였습니다. 초고층빌딩, 지하철, 공연장, 지하상가 등 도시 공간을 고도로 사용하는 장소에서 화재의 확산을 막을 수 있는 Tray용 난연케이블(TFR Cable)과 저독성 난연케이블(HFFR Cable)을 사용하면 2차 피해인 유독가스에 의한 인명 피해를 막을 수 있습니다.

#### ■ 난연케이블의 종류

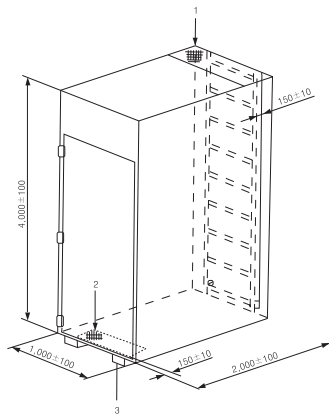
종 류	Tray용 난연케이블	저독성 난연케이블
절 연 전 선	—	450/750V HF-IO
전 력 선	0.6/kV TFR-CV 6/10kV TFR-CV	0.6/kV HF-CO 6/10kV HF-CO
제어용 케이블	0.6/1kV TFR-CVV 0.6/1kV TFR-CVV-S 0.6/1kV TFR-CVV-SB	0.6/kV HF-CCO 0.6/kV HF-CCO-S 0.6/kV HF-CCO-SB
소방용 케이블	0.6/1kV TFR-3 0.6/1kV TFR-8	0.6/kV NFR-3 0.6/kV NFR-8

#### ■ 난연특성

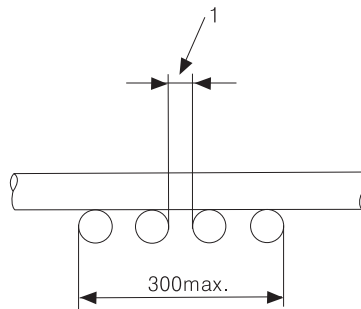
종 류	Tray용 난연케이블	저독성 난연케이블
PH	—	4.3 이상
연기밀도	—	절연체 : 200 이하, 피복체 : 150 이하
유독가스발생량	18% 이하	0.50% 이하
난연성	수직 트레이 (TRAY) 난연 불꽃시험	
시험방법	KS C IES 60332-3-24 (카테고리 C)	

#### ■ 난연시험방법

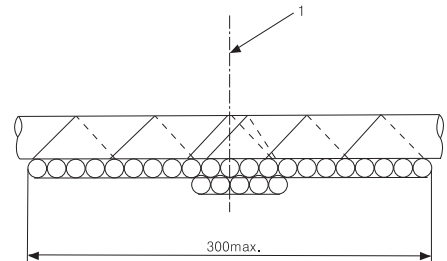
항 목	수직Tray 난연시험
시험 규격서	KS C IES 60332-3-24 Tray용 난연케이블 저독성 난연케이블
화염 인가조건	공기 $77.7 \pm 4.8 \text{ l/min}$ 과 프로판 가스 $13.5 \pm 0.5 \text{ l/min}$ 을 태워 20분간 인가
시험설비	높이 4m, 폭 1m, 깊이 2m의 연소실
시험방법	1) 시험 시료 길이 3.5m로 한다. 2) 시료의 재료중 비금속 물질의 체적이 $1.5 \text{ l/m}$ 가 되도록 시료수를 선정한다. 3) 트레이에 시료를 최대 폭이 300mm 이하가 되도록 채운다. 4) 공기 $77.7 \pm 4.8 \text{ l/min}$ 과 프로판가스 $13.5 \pm 0.5 \text{ l/min}$ 을 태운 가열원을 20분간인가 한다. 5) 버너는 바닥에서 높이 $600 \pm 5 \text{ mm}$ 와 시료 전면에서 부터 $75 \pm 5 \text{ mm}$ 의 거리에 수평으로 설치한다.
시험결과	버너의 바닥 모서리 부분으로 부터 2.5m이상 타지 않아야 한다.



수직 TRAY 시험 연소실



표준 사다리의 전면 부위에 장착된 이격 케이블

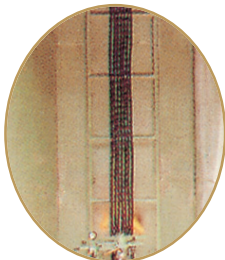


표준 사다리의 전면 부위에 장착된 접촉 케이블  
(접촉 케이블의 배열)

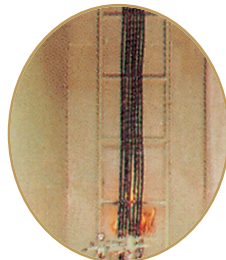
### 수직 트레이 난연 시험 장면

(무독성 난연케이블과 일반케이블의 비교)

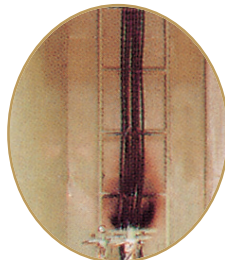
난연 케이블



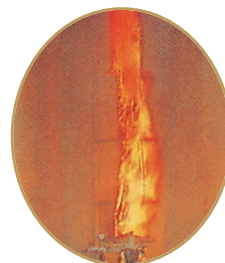
10분



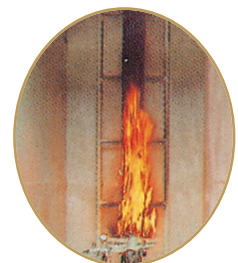
20분



종료후



20분



10분

일반 케이블

# 0.6/1kV TRAY용 난연 제어용 케이블(0.6/1kV TFR-CVV)

K 60502-1  
대원표준

## V.T.F.T Flame Retardant PVC Sheathed Control Cable

발전소, 변전소 등의 0.6/1kV 이하의 원격 제어용으로 적합한 케이블로서 PVC 피복 제어케이블에 비하여 난연 특성이 매우 우수하다.

This cable is designed for the purpose of using in remote control system in power plant and substation, having excellent flame retardant

### 구 조

1. 도 체 : 전기용 연동선 (단선, 원형 연선)
2. 절 연 체 : PVC
3. 선심식별 : 착색

선 심 수	색
2 심	흑, 백
3 심	흑, 백, 적
4 심	흑, 백, 적, 녹

4. 피 복 체 : 난연성 염화 비닐 수지

### Construction

1. Conductor : Annealed copper Wire  
(Solid, Concentric Circular)
2. Insulation : PVC
3. Core Identification : Colouring Method

No. of cores	Colour
2 cores	Black, White
3 cores	Black, White, Red,
4 cores	Black, White, Red, Green

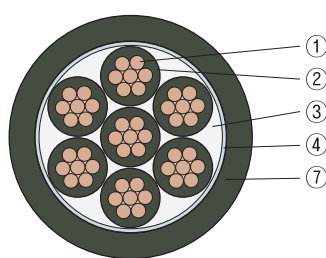
4. Sheath : Flame Retardant PVC

### 종류 및 기호

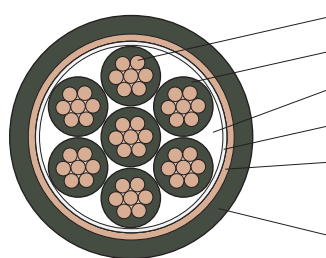
종 류	기 호
0.6/1kV 비닐절연 난연 비닐피복 제어용 케이블	0.6/1kV TFR-CW
- 동테이프 차폐 케이블	0.6/1kV TFR-CW-S
- 연동선 편조 차폐 케이블	0.6/1kV TFR-CW-SB

### Class and Symbol

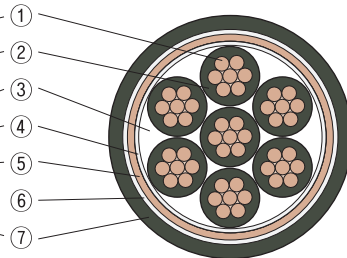
Class	Symbol
0.6/1kV PVC Insulated FR-PVC Sheathed Control Cable	0.6/1kV TFR-CW
- Copper Tape Shield	0.6/1kV TFR-CW-S
- Copper Wire Braided Shield	0.6/1kV TFR-CW-SB



0.6/1kV TFR-CVV



0.6/1kV TFR-CVV-SB



0.6/1kV TFR-CVV-S

- |           |                                      |
|-----------|--------------------------------------|
| ① 도 체     | ① Conductor                          |
| ② 절연체     | ② Insulation                         |
| ③ 개재물     | ③ Filler                             |
| ④ 바인더 테이프 | ④ Binder Tape                        |
| ⑤ 차폐층     | ⑤ Shield (Copper Tape, Shield Braid) |
| ⑥ 바인더 테이프 | ⑥ Binder Tape                        |
| ⑦ 피복체     | ⑦ Flame Retardant PVC                |

**0.6/1KV TFR-CVV**

Nominal of Cores	Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20℃ Ω/km	Test Voltage V/5min	Approx. Weight kg/km	Standard Length m
2	1.5	7/0.53	1.59	0.8	1.8	10	12.1	3500	110	300
	2.5	7/0.67	2.01	0.8		11	7.41		150	
	4	7/0.85	2.55	1.0		13	4.61		210	
	6	7/1.04	3.12	1.0		14	3.08		270	
	10	7/1.35	4.05	1.0		16	1.83		380	
3	1.5	7/0.53	1.59	0.8	1.8	10.5	12.1	3500	140	300
	2.5	7/0.67	2.01	0.8		11.5	7.41		180	
	4	7/0.85	2.55	1.0		13.5	4.61		270	
	6	7/1.04	3.12	1.0		15	3.08		345	
	10	7/1.35	4.05	1.0		17	1.83		495	
4	1.5	7/0.53	1.59	0.8	1.8	11.5	12.1	3500	180	300
	2.5	7/0.67	2.01	0.8		12.5	7.41		230	
	4	7/0.85	2.55	1.0		15	4.61		330	
	6	7/1.04	3.12	1.0		16	3.08		440	
	10	7/1.35	4.05	1.0		18.5	1.83		630	
5	1.5	7/0.53	1.59	0.8	1.8	12.5	12.1	3500	200	300
	2.5	7/0.67	2.01	0.8		13.5	7.41		260	
	4	7/0.85	2.55	1.0		16	4.61		405	
	6	7/1.04	3.12	1.0		17.5	3.08		525	
	10	7/1.35	4.05	1.0		20	1.83		760	
6	1.5	7/0.53	1.59	0.8	1.8	13.5	12.1	3500	235	300
	2.5	7/0.67	2.01	0.8		14.5	7.41		310	
	4	7/0.85	2.55	1.0		17.5	4.61		475	
	6	7/1.04	3.12	1.0		19.5	3.08		620	
	10	7/1.35	4.05	1.0		22	1.83		920	
7	1.5	7/0.53	1.59	0.8	1.8	13.5	12.1	3500	250	300
	2.5	7/0.67	2.01	0.8		14.5	7.41		350	
	4	7/0.85	2.55	1.0		17.5	4.61		515	
	6	7/1.04	3.12	1.0		19.5	3.08		675	
	10	7/1.35	4.05	1.0		22	1.83		1010	
8	1.5	7/0.53	1.59	0.8	1.8	14.5	12.1	3500	285	300
	2.5	7/0.67	2.01	0.8		16	7.41		390	
	4	7/0.85	2.55	1.0		19	4.61		585	
	6	7/1.04	3.12	1.0		21.5	3.08		795	
	10	7/1.35	4.05	1.0		24	1.83		1140	
10	1.5	7/0.53	1.59	0.8	1.8	16.5	12.1	3500	355	300
	2.5	7/0.67	2.01	0.8		18	7.41		475	
	4	7/0.85	2.55	1.0		22.5	4.61		740	
	6	7/1.04	3.12	1.0		24.5	3.08		980	
	10	7/1.35	4.05	1.0		29	1.83		1495	
12	1.5	7/0.53	1.59	0.8	1.8	17	12.1	3500	405	300
	2.5	7/0.67	2.01	0.8		19	7.41		545	
	4	7/0.85	2.55	1.0		23	4.61		855	
	6	7/1.04	3.12	1.0		25.5	3.08		1130	
	10	7/1.35	4.05	1.0		29.5	1.83		1705	
15	1.5	7/0.53	1.59	0.8	1.8	18.5	12.1	3500	490	300
	2.5	7/0.67	2.01	0.8		20.5	7.41		660	
	4	7/0.85	2.55	1.0		25	4.61		1035	
	6	7/1.04	3.12	1.0		27.5	3.08		1385	
20	1.5	7/0.53	1.59	0.8	1.8	20.5	12.1	3500	625	300
	2.5	7/0.67	2.01	0.8		23	7.41		880	
	4	7/0.85	2.55	1.0		28	4.61		1340	
	6	7/1.04	3.12	1.0		30.5	3.08		1780	
25	1.5	7/0.53	1.59	0.8	1.8	23	12.1	3500	760	300
	2.5	7/0.67	2.01	0.8		26	7.41		1040	
	4	7/0.85	2.55	1.0		32	4.61		1620	
30	1.5	7/0.53	1.59	0.8	1.8	24.5	12.1	3500	895	300
	2.5	7/0.67	2.01	0.8		27.5	7.41		1225	
	4	7/0.85	2.55	1.0		33.5	4.61		1910	
40	1.5	7/0.53	1.59	0.8	1.8	27.5	12.1	3500	1140	300
	2.5	7/0.67	2.01	0.8		31	7.41		1590	
50	1.5	7/0.53	1.59	0.8	1.9	31	12.1	3500	1470	300
	2.5	7/0.67	2.01	0.8		35	7.41		2035	

**■ 0.6/1KV TFR-CV-S**

Nominal of Cores	Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20℃ Ω/km	Test Voltage V/5min	Approx. Weight kg/km	Standard Length m
	Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
2	1.5	7/0.53	1.59	0.8	1.8	10.5	12.1	3500	140	300
	2.5	7/0.67	2.01	0.8		11.5	7.41		175	
	4	7/0.85	2.55	1.0		13.5	4.61		240	
	6	7/1.04	3.12	1.0		14.5	3.08		300	
	10	7/1.35	4.05	1.0		16.5	1.83		385	
3	1.5	7/0.53	1.59	0.8	1.8	11	12.1	3500	170	300
	2.5	7/0.67	2.01	0.8		12	7.41		210	
	4	7/0.85	2.55	1.0		14	4.61		300	
	6	7/1.04	3.12	1.0		15.5	3.08		380	
	10	7/1.35	4.05	1.0		17.5	1.83		535	
4	1.5	7/0.53	1.59	0.8	1.8	12	12.1	3500	205	300
	2.5	7/0.67	2.01	0.8		13	7.41		260	
	4	7/0.85	2.55	1.0		15.5	4.61		365	
	6	7/1.04	3.12	1.0		16.5	3.08		475	
	10	7/1.35	4.05	1.0		19	1.83		675	
5	1.5	7/0.53	1.59	0.8	1.8	13	12.1	3500	230	300
	2.5	7/0.67	2.01	0.8		14	7.41		300	
	4	7/0.85	2.55	1.0		16.5	4.61		445	
	6	7/1.04	3.12	1.0		18	3.08		570	
	10	7/1.35	4.05	1.0		20.5	1.83		825	
6	1.5	7/0.53	1.59	0.8	1.8	14	12.1	3500	265	300
	2.5	7/0.67	2.01	0.8		15	7.41		345	
	4	7/0.85	2.55	1.0		18	4.61		520	
	6	7/1.04	3.12	1.0		19.5	3.08		670	
	10	7/1.35	4.05	1.0		22.5	1.83		975	
7	1.5	7/0.53	1.59	0.8	1.8	14	12.1	3500	285	300
	2.5	7/0.67	2.01	0.8		15	7.41		380	
	4	7/0.85	2.55	1.0		18	4.61		560	
	6	7/1.04	3.12	1.0		19.5	3.08		725	
	10	7/1.35	4.05	1.0		22.5	1.83		1070	
8	1.5	7/0.53	1.59	0.8	1.8	15	12.1	3500	320	300
	2.5	7/0.67	2.01	0.8		16	7.41		430	
	4	7/0.85	2.55	1.0		19.5	4.61		630	
	6	7/1.04	3.12	1.0		21.5	3.08		820	
	10	7/1.35	4.05	1.0		24.5	1.83		1210	
10	1.5	7/0.53	1.59	0.8	1.8	17	12.1	3500	395	300
	2.5	7/0.67	2.01	0.8		19	7.41		520	
	4	7/0.85	2.55	1.0		23	4.61		800	
	6	7/1.04	3.12	1.0		25	3.08		1040	
	10	7/1.35	4.05	1.0		29	1.83		1520	
12	1.5	7/0.53	1.59	0.8	1.8	17.5	12.1	3500	450	300
	2.5	7/0.67	2.01	0.8		19.5	7.41		590	
	4	7/0.85	2.55	1.0		23.5	4.61		915	
	6	7/1.04	3.12	1.0		26	3.08		1200	
	10	7/1.35	4.05	1.0		29.5	1.83		1760	
15	1.5	7/0.53	1.59	0.8	1.8	19	12.1	3500	540	300
	2.5	7/0.67	2.01	0.8		21	7.41		710	
	4	7/0.85	2.55	1.0		25.5	4.61		1100	
	6	7/1.04	3.12	1.0		28	3.08		1460	
	10	7/1.35	4.05	1.0		31	3.08		1870	
20	1.5	7/0.53	1.59	0.8	1.8	21	12.1	3500	680	300
	2.5	7/0.67	2.01	0.8		23	7.41		935	
	4	7/0.85	2.55	1.0		28	4.61		1410	
	6	7/1.04	3.12	1.0		31	3.08		1870	
	10	7/1.35	4.05	1.0		34.5	1.83		2690	
25	1.5	7/0.53	1.59	0.8	1.8	23.5	12.1	3500	820	300
	2.5	7/0.67	2.01	0.8		26.5	7.41		1110	
	4	7/0.85	2.55	1.0		32	4.61		1770	
	6	7/1.04	3.12	1.0		35	3.08		2300	
	10	7/1.35	4.05	1.0		38.5	1.83		3090	
30	1.5	7/0.53	1.59	0.8	1.8	25	12.1	3500	960	300
	2.5	7/0.67	2.01	0.8		28	7.41		1290	
	4	7/0.85	2.55	1.0		34	4.61		2000	
	6	7/1.04	3.12	1.0		37.5	3.08		2690	
	10	7/1.35	4.05	1.0		40.5	1.83		3590	
40	1.5	7/0.53	1.59	0.8	1.8	28	12.1	3500	1220	300
	2.5	7/0.67	2.01	0.8		31.5	7.41		1680	
	4	7/0.85	2.55	1.0		35	4.61		2400	
	6	7/1.04	3.12	1.0		38.5	3.08		3190	
	10	7/1.35	4.05	1.0		41.5	1.83		4190	
50	1.5	7/0.53	1.59	0.8	1.8	31	12.1	3500	1500	300
	2.5	7/0.67	2.01	0.8		34.5	7.41		2090	
	4	7/0.85	2.55	1.0		38.5	4.61		2900	
	6	7/1.04	3.12	1.0		41.5	3.08		3890	
	10	7/1.35	4.05	1.0		44.5	1.83		5090	

# 0.6/1KV TFR-CVV-SB

Nominal of Cores	Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20℃ Ω/km	Test Voltage V/5min	Approx. Weight kg/km	Standard Length m
	Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
2	1.5	7/0.53	1.59	0.8	1.8	10.5	12.1	3500	150	300
	2.5	7/0.67	2.01	0.8		11.5	7.41		185	
	4	7/0.85	2.55	1.0		13.5	4.61		255	
	6	7/1.04	3.12	1.0		14.5	3.08		320	
	10	7/1.35	4.05	1.0		16.5	1.83		440	
3	1.5	7/0.53	1.59	0.8	1.8	11	12.1	3500	180	300
	2.5	7/0.67	2.01	0.8		12	7.41		220	
	4	7/0.85	2.55	1.0		14.5	4.61		320	
	6	7/1.04	3.12	1.0		15.5	3.08		400	
	10	7/1.35	4.05	1.0		17.5	1.83		570	
4	1.5	7/0.53	1.59	0.8	1.8	12	12.1	3500	215	300
	2.5	7/0.67	2.01	0.8		13	7.41		270	
	4	7/0.85	2.55	1.0		15.5	4.61		390	
	6	7/1.04	3.12	1.0		17	3.08		500	
	10	7/1.35	4.05	1.0		19	1.83		705	
5	1.5	7/0.53	1.59	0.8	1.8	13	12.1	3500	245	300
	2.5	7/0.67	2.01	0.8		14	7.41		310	
	4	7/0.85	2.55	1.0		17	4.61		465	
	6	7/1.04	3.12	1.0		18.5	3.08		600	
	10	7/1.35	4.05	1.0		21	1.83		855	
6	1.5	7/0.53	1.59	0.8	1.8	14	12.1	3500	280	300
	2.5	7/0.67	2.01	0.8		15.5	7.41		365	
	4	7/0.85	2.55	1.0		18	4.61		545	
	6	7/1.04	3.12	1.0		20	3.08		700	
	10	7/1.35	4.05	1.0		23	1.83		1020	
7	1.5	7/0.53	1.59	0.8	1.8	14	12.1	3500	295	300
	2.5	7/0.67	2.01	0.8		15.5	7.41		405	
	4	7/0.85	2.55	1.0		18	4.61		585	
	6	7/1.04	3.12	1.0		20	3.08		760	
	10	7/1.35	4.05	1.0		23	1.83		1110	
8	1.5	7/0.53	1.59	0.8	1.8	15	12.1	3500	340	300
	2.5	7/0.67	2.01	0.8		16.5	7.41		455	
	4	7/0.85	2.55	1.0		19.5	4.61		660	
	6	7/1.04	3.12	1.0		21.5	3.08		865	
	10	7/1.35	4.05	1.0		24.5	1.83		1260	
10	1.5	7/0.53	1.59	0.8	1.8	17.5	12.1	3500	420	300
	2.5	7/0.67	2.01	0.8		19	7.41		550	
	4	7/0.85	2.55	1.0		23	4.61		840	
	6	7/1.04	3.12	1.0		25	3.08		1090	
	10	7/1.35	4.05	1.0		29	1.83		1600	
12	1.5	7/0.53	1.59	0.8	1.8	18	12.1	3500	475	300
	2.5	7/0.67	2.01	0.8		19.5	7.41		620	
	4	7/0.85	2.55	1.0		23.5	4.61		960	
	6	7/1.04	3.12	1.0		26	3.08		1260	
	10	7/1.35	4.05	1.0		30.5	1.83		1890	
15	1.5	7/0.53	1.59	0.8	1.8	19	12.1	3500	565	300
	2.5	7/0.67	2.01	0.8		21	7.41		740	
	4	7/0.85	2.55	1.0		25.5	4.61		1170	
	6	7/1.04	3.12	1.0		28	3.08		1530	
	10	7/1.35	4.05	1.0		32	3.08		2000	
20	1.5	7/0.53	1.59	0.8	1.8	21	12.1	3500	710	300
	2.5	7/0.67	2.01	0.8		23.5	7.41		980	
	4	7/0.85	2.55	1.0		28.5	4.61		1470	
	6	7/1.04	3.12	1.0		32	3.08		2000	
	10	7/1.35	4.05	1.0		36.5	1.83		2740	
25	1.5	7/0.53	1.59	0.8	1.8	24	12.1	3500	870	300
	2.5	7/0.67	2.01	0.8		26.5	7.41		1180	
	4	7/0.85	2.55	1.0		33	4.61		1830	
	6	7/1.04	3.12	1.0		37.5	3.08		2580	
	10	7/1.35	4.05	1.0		41.5	1.83		3540	
30	1.5	7/0.53	1.59	0.8	1.8	25.5	12.1	3500	1010	300
	2.5	7/0.67	2.01	0.8		28	7.41		1370	
	4	7/0.85	2.55	1.0		35.5	4.61		2180	
	6	7/1.04	3.12	1.0		40.5	3.08		3030	
	10	7/1.35	4.05	1.0		44.5	1.83		4180	
40	1.5	7/0.53	1.59	0.8	1.8	28.5	12.1	3500	1300	300
	2.5	7/0.67	2.01	0.8		32	7.41		1860	
	4	7/0.85	2.55	1.0		39.5	4.61		2810	
	6	7/1.04	3.12	1.0		44.5	3.08		3960	
	10	7/1.35	4.05	1.0		48.5	1.83		5410	
50	1.5	7/0.53	1.59	0.8	1.8	31.5	12.1	3500	1630	300
	2.5	7/0.67	2.01	0.8		35.5	7.41		2240	
	4	7/0.85	2.55	1.0		42.5	4.61		3390	
	6	7/1.04	3.12	1.0		47.5	3.08		4740	
	10	7/1.35	4.05	1.0		51.5	1.83		6490	

# 0.6/1kV 트레이용난연접지비닐절연전선

K 60502-1  
대원표준

## FR-PVC Insulated Grounding Cable (0.6/1kV TFR-GV)

전기기기의접지용으로사용되며, 기존PVC절연전선보다 난연성이매우우수하다.

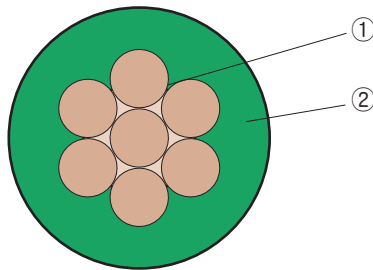
This wire is used for grounding of electric apparatus, excellent flame retardant.

### ■ 구조

1. 도 체 : 전기용연동성(원형, 원형압축연선)
  2. 절 연 체 : 난연성염화비닐수지
  3. 선심식별 : 녹색 혹은 녹/황(녹색 바탕+황색 한 줄)
- ※ 상기 색상은 기본 색상이며, 요청에 의해 변경 가능함.

### ■ Construction

1. Conductor : Annealed copper Wire  
(Concentric Circular, Compact Circular)
  2. Insulation : Flame Retardant PVC
  3. Core Identification : Green or GN/YL  
(Green background + one yellow line)
- ※ Above colors are basic colors and can be changed upon request.



①도체 ①Conductor  
②절연체 ②Insulation

### ■ 0.6/1kV TFR-GV

Conductor			Nominal Insulation Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20℃ Ω/km	Test Voltage V/5min.	Approx. Weight kg/km	Standard Length m
Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm						
1.5	7/0.53	1.59	2.2	6.5	12.1	3500	60	300
2.5	7/0.67	2.01		7.0	7.41		70	
4	7/0.85	2.55		8.0	4.61		100	
6	7/1.04	3.12	2.4	8.5	3.08		125	
10	7/1.35	4.05		9.5	1.83		175	
16	C.C.	4.7		10.0	1.15		230	
25	C.C.	5.9	2.6	11.5	0.727		340	
35	C.C.	6.9		12.5	0.524		440	
50	C.C.	8.1		14.0	0.387		595	
70	C.C.	9.7	2.8	15.5	0.268		785	200
95	C.C.	11.3		18.0	0.193		1070	
120	C.C.	12.8		19.5	0.153		1310	
150	C.C.	14.4	3.4	21.5	0.124		1620	
185	C.C.	15.9	3.7	24.0	0.0991		2010	
240	C.C.	18.3	4.0	27.0	0.0754		2605	150
300	C.C.	20.3	4.3	29.5	0.0601		3225	
400	C.C.	23.1	4.6	33.0	0.0470		4140	
500	C.C.	26.5	4.9	37.0	0.0366		5205	
630	C.C.	30.2	5.0	41.0	0.0283		6620	

※ CC: 원형 압축

# 0.6/1kV TRAY용난연전력용케이블(0.6/1kV TFR-CV)

K 60502-1  
대원표준

## 0.6/1kV VTFT Flame Retardant PVC Sheathed Power Cable

0.6/1kV의전력회로에사용하며전기적, 물리적, 화학적특성이우수하며, PVC 피복전력케이블에비하여난연특성이우수하다.

This cable is designed for the purpose of using in power distribution line, having excellent flame retardant.

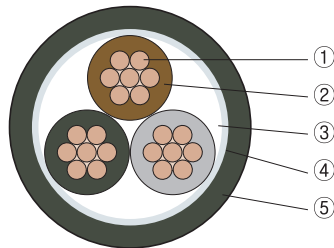
### ■ 구조

1. 도 체 : 전기용연동선 (원형, 원형압축연선)
2. 절 연 체 : XLPE
3. 선심식별 : 착색또는색테이프

선심수	색
2 심	갈, 흑
3 심	갈, 흑, 회
4 심	갈, 흑, 회, 청

4. 피 복 체 : 난연성염화비닐수지

※ 상기 색상은 기본 색상이며, 요청에 의해 변경 가능한.



### ■ Construction

1. Conductor : Annealed copper Wire (Concentric Circular, Compact Circular)
2. Insulation : XLPE
3. Core Identification : Colouring Method or Color Tape

No. of cores	Colour
2 cores	Brown, Black
3 cores	Brown, Black, Gray
4 cores	Brown, Black, Gray, Blue

4. Sheath : Flame Retardant PVC

※ Above colors are basic colors and can be changed upon request.

- |           |               |
|-----------|---------------|
| ① 도 체     | ① Conductor   |
| ② 절연체     | ② XLPE        |
| ③ 개재물     | ③ Filler      |
| ④ 바인더 테이프 | ④ Binder Tape |
| ⑤ 피복체     | ⑤ Sheath      |

### ■ 단심Single Core

Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20℃ Ω/km	Test Voltage V/5min.	Approx. Weight kg/km	Standard Length m	
Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm								
1.5	7/0.53	1.59	0.7	1.4	6.0	12.1	3500	50	300	
2.5	7/0.67	2.01			6.3	7.41		60		
4	7/0.85	2.55			7.0	4.61		80		
6	7/1.04	3.12			7.5	3.08		105		
10	7/1.35	4.05			8.5	1.83		150		
16	C.C.	4.7			9.0	1.15		210		
25	C.C.	5.9	0.9	1.5	11	0.727		310	200	
35	C.C.	6.9			12	0.524		410		
50	C.C.	8.1			13	0.387		550		
70	C.C.	9.7	1.1		15	0.268		730		
95	C.C.	11.3	1.2		16.5	0.193		980		
120	C.C.	12.8			18.5	0.153		1230		
150	C.C.	14.4	1.4	1.6	20.5	0.124		1510	150	
185	C.C.	15.9	1.6		22.5	0.0991		1880		
240	C.C.	18.3	1.7	1.7	25	0.0754		2420		
300	C.C.	20.3	1.8	1.8	27.5	0.0601		3000		
400	C.C.	23.1	2.0	1.9	31	0.0470	3880	150		
500	C.C.	26.5	2.2	2.0	35	0.0366	4890			
630	C.C.	30.2	2.4	2.2	39.5	0.0283	6310			

※CC:원형 압축

## ■ 2심Two Core

Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20°C Ω/km	Test Voltage V/5min.	Approx. Weight kg/km	Standard Length m
Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
1.5	7/0.53	1.59	0.7	1.8	9.5	12.1	3500	105	300
2.5	7/0.67	2.01			10.5	7.41		140	
4	7/0.85	2.55			11.5	4.61		175	
6	7/1.04	3.12			13	3.08		230	
10	7/1.35	4.05			14.5	1.83		340	
16	C.C.	4.7			16	1.15		460	
25	C.C.	5.9	0.9		19	0.727		680	
35	C.C.	6.9			21	0.524		890	
50	C.C.	8.1	1.0		24	0.387		1200	
70	C.C.	9.7	1.1		27.5	0.268		1620	
95	C.C.	11.3		1.9	31	0.193		2180	
120	C.C.	12.8	1.2	2.0	35	0.153		2720	200
150	C.C.	14.4	1.4	2.2	39	0.124		3390	
185	C.C.	15.9	1.6	2.3	43	0.0991		4200	
240	C.C.	18.3	1.7	2.5	48.5	0.0754		5430	
300	C.C.	20.3	1.8	2.6	53.5	0.0601		6700	

※CC:원형 압축

## ■ 3심Three Core

Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20°C Ω/km	Test Voltage V/5min.	Approx. Weight kg/km	Standard Length m
Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
1.5	7/0.53	1.59	0.7	1.8	10	12.1	3500	130	300
2.5	7/0.67	2.01			11	7.41		170	
4	7/0.85	2.55			12.5	4.61		220	
6	7/1.04	3.12			13.5	3.08		300	
10	7/1.35	4.05			15.5	1.83		440	
16	C.C.	4.7			17	1.15		610	
25	C.C.	5.9	0.9		20.5	0.727		940	
35	C.C.	6.9			22.5	0.524		1240	
50	C.C.	8.1	1.0		25.5	0.387		1670	
70	C.C.	9.7	1.1		1.9	29.5		0.268	
95	C.C.	11.3		2.0	33.5	0.193		3090	
120	C.C.	12.8	1.2	2.1	37.5	0.153		3860	200
150	C.C.	14.4	1.4	2.3	42	0.124		4810	
185	C.C.	15.9	1.6	2.4	46	0.0991		5950	
240	C.C.	18.3	1.7	2.6	52	0.0754		7720	
300	C.C.	20.3	1.8	2.7	57.5	0.0601		9570	

※CC:원형 압축

# ■ 4심Four Core

Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20°C Ω/km	Test Voltage V/5min.	Approx. Weight kg/km	Standard Length m
Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
1.5	7/0.53	1.59	0.7	1.8	11	12.1	3500	160	300
2.5	7/0.67	2.01			12	7.41		210	
4	7/0.85	2.55			13.5	4.61		280	
6	7/1.04	3.12			14.5	3.08		370	
10	7/1.35	4.05			17	1.83		550	
16	C.C.	4.7			18.5	1.15		790	
25	C.C.	5.9	0.9		22.5	0.727		1190	
35	C.C.	6.9			25	0.524		1590	
50	C.C.	8.1	1.0	1.9	28.5	0.387		2180	
70	C.C.	9.7	1.1	2	33	0.268		2980	
95	C.C.	11.3		2.1	37	0.193		4030	
120	C.C.	12.8	1.2	2.3	41.5	0.153		5070	
150	C.C.	14.4	1.4	2.4	46.5	0.124		6270	
185	C.C.	15.9	1.6	2.6	51.5	0.0991		7820	200
240	C.C.	18.3	1.7	2.8	58.5	0.0754		10120	
300	C.C.	20.3	1.8	3.0	64	0.0601		12590	

※CC:원형압축

# 6/10kV TRAY용난연전력케이블(6/10kV TFR-CV)

KS C IEC 60502-2, 대원표준

## 6/10 kV V.T.F.T. Flame Retardant PVC Sheathed Power Cable

6/10kV의전력회로에사용하며전기적, 물리적, 난연특성  
이매우우수하다. 화학적특성이우수하며, PVC 피복전력  
케이블에비하면난연특성이매우우수하다.

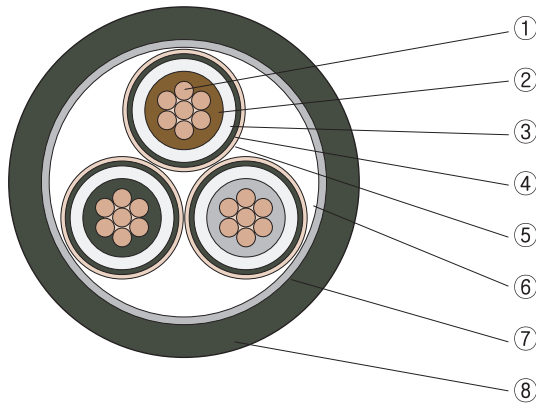
This cable is designed for the purpose of using in  
power distribution line, having excellent flame  
retardant.

### 구 조

1. 도 체 : 전기용연동성(원형압축)
  2. 절 연 체 : XLPE
  3. 선심식별 : 갈색, 흑색, 회색
  4. 차 폐 : 연동테이프
  5. 피 복 체 : 난연성염화비닐수지
- ※ 상기 색상은 기본 색상이며, 요청에 의해 변경 가능함.

### Construction

1. Conductor : Annealed copper Wire  
(Compact Circular)
  2. Insulation : XLPE
  3. Core Identification : Brown, Black, Gray
  4. Shield : Copper Tape
  5. Sheath : Flame-Retardant PVC
- ※ Above colors are basic colors and can be changed upon request.



- |         |                         |
|---------|-------------------------|
| ①도체     | ①Conductor              |
| ②내부반도전층 | ② Semi-Conductive layer |
| ③절연체    | ③XLPE                   |
| ④외부반도전층 | ④ Semi-Conductive layer |
| ⑤연동테이프  | ⑤Copper Tape            |
| ⑥개재물    | ⑥Filler                 |
| ⑦바인더테이프 | ⑦Binder Tape            |
| ⑧피복체    | ⑧Flame-Retardant PVC    |

### 단심Single Core

Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20℃ Ω/km	Test Voltage V/5min.	Approx. Weight kg/km	Standard Length m
Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
16	C.C.	4.7	3.4	1.5	18	1.150	21	430	300
25	C.C.	5.9	3.4	1.5	19	0.727	21	540	
35	C.C.	6.9	3.4	1.6	20.5	0.524	21	660	
50	C.C.	8.1	3.4	1.6	21.5	0.387	21	810	
70	C.C.	9.7	3.4	1.7	23	0.268	21	1030	
95	C.C.	11.3	3.4	1.7	25	0.193	21	1300	
120	C.C.	12.8	3.4	1.8	26.5	0.153	21	1570	
150	C.C.	14.4	3.4	1.8	28	0.124	21	1870	
185	C.C.	15.9	3.4	1.9	30	0.0991	21	2250	
240	C.C.	18.3	3.4	2.0	32.5	0.0754	21	2840	
300	C.C.	20.3	3.4	2.0	34.5	0.0601	21	3440	
400	C.C.	23.1	3.4	2.2	38	0.0470	21	4380	
500	C.C.	26.5	3.4	2.2	42	0.0366	21	5390	
630	C.C.	30.2	3.4	2.3	45.5	0.0283	21	6810	

※CC:원형 압축

### ■ 3심Three Core

Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20℃ Ω/km	Test Voltage V/5min.	Approx. Weight kg/km	Standard Length m
Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
16	C.C.	4.7	3.4	2.1	35.5	1.150	21	1440	300
25	C.C.	5.9	3.4	2.2	38.5	0.727	21	1830	
35	C.C.	6.9	3.4	2.3	40.5	0.524	21	2210	
50	C.C.	8.1	3.4	2.4	43.5	0.387	21	2720	
70	C.C.	9.7	3.4	2.5	47	0.268	21	3390	
95	C.C.	11.3	3.4	2.6	50.5	0.193	21	4300	
120	C.C.	12.8	3.4	2.7	54	0.153	21	5150	
150	C.C.	14.4	3.4	2.8	57.5	0.124	21	6120	
185	C.C.	15.9	3.4	2.9	61	0.0991	21	7320	
240	C.C.	18.3	3.4	3.1	67	0.0754	21	9210	
300	C.C.	20.3	3.4	3.3	71.5	0.0601	21	11150	

※CC:원형 압축

## 0.6/1kV 화재경보용내열전선, 0.6/1kV 소방용내화전선

K 60502-1, 대원표준

### 0.6/1kV Heat-Resistant Cable (0.6/1kV TFR-3, NFR-3) 0.6/1kV Fire-Proof Cable (0.6/1kV TFR-8, NFR-8)

100V 이하의비상경보설비의신호및통신용으로사용하거나정격전압0.6/1kV 이하의옥내소화전설비의회로에 사용하는케이블이다.

TFR-3 is used in signaling or telecommunication under D.C 100V fire fighting equipments, and FR-8 is used mainly in wiring of fireplugsystem under 0.6/1kV grade.

#### ■ 구 조

- 1.도 체:전기용연동선(원형, 원형압축연선)
- 2.내 화 층:내화테이프  
(0.6/1kV TFR-8, NFR-8)
- 3.절 연 체:XLPE, PE
- 4.선 심 식 별:착색또는색테이프

선심수	색
2 심	갈, 흑
3 심	갈, 흑, 회
4 심	갈, 흑, 회, 청

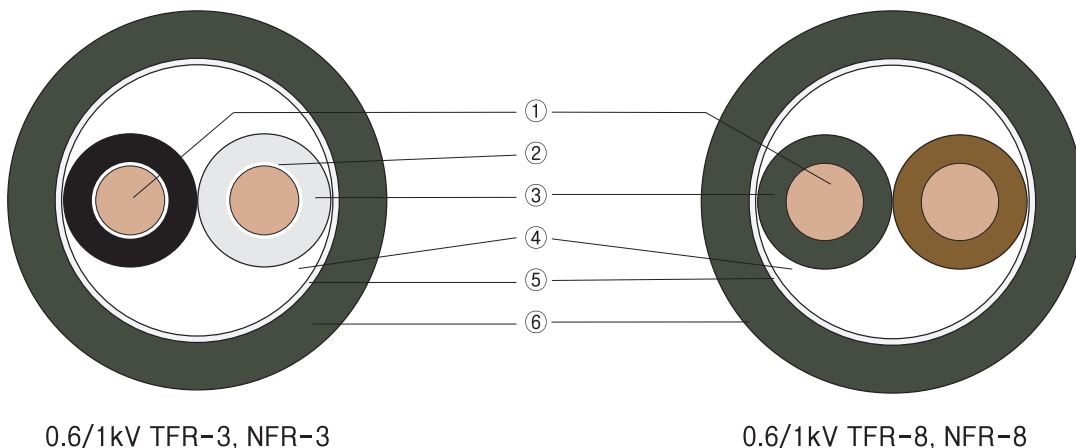
#### ■ Construction

- 1.Conductor : Annealed copper Wire (Concentric Circular, Compact Circular)
- 2.Fire Retardant layer : Fire retardant tape  
(0.6/1kV TFR-8, NFR-8)
- 3.Insulation : XLPE, PE
- 4.Core Identification : Colouring Method or Color Tape

No. of cores	Colour
2 cores	Brown, Black
3 cores	Brown, Black, Gray
4 cores	Brown, Black, Gray, Blue

5. 피 복 체 : 난연성염화비닐수지, 무독성 난연 폴리올레핀  
※ 상기 색상은 기본 색상이며, 요청에 의해 변경 가능함.

5. Sheath : Flame Retardant PVC  
Halogen Free Flame Retardant Polyolefin  
※ Above colors are basic colors and can be changed upon request.



- |         |                         |
|---------|-------------------------|
| ① 도 체   | ① Conductor             |
| ② 내화층   | ② Flame retardant layer |
| ③ 절연체   | ③ Insulation            |
| ④ 개재물   | ④ Filler                |
| ⑤ 내열보강층 | ⑤ Heat resistant layer  |
| ⑥ 피복체   | ⑥ Sheath                |

■ 0.6/1KV TFR-3, NFR-3(단선)

Nominal of Cores	Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20℃	Test Voltage V/5min	Approx. Weight kg/km	Standard Length m
	Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
2	1.5	1/1.38	1.38	0.7	1.8	9.5	12.1	3500	105	300
	2.5	1/1.78	1.78			10	7.41		130	
	4	1/2.25	2.25			11	4.61		170	
	6	1/2.76	2.76			12	3.08		225	
	10	1/3.57	3.57			14	1.83		320	
3	1.5	1/1.38	1.38	0.7	1.8	10	12.1	3500	125	300
	2.5	1/1.78	1.78			10.5	7.41		165	
	4	1/2.25	2.25			11.5	4.61		215	
	6	1/2.76	2.76			13	3.08		290	
	10	1/3.57	3.57			14.5	1.83		420	
4	1.5	1/1.38	1.38	0.7	1.8	10.5	12.1	3500	150	300
	2.5	1/1.78	1.78			11.5	7.41		200	
	4	1/2.25	2.25			12.5	4.61		270	
	6	1/2.76	2.76			14	3.08		355	
	10	1/3.57	3.57			16	1.83		535	
5	1.5	1/1.38	1.38	0.7	1.8	11.5	12.1	3500	170	300
	2.5	1/1.78	1.78			12.5	7.41		230	
	4	1/2.25	2.25			13.5	4.61		315	
	6	1/2.76	2.76			15	3.08		420	
	10	1/3.57	3.57			17.5	1.83		645	
6	1.5	1/1.38	1.38	0.7	1.8	12	12.1	3500	200	300
	2.5	1/1.78	1.78			13.5	7.41		265	
	4	1/2.25	2.25			15	4.61		370	
	6	1/2.76	2.76			16.5	3.08		515	
	10	1/3.57	3.57			19	1.83		765	
7	1.5	1/1.38	1.38	0.7	1.8	12	12.1	3500	210	300
	2.5	1/1.78	1.78			13.5	7.41		300	
	4	1/2.25	2.25			15	4.61		410	
	6	1/2.76	2.76			16.5	3.08		565	
	10	1/3.57	3.57			19	1.83		850	
8	1.5	1/1.38	1.38	0.7	1.8	13	12.1	3500	235	300
	2.5	1/1.78	1.78			14.5	7.41		320	
	4	1/2.25	2.25			16	4.61		465	
	6	1/2.76	2.76			17.5	3.08		640	
	10	1/3.57	3.57			20.5	1.83		960	
10	1.5	1/1.38	1.38	0.7	1.8	15	12.1	3500	295	300
	2.5	1/1.78	1.78			16.5	7.41		405	
	4	1/2.25	2.25			18.5	4.61		570	
	6	1/2.76	2.76			20.5	3.08		780	
	10	1/3.57	3.57			24	1.83		1220	
12	1.5	1/1.38	1.38	0.7	1.8	15.5	12.1	3500	335	300
	2.5	1/1.78	1.78			17	7.41		465	
	4	1/2.25	2.25			19	4.61		650	
	6	1/2.76	2.76			21	3.08		905	
	10	1/3.57	3.57			24.5	1.83		1420	
15	1.5	1/1.38	1.38	0.7	1.8	16.5	12.1	3500	395	300
	2.5	1/1.78	1.78			18.5	7.41		560	
	4	1/2.25	2.25			20.5	4.61		790	
	6	1/2.76	2.76			23	3.08		1100	
20	1.5	1/1.38	1.38	0.7	1.8	18.5	12.1	3500	490	300
	2.5	1/1.78	1.78			20.5	7.41		715	
	4	1/2.25	2.25			23	4.61		1050	
	6	1/2.76	2.76			25.5	3.08		1430	
25	1.5	1/1.38	1.38	0.7	1.8	21	12.1	3500	610	300
	2.5	1/1.78	1.78			23	7.41		870	
	4	1/2.25	2.25			26	4.61		1260	
30	1.5	1/1.38	1.38	0.7	1.8	22	12.1	3500	705	300
	2.5	1/1.78	1.78			24.5	7.41		1030	
	4	1/2.25	2.25			27.5	4.61		1480	

**■ 0.6/1KV TFR-3, NFR-3 (연선)**

Nominal of Cores	Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20℃ Ω/km	Test Voltage V/5min	Approx. Weight kg/km	Standard Length m
	Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
2	1.5	7/0.53	1.59	0.7	1.8	10	12.1	3500	110	300
	2.5	7/0.67	2.01			10.5	7.41		140	
	4	7/0.85	2.55			11.5	4.61		180	
	6	7/1.04	3.12			13	3.08		235	
	10	7/1.35	4.05			14.5	1.83		340	
3	1.5	7/0.53	1.59	0.7	1.8	10.5	12.1	3500	135	300
	2.5	7/0.67	2.01			11	7.41		170	
	4	7/0.85	2.55			12.5	4.61		225	
	6	7/1.04	3.12			13.5	3.08		305	
	10	7/1.35	4.05			15.5	1.83		450	
4	1.5	7/0.53	1.59	0.7	1.8	11	12.1	3500	160	300
	2.5	7/0.67	2.01			12	7.41		210	
	4	7/0.85	2.55			13.5	4.61		285	
	6	7/1.04	3.12			15	3.08		375	
	10	7/1.35	4.05			17	1.83		565	
5	1.5	7/0.53	1.59	0.7	1.8	12	12.1	3500	180	300
	2.5	7/0.67	2.01			13	7.41		240	
	4	7/0.85	2.55			14.5	4.61		330	
	6	7/1.04	3.12			16	3.08		460	
	10	7/1.35	4.05			18.5	1.83		680	
6	1.5	7/0.53	1.59	0.7	1.8	13	12.1	3500	210	300
	2.5	7/0.67	2.01			14	7.41		280	
	4	7/0.85	2.55			16	4.61		385	
	6	7/1.04	3.12			17.5	3.08		540	
	10	7/1.35	4.05			20	1.83		810	
7	1.5	7/0.53	1.59	0.7	1.8	13	12.1	3500	225	300
	2.5	7/0.67	2.01			14	7.41		315	
	4	7/0.85	2.55			15.5	4.61		440	
	6	7/1.04	3.12			17.5	3.08		590	
	10	7/1.35	4.05			20	1.83		890	
8	1.5	7/0.53	1.59	0.7	1.8	14	12.1	3500	250	300
	2.5	7/0.67	2.01			15	7.41		340	
	4	7/0.85	2.55			17	4.61		495	
	6	7/1.04	3.12			19	3.08		670	
	10	7/1.35	4.05			22	1.83		1010	
10	1.5	7/0.53	1.59	0.7	1.8	16	12.1	3500	315	300
	2.5	7/0.67	2.01			17.5	7.41		425	
	4	7/0.85	2.55			20	4.61		595	
	6	7/1.04	3.12			22	3.08		840	
	10	7/1.35	4.05			26	1.83		1290	
12	1.5	7/0.53	1.59	0.7	1.8	16.5	12.1	3500	360	300
	2.5	7/0.67	2.01			18	7.41		485	
	4	7/0.85	2.55			20.5	4.61		685	
	6	7/1.04	3.12			23	3.08		980	
	10	7/1.35	4.05			26.5	1.83		1500	
15	1.5	7/0.53	1.59	0.7	1.8	17.5	12.1	3500	425	300
	2.5	7/0.67	2.01			19.5	7.41		590	
	4	7/0.85	2.55			22	4.61		835	
	6	7/1.04	3.12			24.5	3.08		1185	
20	1.5	7/0.53	1.59	0.7	1.8	19.5	12.1	3500	530	300
	2.5	7/0.67	2.01			21.5	7.41		745	
	4	7/0.85	2.55			24.5	4.61		1080	
	6	7/1.04	3.12			27.5	3.08		1540	
25	1.5	7/0.53	1.59	0.7	1.8	22	12.1	3500	650	300
	2.5	7/0.67	2.01			24.5	7.41		920	
	4	7/0.85	2.55			28	4.61		1320	
30	1.5	7/0.53	1.59	0.7	1.8	23.5	12.1	3500	760	300
	2.5	7/0.67	2.01			26	7.41		1070	
	4	7/0.85	2.55			29.5	4.61		1570	

■ 0.6/1kV TFR-8, NFR-8

■ 단심Single Core

Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20℃ Ω/km	Test Voltage V/5min.	Approx. Weight kg/km	Standard Length m
Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
1.5	7/0.53	1.59	0.7	1.4	6.5	12.1	3500	55	300
2.5	7/0.67	2.01			7	7.41		65	
4	7/0.85	2.55			7.5	4.61		85	
6	7/1.04	3.12			8	3.08		110	
10	7/1.35	4.05			9	1.83		150	
16	C.C.	4.7	9.5		1.15	210			
25	C.C.	5.9	0.9		11	0.727		310	
35	C.C.	6.9			12	0.524		410	
50	C.C.	8.1			1.0	13.5		0.387	
70	C.C.	9.7	1.1		15.5	0.268		740	
95	C.C.	11.3		1.5	17.5	0.193		1000	
120	C.C.	12.8	1.2		19	0.153		1240	
150	C.C.	14.4	1.4	1.6	21.5	0.124		1530	200
185	C.C.	15.9	1.6		23	0.0991		1900	
240	C.C.	18.3	1.7	1.7	26	0.0754		2450	
300	C.C.	20.3	1.8	1.8	28.5	0.0601		3040	
400	C.C.	23.1	2.0	1.9	32	0.0470		3930	150
500	C.C.	26.5	2.2	2.0	36	0.0366		4930	
630	C.C.	30.2	2.4	2.2	40.5	0.0283		6350	

※CC:원형 압축

■ 2심Two Core

Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20°C Ω/km	Test Voltage V/5min.	Approx. Weight kg/km	Standard Length m
Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
1.5	7/0.53	1.59	0.7	1.8	11.5	12.1	3500	135	300
2.5	7/0.67	2.01			12.5	7.41		170	
4	7/0.85	2.55			13.5	4.61		210	
6	7/1.04	3.12			14.5	3.08		265	
10	7/1.35	4.05			16.5	1.83		375	
16	C.C.	4.7	17.5		1.15	500			
25	C.C.	5.9	0.9		21	0.727		730	
35	C.C.	6.9			23	0.524		950	
50	C.C.	8.1			26	0.387		1270	
70	C.C.	9.7	1.1		29.5	0.268		1700	
95	C.C.	11.3		33	0.193	2270			
120	C.C.	12.8		36.5	0.153	2820			
150	C.C.	14.4	1.2	2.0	41	0.124		3510	
185	C.C.	15.9	1.4	2.2	45	0.0991		4320	
240	C.C.	18.3	1.6	2.3	50.5	0.0754		5570	
300	C.C.	20.3	1.7	2.5	55	0.0601		6860	
			1.8	2.6					

※CC:원형 압축

### ■ 3심Three Core

Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20°C Ω/km	Test Voltage V/5min.	Approx. Weight kg/km	Standard Length m
Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
1.5	7/0.53	1.59	0.7	1.8	12	12.1	3500	165	300
2.5	7/0.67	2.01			13	7.41		210	
4	7/0.85	2.55			14	4.61		265	
6	7/1.04	3.12			15.5	3.08		345	
10	7/1.35	4.05			17.5	1.83		495	
16	C.C.	4.7			19	1.15		665	
25	C.C.	5.9	0.9		22.5	0.727		990	
35	C.C.	6.9			24.5	0.524		1300	
50	C.C.	8.1			27.5	0.387		1760	
70	C.C.	9.7	1.1		31.5	0.268		2380	
95	C.C.	11.3			2.0	35.5		0.193	
120	C.C.	12.8	1.2	2.1	39.5	0.153		3990	200
150	C.C.	14.4	1.4	2.3	44	0.124		4950	
185	C.C.	15.9	1.6	2.4	48	0.0991		6140	
240	C.C.	18.3	1.7	2.6	54	0.0754		7920	
300	C.C.	20.3	1.8	2.7	59	0.0601		9770	

※CC:원형 압축

### ■ 4심Four Core

Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20°C Ω/km	Test Voltage V/5min.	Approx. Weight kg/km	Standard Length m	
Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm								
1.5	7/0.53	1.59	0.7	1.8	13	12.1	3500	200	300	
2.5	7/0.67	2.01			14	7.41		250		
4	7/0.85	2.55			15.5	4.61		325		
6	7/1.04	3.12			16.5	3.08		430		
10	7/1.35	4.05			19	1.83		615		
16	C.C.	4.7			20.5	1.15		850		
25	C.C.	5.9	0.9		24.5	0.727		1270		
35	C.C.	6.9			27	0.524		1680		
50	C.C.	8.1	1.0		1.9	30.5		0.387		2290
70	C.C.	9.7	1.1		2	35		0.268		3110
95	C.C.	11.3			2.1	39.5		0.193		4170
120	C.C.	12.8	1.2	2.3	44	0.153		5220	200	
150	C.C.	14.4	1.4	2.4	49	0.124		6450		
185	C.C.	15.9	1.6	2.6	53.5	0.0991		8010		
240	C.C.	18.3	1.7	2.8	60.5	0.0754		10350		
300	C.C.	20.3	1.8	3.0	66.5	0.0601		12810		

※CC:원형 압축

### ■ 0.6/1kV TFR-830 (830°C/120min/5분간격타격), 1심 (Single Core)

Conductor			Nominal Insulation Thickness	Nominal Sheath Thickness	Approx. Overall Diameter	Max Conductor Resistance	Test Voltage	Approx. Weight	Standard Length
Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
1.5	7 / 0.53	1.59	0.7	1.4	7.0	12.1	3500	60	300
2.5	7 / 0.67	2.01	0.7	1.4	7.5	7.41	3500	75	300
4	7 / 0.85	2.55	0.7	1.4	8.0	4.61	3500	95	300
6	7 / 1.04	3.12	0.7	1.4	8.5	3.08	3500	115	300
10	7 / 1.35	4.05	0.7	1.4	9.5	1.83	3500	165	300
16	C.C.	4.7	0.7	1.4	10.0	1.15	3500	225	300
25	C.C.	5.9	0.9	1.4	11.5	0.727	3500	325	300
35	C.C.	6.9	0.9	1.4	12.5	0.524	3500	425	300
50	C.C.	8.1	1.0	1.4	14.0	0.387	3500	565	300
70	C.C.	9.7	1.1	1.4	16.0	0.268	3500	755	300
95	C.C.	11.3	1.1	1.5	17.5	0.193	3500	1015	300
120	C.C.	12.8	1.2	1.5	19.5	0.153	3500	1260	300
150	C.C.	14.4	1.4	1.6	21.5	0.124	3500	1555	300
185	C.C.	15.9	1.6	1.6	23.5	0.0991	3500	1930	200
240	C.C.	18.3	1.7	1.7	26.5	0.0754	3500	2485	200
300	C.C.	20.3	1.8	1.8	28.5	0.0601	3500	3080	200
400	C.C.	23.1	2.0	1.9	32.0	0.0470	3500	3965	150
500	C.C.	26.5	2.2	2.0	36.0	0.0366	3500	4985	150
630	C.C.	30.2	2.4	2.2	40.5	0.0283	3500	6415	150

※ C.C. : 원형압축

### ■ 0.6/1kV TFR-830 (830°C/120min/5분간격타격), 2심 (Two Cores)

Conductor			Nominal Insulation Thickness	Nominal Sheath Thickness	Approx. Overall Diameter	Max Conductor Resistance	Test Voltage	Approx. Weight	Standard Length
Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
1.5	7 / 0.53	1.59	0.7	1.8	12.0	12.1	3500	155	300
2.5	7 / 0.67	2.01	0.7	1.8	13.0	7.41	3500	190	300
4	7 / 0.85	2.55	0.7	1.8	14.0	4.61	3500	235	300
6	7 / 1.04	3.12	0.7	1.8	15.0	3.08	3500	290	300
10	7 / 1.35	4.05	0.7	1.8	17.0	1.83	3500	405	300
16	C.C.	4.7	0.7	1.8	18.0	1.15	3500	535	300
25	C.C.	5.9	0.9	1.8	20.5	0.727	3500	750	300
35	C.C.	6.9	0.9	1.8	23.5	0.524	3500	995	300
50	C.C.	8.1	1.0	1.8	26.0	0.387	3500	1290	300
70	C.C.	9.7	1.1	1.8	29.5	0.268	3500	1735	300
95	C.C.	11.3	1.1	1.9	33.5	0.193	3500	2285	300
120	C.C.	12.8	1.2	2.0	37.0	0.153	3500	2860	300
150	C.C.	14.4	1.4	2.2	41.5	0.124	3500	3560	300
185	C.C.	15.9	1.6	2.3	45.5	0.0991	3500	4400	200
240	C.C.	18.3	1.7	2.5	51.0	0.0754	3500	5630	200
300	C.C.	20.3	1.8	2.6	55.5	0.0601	3500	6935	200

※ C.C. : 원형압축

### ■ 0.6/1kV TFR-830 (830°C/120min/5분간격타격), 3심 (Three Cores)

Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max Conductor Resistance Ω/km(20°C)	Test Voltage V/5min	Approx. Weight kg/km	Standard Length m
Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
1.5	7 / 0.53	1.59	0.7	1.8	12.5	12.1	3500	185	300
2.5	7 / 0.67	2.01	0.7	1.8	13.5	7.41	3500	225	300
4	7 / 0.85	2.55	0.7	1.8	14.5	4.61	3500	290	300
6	7 / 1.04	3.12	0.7	1.8	16.0	3.08	3500	370	300
10	7 / 1.35	4.05	0.7	1.8	18.0	1.83	3500	520	300
16	C.C.	4.7	0.7	1.8	19.5	1.15	3500	700	300
25	C.C.	5.9	0.9	1.8	23.0	0.727	3500	1040	300
35	C.C.	6.9	0.9	1.8	25.0	0.524	3500	1355	300
50	C.C.	8.1	1.0	1.8	28.0	0.387	3500	1785	300
70	C.C.	9.7	1.1	1.9	32.0	0.268	3500	2425	300
95	C.C.	11.3	1.1	2.0	35.5	0.193	3500	3235	300
120	C.C.	12.8	1.2	2.1	39.5	0.153	3500	4040	300
150	C.C.	14.4	1.4	2.3	44.5	0.124	3500	5015	300
185	C.C.	15.9	1.6	2.4	48.5	0.0991	3500	6210	200
240	C.C.	18.3	1.7	2.6	54.5	0.0754	3500	7975	200
300	C.C.	20.3	1.8	2.7	59.5	0.0601	3500	9850	200

※ C.C. : 원형압축

### ■ 0.6/1kV TFR-830 (830°C/120min/5분간격타격), 4심 (Four Cores)

Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max Conductor Resistance Ω/km(20°C)	Test Voltage V/5min	Approx. Weight kg/km	Standard Length m
Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
1.5	7 / 0.53	1.59	0.7	1.8	13.5	12.1	3500	215	300
2.5	7 / 0.67	2.01	0.7	1.8	14.5	7.41	3500	275	300
4	7 / 0.85	2.55	0.7	1.8	16.0	4.61	3500	350	300
6	7 / 1.04	3.12	0.7	1.8	17.5	3.08	3500	460	300
10	7 / 1.35	4.05	0.7	1.8	19.5	1.83	3500	655	300
16	C.C.	4.7	0.7	1.8	21.0	1.15	3500	885	300
25	C.C.	5.9	0.9	1.8	25.0	0.727	3500	1330	300
35	C.C.	6.9	0.9	1.8	27.5	0.524	3500	1730	300
50	C.C.	8.1	1.0	1.9	31.0	0.387	3500	2320	300
70	C.C.	9.7	1.1	2.0	35.5	0.268	3500	3150	300
95	C.C.	11.3	1.1	2.1	39.5	0.193	3500	4205	300
120	C.C.	12.8	1.2	2.3	44.0	0.153	3500	5275	300
150	C.C.	14.4	1.4	2.4	49.5	0.124	3500	6510	300
185	C.C.	15.9	1.6	2.6	54.0	0.0991	3500	8110	200
240	C.C.	18.3	1.7	2.8	61.0	0.0754	3500	10450	200
300	C.C.	20.3	1.8	3.0	66.5	0.0601	3500	12940	200

※ C.C. : 원형압축

**■ 0.6/1kV TFR-830 (830°C/120min/5분간격타격), 5심 이상, 단선 (Solid) 제품**

Number of Cores	Conductor			Nominal Insulation Thickness	Nominal Sheath Thickness	Approx. Overall Diameter	Max Conductor Resistance	Test Voltage	Approx. Weight	Standard Length
	Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
5	1.5	1 / 1.38	1.38	0.7	1.8	14.0	12.1	3500	245	300
	2.5	1 / 1.78	1.78			15.0	7.41		305	
	4	1 / 2.25	2.25			16.5	4.61		395	
6	1.5	1 / 1.38	1.38	0.7	1.8	15.0	12.1	3500	280	300
	2.5	1 / 1.78	1.78			16.5	7.41		355	
	4	1 / 2.25	2.25			18.0	4.61		460	
7	1.5	1 / 1.38	1.38	0.7	1.8	15.0	12.1	3500	295	300
	2.5	1 / 1.78	1.78			16.5	7.41		375	
	4	1 / 2.25	2.25			18.0	4.61		495	
8	1.5	1 / 1.38	1.38	0.7	1.8	16.5	12.1	3500	330	300
	2.5	1 / 1.78	1.78			17.5	7.41		425	
	4	1 / 2.25	2.25			19.0	4.61		560	
10	1.5	1 / 1.38	1.38	0.7	1.8	19.0	12.1	3500	395	300
	2.5	1 / 1.78	1.78			20.5	7.41		530	
	4	1 / 2.25	2.25			22.5	4.61		705	
12	1.5	1 / 1.38	1.38	0.7	1.8	19.5	12.1	3500	465	300
	2.5	1 / 1.78	1.78			21.0	7.41		605	
	4	1 / 2.25	2.25			23.0	4.61		810	
15	1.5	1 / 1.38	1.38	0.7	1.8	21.0	12.1	3500	545	300
	2.5	1 / 1.78	1.78			22.5	7.41		720	
	4	1 / 2.25	2.25			25.0	4.61		975	
20	1.5	1 / 1.38	1.38	0.7	1.8	23.0	12.1	3500	685	300
	2.5	1 / 1.78	1.78		1.9	25.0	7.41		915	
	4	1 / 2.25	2.25			28.0	4.61		1250	
30	1.5	1 / 1.38	1.38	0.7	1.9	28.0	12.1	3500	935	300
	2.5	1 / 1.78	1.78		2.0	30.5	7.41		1340	
	4	1 / 2.25	2.25		2.1	34.0	4.61		1850	

**■ 0.6/1kV TFR-830 (830°C/120min/5분간격타격), 5심 이상, 연선 (Strand) 제품**

Number of Cores	Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max Conductor Resistance Ω/km(20°C)	Test Voltage V/5min	Approx. Weight kg/km	Standard Length m
	Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
5	1.5	7 / 0.53	1.59	0.7	1.8	14.5	12.1	3500	260	300
	2.5	7 / 0.67	2.01			16.0	7.41		320	
	4	7 / 0.85	2.55			17.5	4.61		415	
6	1.5	7 / 0.53	1.59	0.7	1.8	16.0	12.1	3500	300	300
	2.5	7 / 0.67	2.01			17.0	7.41		375	
	4	7 / 0.85	2.55			18.5	4.61		490	
7	1.5	7 / 0.53	1.59	0.7	1.8	16.0	12.1	3500	310	300
	2.5	7 / 0.67	2.01			17.0	7.41		395	
	4	7 / 0.85	2.55			17.5	4.61		490	
8	1.5	7 / 0.53	1.59	0.7	1.8	17.0	12.1	3500	350	300
	2.5	7 / 0.67	2.01			18.5	7.41		445	
	4	7 / 0.85	2.55			20.0	4.61		590	
10	1.5	7 / 0.53	1.59	0.7	1.8	19.5	12.1	3500	440	300
	2.5	7 / 0.67	2.01			21.5	7.41		560	
	4	7 / 0.85	2.55			23.5	4.61		745	
12	1.5	7 / 0.53	1.59	0.7	1.8	20.5	12.1	3500	495	300
	2.5	7 / 0.67	2.01			22.0	7.41		635	
	4	7 / 0.85	2.55			24.0	4.61		850	
15	1.5	7 / 0.53	1.59	0.7	1.8	22.0	12.1	3500	585	300
	2.5	7 / 0.67	2.01			23.5	7.41		760	
	4	7 / 0.85	2.55			26.0	4.61		1025	
20	1.5	7 / 0.53	1.59	0.7	1.8	24.0	12.1	3500	730	300
	2.5	7 / 0.67	2.01		1.8	26.5	7.41		955	
	4	7 / 0.85	2.55		1.9	29.5	4.61		1315	
30	1.5	7 / 0.53	1.59	0.7	1.9	29.0	12.1	3500	1060	300
	2.5	7 / 0.67	2.01		2.0	32.0	7.41		1415	
	4	7 / 0.85	2.55		2.1	35.5	4.61		1945	

### ■ 0.6/1kV NFR-830 (830°C/120min/5분간격타격), 1심 (Single Core)

Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max Conductor Resistance Ω/km(20°C)	Test Voltage V/5min	Approx. Weight kg/km	Standard Length m
Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
1.5	7 / 0.53	1.59	0.7	1.4	7.0	12.1	3500	55	300
2.5	7 / 0.67	2.01	0.7	1.4	7.5	7.41	3500	70	300
4	7 / 0.85	2.55	0.7	1.4	8.0	4.61	3500	90	300
6	7 / 1.04	3.12	0.7	1.4	8.5	3.08	3500	110	300
10	7 / 1.35	4.05	0.7	1.4	9.5	1.83	3500	155	300
16	C.C.	4.7	0.7	1.4	10.0	1.15	3500	215	300
25	C.C.	5.9	0.9	1.4	11.5	0.727	3500	320	300
35	C.C.	6.9	0.9	1.4	12.5	0.524	3500	415	300
50	C.C.	8.1	1.0	1.4	14.0	0.387	3500	555	300
70	C.C.	9.7	1.1	1.4	16.0	0.268	3500	745	300
95	C.C.	11.3	1.1	1.5	17.5	0.193	3500	1005	300
120	C.C.	12.8	1.2	1.5	19.5	0.153	3500	1245	300
150	C.C.	14.4	1.4	1.6	21.5	0.124	3500	1540	300
185	C.C.	15.9	1.6	1.6	23.5	0.0991	3500	1905	200
240	C.C.	18.3	1.7	1.7	26.5	0.0754	3500	2460	200
300	C.C.	20.3	1.8	1.8	28.5	0.0601	3500	3055	200
400	C.C.	23.1	2.0	1.9	32.0	0.0470	3500	3930	150
500	C.C.	26.5	2.2	2.0	36.0	0.0366	3500	4945	150
630	C.C.	30.2	2.4	2.2	40.5	0.0283	3500	6365	150

※ C.C. : 원형압축

### ■ 0.6/1kV NFR-830 (830°C/120min/5분간격타격), 2심 (Two Cores)

Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max Conductor Resistance Ω/km(20°C)	Test Voltage V/5min	Approx. Weight kg/km	Standard Length m
Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
1.5	7 / 0.53	1.59	0.7	1.8	12.0	12.1	3500	145	300
2.5	7 / 0.67	2.01	0.7	1.8	13.0	7.41	3500	175	300
4	7 / 0.85	2.55	0.7	1.8	14.0	4.61	3500	220	300
6	7 / 1.04	3.12	0.7	1.8	15.0	3.08	3500	275	300
10	7 / 1.35	4.05	0.7	1.8	17.0	1.83	3500	390	300
16	C.C.	4.7	0.7	1.8	18.0	1.15	3500	515	300
25	C.C.	5.9	0.9	1.8	21.5	0.727	3500	755	300
35	C.C.	6.9	0.9	1.8	23.5	0.524	3500	970	300
50	C.C.	8.1	1.0	1.8	26.0	0.387	3500	1265	300
70	C.C.	9.7	1.1	1.8	29.5	0.268	3500	1705	300
95	C.C.	11.3	1.1	1.9	33.5	0.193	3500	2250	300
120	C.C.	12.8	1.2	2.0	37.0	0.153	3500	2810	300
150	C.C.	14.4	1.4	2.2	41.5	0.124	3500	3495	300
185	C.C.	15.9	1.6	2.3	45.5	0.0991	3500	4340	200
240	C.C.	18.3	1.7	2.5	51.0	0.0754	3500	5560	200
300	C.C.	20.3	1.8	2.6	55.5	0.0601	3500	6855	200

※ C.C. : 원형압축

**■ 0.6/1kV NFR-830 (830°C/120min/5분간격타격), 3심 (Three Cores)**

Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max Conductor Resistance Ω/km(20°C)	Test Voltage V/5min	Approx. Weight kg/km	Standard Length m
Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
1.5	7 / 0.53	1.59	0.7	1.8	12.5	12.1	3500	175	300
2.5	7 / 0.67	2.01	0.7	1.8	13.5	7.41	3500	210	300
4	7 / 0.85	2.55	0.7	1.8	14.5	4.61	3500	275	300
6	7 / 1.04	3.12	0.7	1.8	16.0	3.08	3500	355	300
10	7 / 1.35	4.05	0.7	1.8	18.0	1.83	3500	500	300
16	C.C.	4.7	0.7	1.8	19.5	1.15	3500	680	300
25	C.C.	5.9	0.9	1.8	23.0	0.727	3500	1020	300
35	C.C.	6.9	0.9	1.8	25.0	0.524	3500	1330	300
50	C.C.	8.1	1.0	1.8	28.0	0.387	3500	1760	300
70	C.C.	9.7	1.1	1.9	32.0	0.268	3500	2390	300
95	C.C.	11.3	1.1	2.0	35.5	0.193	3500	3195	300
120	C.C.	12.8	1.2	2.1	39.5	0.153	3500	3965	300
150	C.C.	14.4	1.4	2.3	44.5	0.124	3500	4930	300
185	C.C.	15.9	1.6	2.4	48.5	0.0991	3500	6145	200
240	C.C.	18.3	1.7	2.6	54.5	0.0754	3500	7895	200
300	C.C.	20.3	1.8	2.7	59.5	0.0601	3500	9760	200

※ C.C. : 원형압축

**■ 0.6/1kV NFR-830 (830°C/120min/5분간격타격), 4심 (Four Cores)**

Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max Conductor Resistance Ω/km(20°C)	Test Voltage V/5min	Approx. Weight kg/km	Standard Length m
Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
1.5	7 / 0.53	1.59	0.7	1.8	13.5	12.1	3500	205	300
2.5	7 / 0.67	2.01	0.7	1.8	14.5	7.41	3500	265	300
4	7 / 0.85	2.55	0.7	1.8	16.0	4.61	3500	335	300
6	7 / 1.04	3.12	0.7	1.8	17.5	3.08	3500	440	300
10	7 / 1.35	4.05	0.7	1.8	19.5	1.83	3500	635	300
16	C.C.	4.7	0.7	1.8	21.0	1.15	3500	865	300
25	C.C.	5.9	0.9	1.8	24.0	0.727	3500	1260	300
35	C.C.	6.9	0.9	1.8	27.5	0.524	3500	1705	300
50	C.C.	8.1	1.0	1.9	31.0	0.387	3500	2290	300
70	C.C.	9.7	1.1	2.0	35.5	0.268	3500	3110	300
95	C.C.	11.3	1.1	2.1	39.5	0.193	3500	4160	300
120	C.C.	12.8	1.2	2.3	44.0	0.153	3500	5195	300
150	C.C.	14.4	1.4	2.4	49.5	0.124	3500	6430	300
185	C.C.	15.9	1.6	2.6	54.0	0.0991	3500	8020	200
240	C.C.	18.3	1.7	2.8	61.0	0.0754	3500	10350	200
300	C.C.	20.3	1.8	3.0	66.5	0.0601	3500	12825	200

※ C.C. : 원형압축

■ 0.6/1kV NFR-830 (830°C/120min/5분간격타격), 5심 이상, 단선 (Solid) 제품

Number of Cores	Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max Conductor Resistance Ω/km(20°C)	Test Voltage V/5min	Approx. Weight kg/km	Standard Length m
	Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
5	1.5	1 / 1.38	1.38	0.7	1.8	14.0	12.1	3500	230	300
	2.5	1 / 1.78	1.78			15.0	7.41		290	
	4	1 / 2.25	2.25			16.5	4.61		380	
6	1.5	1 / 1.38	1.38	0.7	1.8	15.0	12.1	3500	265	300
	2.5	1 / 1.78	1.78			16.5	7.41		340	
	4	1 / 2.25	2.25			18.0	4.61		445	
7	1.5	1 / 1.38	1.38	0.7	1.8	15.0	12.1	3500	280	300
	2.5	1 / 1.78	1.78			16.5	7.41		360	
	4	1 / 2.25	2.25			18.0	4.61		480	
8	1.5	1 / 1.38	1.38	0.7	1.8	16.5	12.1	3500	315	300
	2.5	1 / 1.78	1.78			17.5	7.41		405	
	4	1 / 2.25	2.25			19.0	4.61		540	
10	1.5	1 / 1.38	1.38	0.7	1.8	19.0	12.1	3500	375	300
	2.5	1 / 1.78	1.78			20.5	7.41		510	
	4	1 / 2.25	2.25			22.5	4.61		680	
12	1.5	1 / 1.38	1.38	0.7	1.8	19.5	12.1	3500	445	300
	2.5	1 / 1.78	1.78			21.0	7.41		585	
	4	1 / 2.25	2.25			23.0	4.61		785	
15	1.5	1 / 1.38	1.38	0.7	1.8	21.0	12.1	3500	530	300
	2.5	1 / 1.78	1.78			22.5	7.41		700	
	4	1 / 2.25	2.25			25.0	4.61		950	
20	1.5	1 / 1.38	1.38	0.7	1.8	23.0	12.1	3500	665	300
	2.5	1 / 1.78	1.78			25.0	7.41		890	
	4	1 / 2.25	2.25		1.9	28.0	4.61		1220	
30	1.5	1 / 1.38	1.38	0.7	1.9	28.0	12.1	3500	905	300
	2.5	1 / 1.78	1.78		2.0	30.5	7.41		1310	
	4	1 / 2.25	2.25		2.1	34.0	4.61		1810	

■ 0.6/1kV NFR-830 (830°C/120min/5분간격타격), 5심 이상, 연선 (Strand) 제품

Number of Cores	Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max Conductor Resistance $\Omega/\text{km}(20^{\circ}\text{C})$	Test Voltage V/5min	Approx. Weight kg/km	Standard Length m
	Nominal Sectional Area $\text{mm}^2$	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
5	1.5	7 / 0.53	1.59	0.7	1.8	14.5	12.1	3500	245	300
	2.5	7 / 0.67	2.01			16.0			305	
	4	7 / 0.85	2.55			17.5			400	
6	1.5	7 / 0.53	1.59	0.7	1.8	16.0	12.1	3500	285	300
	2.5	7 / 0.67	2.01			17.0			360	
	4	7 / 0.85	2.55			18.5			470	
7	1.5	7 / 0.53	1.59	0.7	1.8	16.0	12.1	3500	295	300
	2.5	7 / 0.67	2.01			17.0			380	
	4	7 / 0.85	2.55			17.5			505	
8	1.5	7 / 0.53	1.59	0.7	1.8	17.0	12.1	3500	335	300
	2.5	7 / 0.67	2.01			18.5			425	
	4	7 / 0.85	2.55			20.0			570	
10	1.5	7 / 0.53	1.59	0.7	1.8	19.5	12.1	3500	420	300
	2.5	7 / 0.67	2.01			21.5			540	
	4	7 / 0.85	2.55			23.5			720	
12	1.5	7 / 0.53	1.59	0.7	1.8	20.5	12.1	3500	475	300
	2.5	7 / 0.67	2.01			22.0			610	
	4	7 / 0.85	2.55			24.0			830	
15	1.5	7 / 0.53	1.59	0.7	1.8	22.0	12.1	3500	560	300
	2.5	7 / 0.67	2.01			23.5			740	
	4	7 / 0.85	2.55			26.0			1000	
20	1.5	7 / 0.53	1.59	0.7	1.8	24.0	12.1	3500	710	300
	2.5	7 / 0.67	2.01		1.9	26.5			930	
	4	7 / 0.85	2.55			29.5			1285	
30	1.5	7 / 0.53	1.59	0.7	1.9	29.0	12.1	3500	1030	300
	2.5	7 / 0.67	2.01		2.0	32.0			1375	
	4	7 / 0.85	2.55		2.1	35.5			1900	

# 0.6/1kV 저독성 난연 제어용 케이블(0.6/1kV HF-CCO)

KS C IEC 60502-1  
대원표준

## 0.6/1kV XLPE Insulated Halogen Free Flame Retardant Poly-Olefin Sheathed Control Cables

발전소, 변전소 등의 정격전압 0.6/1kV 이하의 원격 제어용 회로에 적합한 케이블로서 PVC 피복 제어케이블에 비하여 난연 특성이 우수하고 저독성으로 독소가스가 발생 치 않는다.

This cable is designed for the purpose of using in remote control system in power plant and substation, having excellent flame retardant

### 구 조

1. 도 체 : 전기용 연동선 (단선, 원형 연선)
2. 절 연 체 : XLPE
3. 선심식별 : 착색, 색별 테이프

### Construction

1. Conductor : Annealed copper Wire  
(Solid, Concentric Circular)
2. Insulation : XLPE
3. Core Identification : Colouring Method  
Color Tape

선 심 수	색
2 심	흑, 백
3 심	흑, 백, 적
4 심	흑, 백, 적, 녹

No. of cores	Colour
2 cores	Black, White
3 cores	Black, White, Red,
4 cores	Black, White, Red, Green

\* 번호 표시에 의한 식별

4. 피 복 체 : 저독성 난연 폴리에틸렌

\* Numbering Method

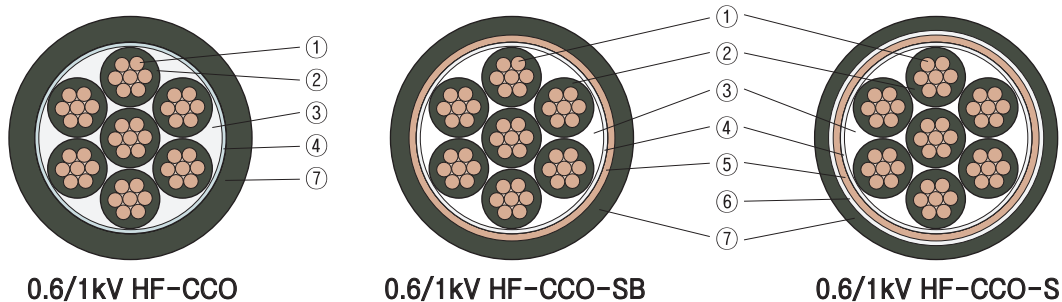
4. Sheath : Halogen free flame retardant  
Poly-olefin

### 종류 및 기호

종 류	기 호
0.6/1kV 저독성 난연 제어용 케이블	0.6/1kV HF-CCO
- 동테이프 차폐 케이블	0.6/1kV HF-CCO-S
- 연동선 편조 차폐 케이블	0.6/1kV HF-CCO-SB

### Class and Symbol

Class	Symbol
0.6/1kV XLPE insulated halogen free flame retardant poly-olefin sheathed control cables	0.6/1kV HF-CCO
- Copper Tape Shield	0.6/1kV HF-CCO-S
- Copper Wire Braided Shield	0.6/1kV HF-CCO-SB



- |           |  |
|-----------|--|
| ① 도 체     | ① Conductor                                |
| ② 절연체     | ② Insulation                               |
| ③ 개재물     | ③ Filler                                   |
| ④ 바인더 테이프 | ④ Binder Tape                              |
| ⑤ 차폐층     | ⑤ Shield (Copper Tape, Shield Braid)       |
| ⑥ 바인더 테이프 | ⑥ Binder Tape                              |
| ⑦ 피복체     | ⑦ Halogen free flame retardant Poly-olefin |

**■ 0.6/1kV HF-CCO**

Nominal of Cores	Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20℃ Ω/km	Test Voltage V/5min	Approx. Weight kg/km	Standard Length m
	Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
2	1.5	7/0.53	1.59	0.7	1.8	10.5	12.1	3500	110	300
	2.5	7/0.67	2.01	0.7		11	7.41		145	
	4	7/0.85	2.55	0.7		12.5	4.61		180	
	6	7/1.04	3.12	0.7		13.5	3.08		235	
	10	7/1.35	4.05	0.7		15.5	1.83		345	
3	1.5	7/0.53	1.59	0.7	1.8	11	12.1	3500	140	300
	2.5	7/0.67	2.01	0.7		11.5	7.41		175	
	4	7/0.85	2.55	0.7		13	4.61		230	
	6	7/1.04	3.12	0.7		14	3.08		305	
	10	7/1.35	4.05	0.7		16	1.83		450	
4	1.5	7/0.53	1.59	0.7	1.8	11.5	12.1	3500	165	300
	2.5	7/0.67	2.01	0.7		12.5	7.41		210	
	4	7/0.85	2.55	0.7		14	4.61		285	
	6	7/1.04	3.12	0.7		15.5	3.08		375	
	10	7/1.35	4.05	0.7		17.5	1.83		565	
5	1.5	7/0.53	1.59	0.7	1.8	12.5	12.1	3500	185	300
	2.5	7/0.67	2.01	0.7		13.5	7.41		240	
	4	7/0.85	2.55	0.7		15	4.61		330	
	6	7/1.04	3.12	0.7		16.5	3.08		460	
	10	7/1.35	4.05	0.7		19	1.83		680	
6	1.5	7/0.53	1.59	0.7	1.8	13.5	12.1	3500	210	300
	2.5	7/0.67	2.01	0.7		14.5	7.41		285	
	4	7/0.85	2.55	0.7		16.5	4.61		390	
	6	7/1.04	3.12	0.7		18	3.08		545	
	10	7/1.35	4.05	0.7		21	1.83		810	
7	1.5	7/0.53	1.59	0.7	1.8	13.5	12.1	3500	225	300
	2.5	7/0.67	2.01	0.7		14.5	7.41		315	
	4	7/0.85	2.55	0.7		16.5	4.61		440	
	6	7/1.04	3.12	0.7		18	3.08		585	
	10	7/1.35	4.05	0.7		21	1.83		890	
8	1.5	7/0.53	1.59	0.7	1.8	14.5	12.1	3500	255	300
	2.5	7/0.67	2.01	0.7		15.5	7.41		340	
	4	7/0.85	2.55	0.7		17.5	4.61		500	
	6	7/1.04	3.12	0.7		19.5	3.08		670	
	10	7/1.35	4.05	0.7		22.5	1.83		1010	
10	1.5	7/0.53	1.59	0.7	1.8	16.5	12.1	3500	315	300
	2.5	7/0.67	2.01	0.7		18	7.41		430	
	4	7/0.85	2.55	0.7		20.5	4.61		600	
	6	7/1.04	3.12	0.7		22.5	3.08		840	
	10	7/1.35	4.05	0.7		26.5	1.83		1280	
12	1.5	7/0.53	1.59	0.7	1.8	17	12.1	3500	360	300
	2.5	7/0.67	2.01	0.7		18.5	7.41		485	
	4	7/0.85	2.55	0.7		21	4.61		690	
	6	7/1.04	3.12	0.7		23.5	3.08		975	
	10	7/1.35	4.05	0.7		27	1.83		1500	
15	1.5	7/0.53	1.59	0.7	1.8	18	12.1	3500	425	300
	2.5	7/0.67	2.01	0.7		20	7.41		590	
	4	7/0.85	2.55	0.7		22.5	4.61		840	
	6	7/1.04	3.12	0.7		25	3.08		1180	
20	1.5	7/0.53	1.59	0.7	1.8	20	12.1	3500	530	300
	2.5	7/0.67	2.01	0.7		22	7.41		750	
	4	7/0.85	2.55	0.7		25	4.61		1080	
	6	7/1.04	3.12	0.7		28	3.08		1540	
25	1.5	7/0.53	1.59	0.7	1.8	22.5	12.1	3500	655	300
	2.5	7/0.67	2.01	0.7		25	7.41		920	
	4	7/0.85	2.55	0.7		28.5	4.61		1320	
30	1.5	7/0.53	1.59	0.7	1.8	24	12.1	3500	760	300
	2.5	7/0.67	2.01	0.7		26.5	7.41		1080	
	4	7/0.85	2.55	0.7		30	4.61		1560	
40	1.5	7/0.53	1.59	0.7	1.8	26.5	12.1	3500	970	300
	2.5	7/0.67	2.01	0.7		29.5	7.41		1380	
50	1.5	7/0.53	1.59	0.7	1.8	29	12.1	3500	1200	300
	2.5	7/0.67	2.01	0.7	1.9	33	7.41		1710	

**■ 0.6/1kV HF-CCO-S**

Nominal of Cores	Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20℃ Ω/km	Test Voltage V/5min	Approx. Weight kg/km	Standard Length m
	Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
2	1.5	7/0.53	1.59	0.7	1.8	10	12.1	3500	120	300
	2.5	7/0.67	2.01	0.7		11	7.41		155	
	4	7/0.85	2.55	0.7		12	4.61		195	
	6	7/1.04	3.12	0.7		13	3.08		250	
	10	7/1.35	4.05	0.7		15	1.83		355	
3	1.5	7/0.53	1.59	0.7	1.8	11	12.1	3500	145	300
	2.5	7/0.67	2.01	0.7		11.5	7.41		185	
	4	7/0.85	2.55	0.7		12.5	4.61		240	
	6	7/1.04	3.12	0.7		14	3.08		320	
	10	7/1.35	4.05	0.7		16	1.83		470	
4	1.5	7/0.53	1.59	0.7	1.8	11.5	12.1	3500	175	300
	2.5	7/0.67	2.01	0.7		12.5	7.41		225	
	4	7/0.85	2.55	0.7		14	4.61		300	
	6	7/1.04	3.12	0.7		15	3.08		390	
	10	7/1.35	4.05	0.7		17.5	1.83		580	
5	1.5	7/0.53	1.59	0.7	1.8	12.5	12.1	3500	195	300
	2.5	7/0.67	2.01	0.7		13.5	7.41		255	
	4	7/0.85	2.55	0.7		15	4.61		345	
	6	7/1.04	3.12	0.7		16.5	3.08		475	
	10	7/1.35	4.05	0.7		19	1.83		705	
6	1.5	7/0.53	1.59	0.7	1.8	13	12.1	3500	220	300
	2.5	7/0.67	2.01	0.7		14.5	7.41		315	
	4	7/0.85	2.55	0.7		16.5	4.61		410	
	6	7/1.04	3.12	0.7		18	3.08		565	
	10	7/1.35	4.05	0.7		21	1.83		840	
7	1.5	7/0.53	1.59	0.7	1.8	13	12.1	3500	240	300
	2.5	7/0.67	2.01	0.7		14.5	7.41		330	
	4	7/0.85	2.55	0.7		16.5	4.61		460	
	6	7/1.04	3.12	0.7		18	3.08		615	
	10	7/1.35	4.05	0.7		21	1.83		920	
8	1.5	7/0.53	1.59	0.7	1.8	14.5	12.1	3500	265	300
	2.5	7/0.67	2.01	0.7		15.5	7.41		375	
	4	7/0.85	2.55	0.7		17.5	4.61		520	
	6	7/1.04	3.12	0.7		19.5	3.08		695	
	10	7/1.35	4.05	0.7		22.5	1.83		1040	
10	1.5	7/0.53	1.59	0.7	1.8	16.5	12.1	3500	335	300
	2.5	7/0.67	2.01	0.7		18	7.41		445	
	4	7/0.85	2.55	0.7		20.5	4.61		625	
	6	7/1.04	3.12	0.7		22.5	3.08		870	
	10	7/1.35	4.05	0.7		26.5	1.83		1320	
12	1.5	7/0.53	1.59	0.7	1.8	16.5	12.1	3500	375	300
	2.5	7/0.67	2.01	0.7		18.5	7.41		510	
	4	7/0.85	2.55	0.7		21	4.61		715	
	6	7/1.04	3.12	0.7		23	3.08		1010	
	10	7/1.35	4.05	0.7		27	1.83		1540	
15	1.5	7/0.53	1.59	0.7	1.8	18	12.1	3500	450	300
	2.5	7/0.67	2.01	0.7		20	7.41		610	
	4	7/0.85	2.55	0.7		22.5	4.61		870	
	6	7/1.04	3.12	0.7		25	3.08		1220	
	10	7/1.35	4.05	0.7		28	3.08		1580	
20	1.5	7/0.53	1.59	0.7	1.8	22.5	12.1	3500	680	300
	2.5	7/0.67	2.01	0.7		25	7.41		950	
	4	7/0.85	2.55	0.7		28.5	4.61		1360	
	6	7/1.04	3.12	0.7		30	4.61		1600	
	10	7/1.35	4.05	0.7		32.5	7.41		1750	
25	1.5	7/0.53	1.59	0.7	1.8	23.5	12.1	3500	790	300
	2.5	7/0.67	2.01	0.7		26.5	7.41		1110	
	4	7/0.85	2.55	0.7		29.5	7.41		1540	
	6	7/1.04	3.12	0.7		32.5	7.41		1750	
	10	7/1.35	4.05	0.7		35	7.41		1950	
30	1.5	7/0.53	1.59	0.7	1.8	26.5	12.1	3500	1010	300
	2.5	7/0.67	2.01	0.7		29.5	7.41		1540	
	4	7/0.85	2.55	0.7		32.5	7.41		1750	
	6	7/1.04	3.12	0.7		35	7.41		1950	
	10	7/1.35	4.05	0.7		38	7.41		2150	
40	1.5	7/0.53	1.59	0.7	1.8	29	12.1	3500	1230	300
	2.5	7/0.67	2.01	0.7		32.5	7.41		1750	
	4	7/0.85	2.55	0.7		35	7.41		1950	
	6	7/1.04	3.12	0.7		38	7.41		2150	
	10	7/1.35	4.05	0.7		41	7.41		2350	
50	1.5	7/0.53	1.59	0.7	1.8	32.5	12.1	3500	1750	300
	2.5	7/0.67	2.01	0.7		35	7.41		1950	
	4	7/0.85	2.55	0.7		38	7.41		2150	
	6	7/1.04	3.12	0.7		41	7.41		2350	
	10	7/1.35	4.05	0.7		44	7.41		2550	

# 0.6/1kV HF-CCO-SB

Nominal of Cores	Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20℃ Ω/km	Test Voltage V/5min	Approx. Weight kg/km	Standard Length m
	Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
2	1.5	7/0.53	1.59	0.7	1.8	10.5	12.1	3500	130	300
	2.5	7/0.67	2.01	0.7		11	7.41		165	
	4	7/0.85	2.55	0.7		12.5	4.61		205	
	6	7/1.04	3.12	0.7		13.5	3.08		260	
	10	7/1.35	4.05	0.7		15.5	1.83		380	
3	1.5	7/0.53	1.59	0.7	1.8	11	12.1	3500	155	300
	2.5	7/0.67	2.01	0.7		11.5	7.41		190	
	4	7/0.85	2.55	0.7		13	4.61		255	
	6	7/1.04	3.12	0.7		14	3.08		340	
	10	7/1.35	4.05	0.7		16	1.83		490	
4	1.5	7/0.53	1.59	0.7	1.8	11.5	12.1	3500	185	300
	2.5	7/0.67	2.01	0.7		12.5	7.41		235	
	4	7/0.85	2.55	0.7		14	4.61		315	
	6	7/1.04	3.12	0.7		15.5	3.08		415	
	10	7/1.35	4.05	0.7		17.5	1.83		610	
5	1.5	7/0.53	1.59	0.7	1.8	12.5	12.1	3500	205	300
	2.5	7/0.67	2.01	0.7		13.5	7.41		270	
	4	7/0.85	2.55	0.7		15	4.61		370	
	6	7/1.04	3.12	0.7		16.5	3.08		500	
	10	7/1.35	4.05	0.7		19	1.83		730	
6	1.5	7/0.53	1.59	0.7	1.8	13.5	12.1	3500	240	300
	2.5	7/0.67	2.01	0.7		15	7.41		320	
	4	7/0.85	2.55	0.7		16.5	4.61		430	
	6	7/1.04	3.12	0.7		18	3.08		590	
	10	7/1.35	4.05	0.7		21	1.83		865	
7	1.5	7/0.53	1.59	0.7	1.8	15	12.1	3500	350	300
	2.5	7/0.67	2.01	0.7		15	7.41		350	
	4	7/0.85	2.55	0.7		16.5	4.61		480	
	6	7/1.04	3.12	0.7		18	3.08		640	
	10	7/1.35	4.05	0.7		21	1.83		955	
8	1.5	7/0.53	1.59	0.7	1.8	14.5	12.1	3500	290	300
	2.5	7/0.67	2.01	0.7		16	7.41		465	
	4	7/0.85	2.55	0.7		17.5	4.61		540	
	6	7/1.04	3.12	0.7		19.5	3.08		720	
	10	7/1.35	4.05	0.7		22.5	1.83		1090	
10	1.5	7/0.53	1.59	0.7	1.8	16.5	12.1	3500	355	300
	2.5	7/0.67	2.01	0.7		18.5	7.41		475	
	4	7/0.85	2.55	0.7		20.5	4.61		650	
	6	7/1.04	3.12	0.7		23	3.08		915	
	10	7/1.35	4.05	0.7		26.5	1.83		1380	
12	1.5	7/0.53	1.59	0.7	1.8	17	12.1	3500	405	300
	2.5	7/0.67	2.01	0.7		19	7.41		535	
	4	7/0.85	2.55	0.7		21	4.61		745	
	6	7/1.04	3.12	0.7		23.5	3.08		1060	
	10	7/1.35	4.05	0.7		27.5	1.83		1600	
15	1.5	7/0.53	1.59	0.7	1.8	18	12.1	3500	470	300
	2.5	7/0.67	2.01	0.7		20	7.41		640	
	4	7/0.85	2.55	0.7		22.5	4.61		910	
	6	7/1.04	3.12	0.7		25.5	3.08		1010	
	10	7/1.35	4.05	0.7		28.5	1.83		1430	
20	1.5	7/0.53	1.59	0.7	1.8	20	12.1	3500	580	300
	2.5	7/0.67	2.01	0.7		22.5	7.41		820	
	4	7/0.85	2.55	0.7		25	4.61		1160	
	6	7/1.04	3.12	0.7		28.5	3.08		1640	
	10	7/1.35	4.05	0.7		30	1.83		2250	
25	1.5	7/0.53	1.59	0.7	1.8	23	12.1	3500	725	300
	2.5	7/0.67	2.01	0.7		25.5	7.41		1010	
	4	7/0.85	2.55	0.7		28.5	4.61		1430	
	6	7/1.04	3.12	0.7		30	3.08		1720	
	10	7/1.35	4.05	0.7		33.5	1.83		2450	
30	1.5	7/0.53	1.59	0.7	1.8	24	12.1	3500	835	300
	2.5	7/0.67	2.01	0.7		27	7.41		1180	
	4	7/0.85	2.55	0.7		30.5	4.61		1640	
	6	7/1.04	3.12	0.7		33.5	3.08		2250	
	10	7/1.35	4.05	0.7		36.5	1.83		3050	
40	1.5	7/0.53	1.59	0.7	1.8	27	12.1	3500	1070	300
	2.5	7/0.67	2.01	0.7		30	7.41		1550	
	4	7/0.85	2.55	0.7		33.5	4.61		2150	
	6	7/1.04	3.12	0.7		36.5	3.08		2950	
	10	7/1.35	4.05	0.7		39.5	1.83		3950	
50	1.5	7/0.53	1.59	0.7	1.8	30	12.1	3500	1350	300
	2.5	7/0.67	2.01	0.7		33.5	7.41		1890	
	4	7/0.85	2.55	0.7		36.5	4.61		2650	
	6	7/1.04	3.12	0.7		39.5	3.08		3650	
	10	7/1.35	4.05	0.7		42.5	1.83		4950	

# 0.6/1kV 저독성난연전력용케이블(0.6/1kV HF-CO)

KS C IEC 60502-1

## 0.6/1kV XLPE Insulated Halogen Free Flame Retardant Poly-Olefin Sheathed Power Cable

0.6/1kV의전력회로에사용하며전기적, 물리적, 화학적특성  
이우수하며, PVC 피복전력케이블에비하여난연특성이우  
수하고저독성으로독소가스가발생치않는다.

This cable is designed for the purpose of using in  
power distribution line, having excellent low smoking  
nontoxic and flame retardant.

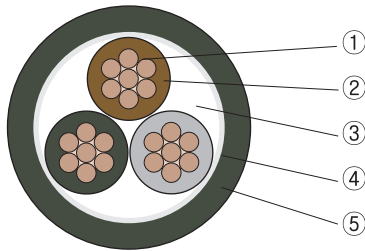
### 구 조

- 도 체 : 전기용연동선 (원형, 원형압축연선)
- 절 연 체 : XLPE
- 선심식별 : 착색또는색테이프

선심수	색
2 심	갈, 흑
3 심	갈, 흑, 회
4 심	갈, 흑, 회, 청

- 피 복 체 : 저독성난연폴리올레핀

※ 상기 색상은 기본 색상이며, 요청에 의해 변경 가능한.



### Construction

- Conductor : Annealed copper Wire (Concentric Circular, Compact Circular)
- Insulation : XLPE
- Core Identification : Colouring Method or Color Tape

No. of cores	Colour
2 cores	Brown, Black
3 cores	Brown, Black, Gray
4 cores	Brown, Black, Gray, Blue

- Sheath : Halogen free flame retardant  
Poly-olefin

※ Above colors are basic colors and can be changed upon request.

- |           |   |
|-----------|---|
| ① 도 체     | ① Conductor                                   |
| ② 절연체     | ② XLPE  |
| ③ 개재물     | ③ Filler                                      |
| ④ 바인더 테이프 | ④ Binder Tape                                 |
| ⑤ 피복체     | ⑤ Halogen free flame<br>retardant Poly-olefin |

### 단심Single Core

Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max. Condctor Resistance at 20℃ Ω/km	Test Voltage V/5min.	Approx. Weight kg/km	Standard Length m	
Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm								
1.5	7/0.53	1.59	0.7	1.4	6.0	12.1	3500	50	300	
2.5	7/0.67	2.01			6.4	7.41		60		
4	7/0.85	2.55			7.0	4.61		80		
6	7/1.04	3.12			7.5	3.08		100		
10	7/1.35	4.05			8.5	1.83		150		
16	C.C.	4.7			9.5	1.15		205		
25	C.C.	5.9	0.9	1.5	11	0.727		305		
35	C.C.	6.9			12	0.524		400		
50	C.C.	8.1			13.5	0.387		540		
70	C.C.	9.7	1.1		15	0.268		725		
95	C.C.	11.3			17	0.193		980		
120	C.C.	12.8	1.2		18.5	0.153		1220		
150	C.C.	14.4	1.4		1.6	21		0.124	1510	
185	C.C.	15.9	1.6			22.5		0.0991	1880	
240	C.C.	18.3	1.7			25.5		0.0754	2430	
300	C.C.	20.3	1.8		1.8	28		0.0601	3020	200
400	C.C.	23.1	2.0		1.9	31.5		0.0470	3890	
500	C.C.	26.5	2.2		2.0	35.5		0.0366	4910	150
630	C.C.	30.2	2.4		2.2	40		0.0283	6320	

※CC:원형 압축

## ■ 2심Two Core

Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20 °C Ω/km	Test Voltage V/5min.	Approx. Weight kg/km	Standard Length m
Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
1.5	7/0.53	1.59	0.7	1.8	10.5	12.1	3500	110	300
2.5	7/0.67	2.01			11	7.41		145	
4	7/0.85	2.55			12.5	4.61		180	
6	7/1.04	3.12			13.5	3.08		235	
10	7/1.35	4.05			15.5	1.83		345	
16	C.C.	4.7			16.5	1.15		465	
25	C.C.	5.9	0.9		20	0.727		690	
35	C.C.	6.9			22	0.524		890	
50	C.C.	8.1	1.0		24.5	0.387		1210	
70	C.C.	9.7	1.1		28	0.268		1630	
95	C.C.	11.3		1.9	32	0.193		2190	
120	C.C.	12.8	1.2	2.0	35.5	0.153		2730	200
150	C.C.	14.4	1.4	2.2	40	0.124		3390	
185	C.C.	15.9	1.6	2.3	44	0.0991		4230	
240	C.C.	18.3	1.7	2.5	49.5	0.0754		5450	
300	C.C.	20.3	1.8	2.6	54	0.0601		6680	

※CC:원형 압축

## ■ 3심Three Core

Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20°C Ω/km	Test Voltage V/5min.	Approx. Weight kg/km	Standard Length m
Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
1.5	7/0.53	1.59	0.7	1.8	11	12.1	3500	135	300
2.5	7/0.67	2.01			11.5	7.41		175	
4	7/0.85	2.55			13	4.61		230	
6	7/1.04	3.12			14	3.08		305	
10	7/1.35	4.05			16	1.83		440	
16	C.C.	4.7			17.5	1.15		620	
25	C.C.	5.9	0.9		21	0.727		945	
35	C.C.	6.9			23	0.524		1250	
50	C.C.	8.1	1.0		26	0.387		1690	
70	C.C.	9.7	1.1		1.9	30.5		0.268	
95	C.C.	11.3		2.0	34	0.193		3100	
120	C.C.	12.8	1.2	2.1	38	0.153		3870	200
150	C.C.	14.4	1.4	2.3	42.5	0.124		4790	
185	C.C.	15.9	1.6	2.4	47	0.0991		6000	
240	C.C.	18.3	1.7	2.6	53	0.0754		7740	
300	C.C.	20.3	1.8	2.7	58	0.0601		9540	

※CC:원형 압축

# ■ 4심Four Core

Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20°C Ω/km	Test Voltage V/5min.	Approx. Weight kg/km	Standard Length m
Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Outer Diameter mm							
1.5	7/0.53	1.59	0.7	1.8	11.5	12.1	3500	165	300
2.5	7/0.67	2.01			12.5	7.41		210	
4	7/0.85	2.55			14	4.61		285	
6	7/1.04	3.12			15.5	3.08		375	
10	7/1.35	4.05			17.5	1.83		555	
16	C.C.	4.7			19	1.15		790	
25	C.C.	5.9	0.9		23	0.727		1200	
35	C.C.	6.9			25.5	0.524		1600	
50	C.C.	8.1	1.0	1.9	29	0.387		2200	
70	C.C.	9.7	1.1	2	33.5	0.268		2990	
95	C.C.	11.3		2.1	38	0.193		4050	
120	C.C.	12.8	1.2	2.3	42.5	0.153		5040	
150	C.C.	14.4	1.4	2.4	47.5	0.124		6280	
185	C.C.	15.9	1.6	2.6	52.5	0.0991		7860	200
240	C.C.	18.3	1.7	2.8	59	0.0754		10140	
300	C.C.	20.3	1.8	3.0	65	0.0601		12610	

※CC:원형압축

## 6/10kV 저독성 난연 전력용 케이블(6/10kV HF-CO) KS C IEC 60502-2

### 6/10kV XLPE Insulated Halogen Free Flame Retardant Power Cable

6/10kV의 전력회로에 사용하며 전기적, 물리적, 비하여 난연 특성이 매우 우수하고 저독성으로 화학적 특성이 우수하며, PVC 피복 전력 케이블에 독소 가스가 발생치 않는다.

#### ■ 구 조

1. 도 체 : 전기용연동성(원형 압축)
  2. 절 연 체 : XLPE
  3. 선심식별 : 갈색, 흑색, 회색
  4. 차 폐 : 연동테이프
  5. 피 복 체 : 저독성 난연 폴리올레핀
- ※ 상기 색상은 기본 색상이며, 요청에 의해 변경 가능함.

#### ■ 종류 및 기호

종 류	기 호
6/10kV 저독성 난연 전력용 케이블	6/10kV HF-CO

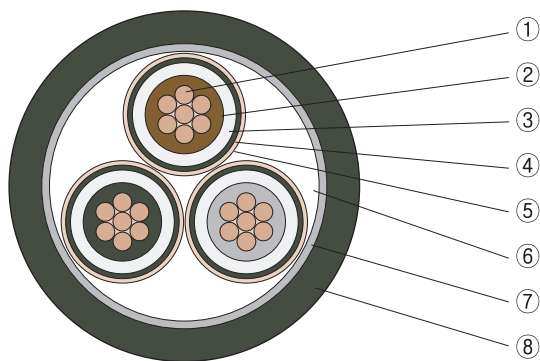
This cable is designed for the purpose of using in power distribution line, having excellent smoking nontoxic and flame retardant.

#### ■ Construction

1. Conductor : Annealed copper Wire  
(Compact Circular)
  2. Insulation : XLPE
  3. Core Identification : Brown, Black, Gray
  4. Shield : Copper Tape
  5. Sheath : Halogen free flame retardant polyolefin
- ※ Above colors are basic colors and can be changed upon request.

#### ■ Class and Symbols

Class	Symbols
6/10kV XLPE insulated halogen free flame retardant poly olefin sheathed power cables	6/10kV HF-CO



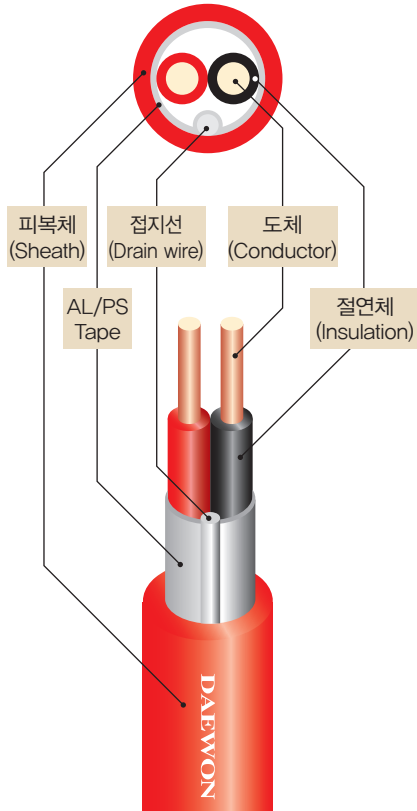
- |           |  |
|-----------|--|
| ① 도 체     | ① Conductor                                |
| ② 내부 반도체층 | ② Semi-Conductive layer                    |
| ③ 절연체     | ③ XLPE                                     |
| ④ 외부반도체층  | ④ Semi-Conductive layer                    |
| ⑤ 연동 테이프  | ⑤ Copper Tape                              |
| ⑥ 개재물     | ⑥ Filler                                   |
| ⑦ 바인더 테이프 | ⑦ Binder Tape                              |
| ⑧ 피복체     | ⑧ Halogen free flame retardant Poly-olefin |

**■ 6/10kV HF-CO**

Number of Cores	Conductor			Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Apporx. Overall Diameter mm	Max. Conductor Resistance at 20°C Ω/km	Test Voltage KV/5min.	Approx. Weight kg/km	Standard Length m
	Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Apporx. Outer Diameter mm							
Single	16	C.C.	4.7	3.4	1.5	18.5	1.150	21	430	300
	25	C.C.	5.9	3.4	1.5	19.5	0.727	21	545	
	35	C.C.	6.9	3.4	1.6	20.5	0.524	21	660	
	50	C.C.	8.1	3.4	1.6	22	0.387	21	825	
	70	C.C.	9.7	3.4	1.7	23.5	0.268	21	1030	
	95	C.C.	11.3	3.4	1.7	25.5	0.193	21	1310	
	120	C.C.	12.8	3.4	1.8	27	0.153	21	1580	
	150	C.C.	14.4	3.4	1.8	28.5	0.124	21	1870	
	185	C.C.	15.9	3.4	1.9	30	0.0991	21	2250	
	240	C.C.	18.3	3.4	2.0	33	0.0754	21	2850	
	300	C.C.	20.3	3.4	2.0	35	0.0601	21	3340	
	400	C.C.	23.1	3.4	2.2	38.5	0.0470	21	4390	
	500	C.C.	26.5	3.4	2.2	42.5	0.0366	21	5390	
	630	C.C.	30.2	3.4	2.3	46	0.0283	21	6810	
3	16	C.C.	4.7	3.4	2.1	36	1.150	21	1440	300
	25	C.C.	5.9	3.4	2.2	39	0.727	21	1820	
	35	C.C.	6.9	3.4	2.3	41	0.524	21	2210	
	50	C.C.	8.1	3.4	2.4	44	0.387	21	2720	
	70	C.C.	9.7	3.4	2.5	47.5	0.268	21	3390	
	95	C.C.	11.3	3.4	2.6	51	0.193	21	4340	
	120	C.C.	12.8	3.4	2.7	54.5	0.153	21	5150	
	150	C.C.	14.4	3.4	2.8	58.5	0.124	21	6120	
	185	C.C.	15.9	3.4	2.9	61.5	0.0991	21	7320	
	240	C.C.	18.3	3.4	3.1	67.5	0.0754	21	9260	
	300	C.C.	20.3	3.4	3.3	72.5	0.0601	21	11200	

## UL Style No. 2095(-AMS)

### 컴퓨터 케이블(Computer Cable) – Pair Type



#### 제품의 용도

- 전기 전자기기의 신호 전송용
- 소방용 알람 및 신호 전송용

#### 제품의 특성

- 케이블 정격 : (UL) 300V 80°C  
(CSA) 300V 80°C
- 적용규격 : UL Subject 758  
CSA C22.2
- 난연성 : (UL) VW-1  
(CSA) FT1

#### 표준조장

- 300m

#### Application

- A signal transmission of electronic computer and electric equipment, Fire alarm and signal transmission.

#### Characteristics of Product

- Cable rating : (UL) 300V 80°C  
(CSA) 300V 80°C
- Standard : UL Subject 758  
CSA C22.2
- Flame retardant : (UL) VW-1  
(CSA) FT1

#### Unit length

- 300m

### 인쇄 (Marking)

DAEWON E331577  AWM 2095(-AMS) 80°C 300V VW-1 \*\*AWG x \*PR RoHS

페어수 No. of Pair	도체 (Conductor)		절연체 (Insulation)		차폐 Tape	접지선 Drain wire	피복체 (Sheath)	
	규격 AWG	구성 Construction (mm)	두께 Thickness (mm)	외경 Diameter (mm)			두께 Thickness (mm)	외경 Diameter (mm)
1	18	1.02 A	0.4	1.8	AL/PS Tape	22AWG (17/0.16 TA)	0.8	5.3
2	18	1.02 A	0.4	1.8			1.2	8.6
1	16	1.29 A	0.4	2.1			1.0	6.3
2	16	1.29 A	0.4	2.1			1.3	9.7
1	14	1.63 A (41/0.254 TA)	0.8	3.2			1.2	9.0

※ Construction of conductor may be change by purchaser's requirement

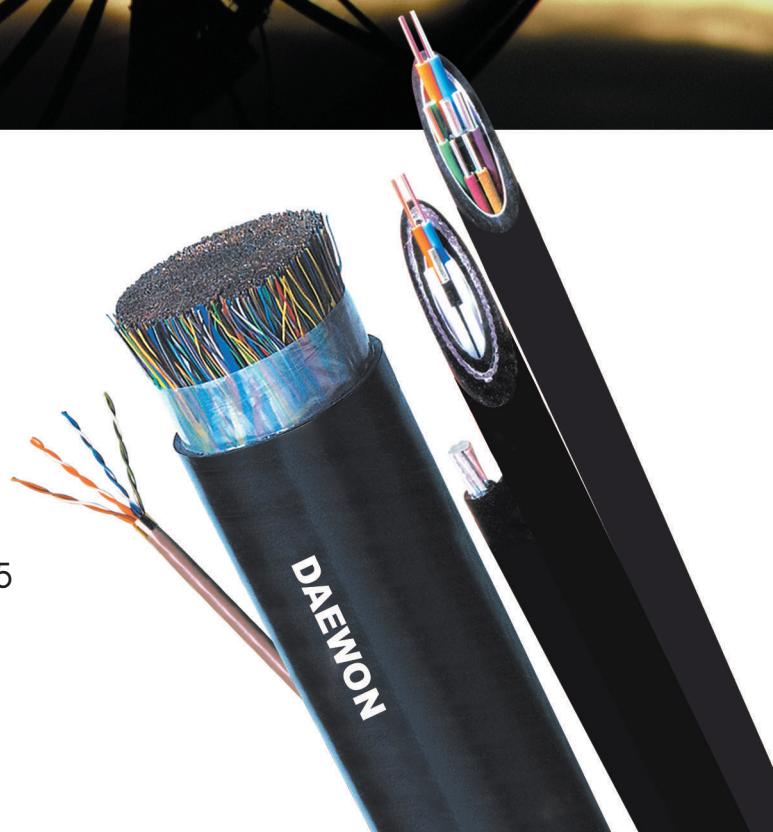
※ Option : Filler

# 통신용 케이블

## Data & Tele-Communication Cable

DAEWON CABLE

- 폴리에틸렌 절연 비닐피복 시내 쌍 케이블
- 시내케이블(JF F/S)
- CATV용 고발포 동축 케이블
- Unshielded Twisted Pair Category 3
- Unshielded Twisted Pair Category 5
- Unshielded Twisted Pair Enhanced Category 5
- Unshielded Twisted Pair Category 6
- 비닐절연 옥내전화선



## 폴리에틸렌 절연 비닐피복 시내 쌍 케이블

KS C 3603

## Polyethylene Insulated PolyvinylChloride Sheathed Pair Cable for Telephone

비교적 단거리 통신용으로 사용하는 폴리에틸렌 절연 염화비닐수지를 피복한 시내 쌍 케이블이다.

### 구 조

1. 도 체 : 전기용 연동선 0.5mm, 0.65mm, 0.9mm
2. 절 연 체 : HDPE
3. 쌍 의 종 류 :

쌍의 종류	색깔	비고
제1종쌍	적색-백색	백색은 백색
제2종쌍	청색-백색	또는 자연색

4. 심의 구성 : 트레이서로 제2종쌍, 나머지 제1종쌍
5. 차 폐 층 : 0.2mm 알루미늄테프 황권  
선심9mm이하는 0.4mm석도 연동선을  
접지선으로 하고 0.07mm 알루미늄테프 황권
6. 피 복 체 : PVC 흑색

### 종류 및 기호

종 류	기 호
PE절연 PVC피복 시내쌍케이블	CPEV

This cable is used distribution or junction network in exchange area and usually underground(duct) application.

### Construction

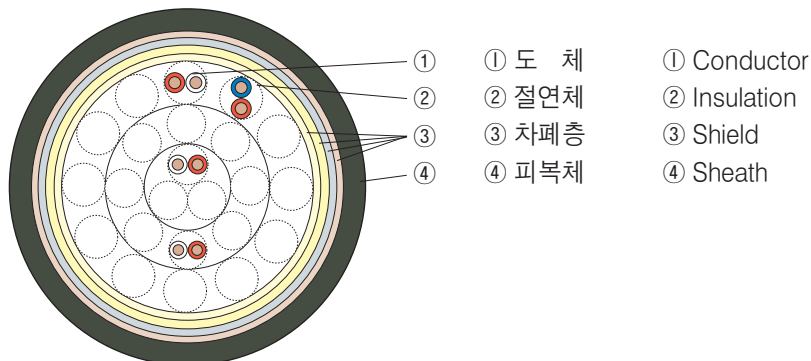
1. Conductor : Solid annealed copper. The conductor sizes are 0.5mm, 0.65mm, 0.9mm
2. Insulation : Insulation of Solid polyethylene
3. Color Scheme : Insulation Extruded PE, Uniformly Colored in accordance with the following table.

Type of Pair	Color of Insulation
Tracer of Pair	Blue-White
Ordinary pair	Red - White

4. Shield : A single aluminium tape (0.2mm thickness of aluminium) is applied over the core covering with an overlap.
5. Sheath : The cable core is enclose by an extruded Black PVC.

### Class and Symbols

Class	Symbols
PE Insulation, PVC Sheath Telephone Cable	CPEV



### ■ Lay-up of pairs within cable

Number of pairs In cable	Number of pairs in each layer							
	Center	1st	2nd	3rd	4th	5th	6th	7th
3	3	-	-	-	-	-	-	-
5	-	5	-	-	-	-	-	-
7	1	6	-	-	-	-	-	-
10	2	8	-	-	-	-	-	-
15	4	11	-	-	-	-	-	-
20	2	6	12	-	-	-	-	-
25	3	8	14	-	-	-	-	-
30	4	10	16	-	-	-	-	-
50	4	10	15	21	-	-	-	-
75	3	9	15	21	27	-	-	-
100	2	8	14	20	25	31	-	-
150	4	10	16	21	27	33	39	-
200	4	10	16	22	28	34	40	46

### ■ 상호정전용량 (심선상호간)

Insulation Resistance Mutual Capacitance at 1kHz		Min. 1000MΩ-km	
		Max. 60nF/km	
Dielectric Strength	Conductor to Conductor	0.5mm	AC. 500V/min
		0.65mm	AC. 500V/min
		0.9mm	AC. 700V/min

■ CPEV

Conductor Diameter (mm)	Number of pairs in cable	Normal sheath thickness (mm)	Approximate diameter of cable (mm)	Standard Length (m)
0.5	3	1.5	8	1000
	5	1.5	10	1000
	7	1.5	11	1000
	10	1.5	12	1000
	15	1.5	13	1000
	20	1.5	14	1000
	25	1.5	15	1000
	30	1.5	16	1000
	50	1.5	20	1000
	75	1.6	23	1000
	100	1.7	26	1000
	150	2.0	32	500
	200	2.0	36	500
0.65	3	1.5	9	1000
	5	1.5	11	1000
	7	1.5	12	1000
	10	1.5	13	1000
	15	1.5	14	1000
	20	1.5	16	1000
	25	1.5	17	1000
	30	1.5	19	1000
	50	1.6	23	1000
	75	1.8	26	1000
	100	1.9	30	1000
	150	2.2	37	500
	200	2.2	41	500
0.9	3	1.5	11	1000
	5	1.5	12	1000
	7	1.5	14	1000
	10	1.5	15	1000
	15	1.5	18	1000
	20	1.5	20	1000
	25	1.6	22	1000
	30	1.6	24	1000
	50	1.8	29	1000
	75	2.1	35	1000
	100	2.2	40	1000
	150	2.6	49	500
	200	2.7	56	500

## 시내케이블(JF F/S)

## KT 사양서 (T41001 00 02)

### Foam Skin Polyethylene Insulated, Jelly Filled And Moisture Barrier Sheathed Cables

전송로에 사용하는 발포 폴리에틸렌 절연 젤리충진 폴리에틸렌 피복한 시내 쌍 케이블이다.

#### 구 조

1. 도 체 : 전기용 연동선 0.4mm, 0.5mm, 0.65mm, 0.9mm
2. 절 연 체 : FOAM SKIN HDPE
3. 쌍 의 종 류 : 표1 참조
4. 심 의 구 성 : 표3 참조
5. 젤 리 충 진 : 습기침투방지
6. 차 폐 층 : 0.3mm 알루미늄 PE코팅 테프 종권
7. 피 복 체 : LDPE 흑색

#### 종류 및 기호

종 류	기 호
FOAM-SKIN 절연 LAP피복 시내쌍케이블	FSJFLAP

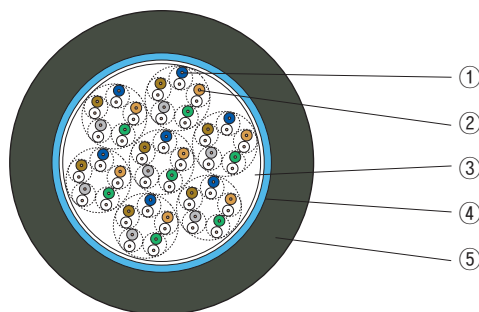
This cable is used for distribution or junction network in exchange area and usually direct burial or underground(duct) application.

#### Construction

1. Conductor : Solid annealed copper. The conductor sizes are 0.4mm, 0.5mm, 0.65mm, 0.9mm
2. Insulation : Dual insulation of foam polyethylene covered with a skin of HDPE.
3. Color Coding : Full color coding
4. Cable Formation : Twisted pairs are assembled to form a substantially cylindrical group of 25 pairs (called unit)
5. Filling Compound : The water resistant filling compound is applied to the air space within the cable core.
6. Shield : A single aluminium tape (0.2mm thickness of aluminium) coated on both sides with plastic is applied longitudinally over the core covering with an overlap.
7. Sheath : The cable core is enclosed by an extruded black low density polyethylene.

#### Class and Symbols

Class	Symbol
Foam Skin Polyethylene Insulated, Jelly Filled and Moisture Barrier Sheathed Cables	FSJFLAP



- |        |              |
|--------|--------------|
| ① 도체   | ① Conductor  |
| ② 절연체  | ② Insulation |
| ③ 젤리충진 | ③ JELLY      |
| ④ LAP  | ④ LAP        |
| ⑤ 피복체  | ⑤ Sheath     |

### ■ 쌍의 색별 구성표(표1)

쌍번호	1번심 (팁)	2번심 (링)	쌍번호	1번심 (팁)	2번심 (링)
1	백	청	14	흑	갈
2	백	등	15	흑	회
3	백	녹	16	황	청
4	백	갈	17	황	등
5	백	회	18	황	녹
6	적	청	19	황	갈
7	적	등	20	황	회
8	적	녹	21	자	청
9	적	갈	22	자	등
10	적	회	23	자	녹
11	흑	청	24	자	갈
12	흑	등	25	자	회
13	흑	녹	S	백	적

### ■ 유닛 바인더 색상(표2)

유닛번호	바인더 색상
1	청
2	등
3	녹
4	갈(백)

※ 유닛 번호는 반복 연속적으로 증가시킨다.  
( ) 색상은 예비심선을 포함한 경우의 색상임.

### ■ 유닛 바인더 색상(표3)

유닛번호	바인더 색상
1	녹 - 황
2	적 - 황
3	청 - 황
4	녹 - 흑
5	적 - 흑
6	청 - 흑

※ 그룹은 6가지 색으로 구분하여 감고 케이블심 구성은 기준을 중심으로 대칭되도록 구성한다.

### ■ Color Scheme for 25 pair Units

Pair No	Tip	Ring	Pair No	Tip	Ring
1	White	Blue	14	Black	Brown
2	White	Orange	15	Black	Grey
3	White	Green	16	Yellow	Blue
4	White	Blown	17	Yellow	Orange
5	White	Grey	18	Yellow	Green
6	Red	Blue	19	Yellow	Brown
7	Red	Orange	20	Yellow	Grey
8	Red	Green	21	Violet	Blue
9	Red	Blown	22	Violet	Orange
10	Red	Grey	23	Violet	Green
11	Black	Blue	24	Violet	Brown
12	Black	Orange	25	Violet	Grey
13	Black	Green			

### ■ Unit Identification on Super-Unit Group

Unit 50P	Color of Unit Binder
12	Blue(BL)
13	Orange(O)
12	Green(G)
13	Brown(BR)

Unit		Color of Unit Binder
51P	101P	
12	25	Blue(BL)
13	25	Orange(O)
12	25	Green(G)
13	26	White(W)

### ■ Super-Unit Group Identification

No.	Color of Group Binder	
	Last Layer	Inner Layer
1	Green-Yellow(G-Y)	Green-Black(G-BK)
2	Red-Yellow(R-Y)	Red-Black(R-BK)
3	Blue-Yellow(BL-Y)	Blue-Black(BL-BK)

### ■ 시내 케이블(JF/FS)

Conductor Diameter mm	No. of pairs	Cable Core Dia. mm	LAP SHEATH		
			Sheath Thickness mm	External diameter approx mm	Length mm
0.4	12	6	1.7	11	1000
	15	7	1.7	12	1000
	25	8	1.7	13	1000
	50	11	1.7	16	1000
	100	15	1.7	20	1000
	200	21	2.3	27	1000
	300	25	2.3	31	500
	400	29	2.4	35	500
	600	35	2.5	41	500
	900	43	2.5	49	250
	1200	49	2.5	56	250
	1500	55	2.7	62	250
	1800	60	2.8	68	250
	2100	65	3.0	73	250
	2400	69	3.1	77	250
	2700	73	3.2	81	250
	3000	78	3.2	84	250
0.5	5	5	1.7	10	1000
	6	5	1.7	10	1000
	10	7	1.7	12	1000
	12	7	1.7	12	1000
	15	8	1.7	13	1000
	25	10	1.7	15	1000
	50	13	1.7	18	1000
	100	19	1.9	24	1000

■ 시내 케이블(JF/FS)

Conductor Diameter mm	No. of pairs	Cable Core Dia. mm	LAP SHEATH		
			Sheath Thickness mm	External diameter approx mm	Length mm
0.5	600	45	2.5	52	250
	900	53	2.7	60	250
	1200	61	2.9	68	250
	1500	69	3.1	77	250
	1800	75	3.2	83	250
0.65	3	5	1.7	10	1000
	6	7	1.7	12	1000
	12	9	1.7	14	1000
	15	10	1.7	16	1000
	25	13	1.7	17	1000
	50	17	1.9	22	1000
	100	24	2.0	30	1000
	200	34	2.2	40	500
	300	42	2.4	49	500
	400	46	2.5	53	250
	600	56	2.8	63	250
	900	68	3.0	76	250
	1200	78	3.2	85	250
0.9	5	9	1.7	14	1000
	10	12	1.7	17	1000
	15	13	1.7	17	1000
	25	17	1.9	22	1000
	50	23	2.0	29	1000
	100	33	2.3	39	500
	200	47	2.5	54	250
	300	58	2.8	65	250
	400	67	3.0	75	250
	600	81	3.2	89	250

# CATV용 고발포 동축 케이블

## COAXIAL CABLE FOR CATV

정보통신부 인증(형식승인)

유선방송용 전송기자재에 사용한다.

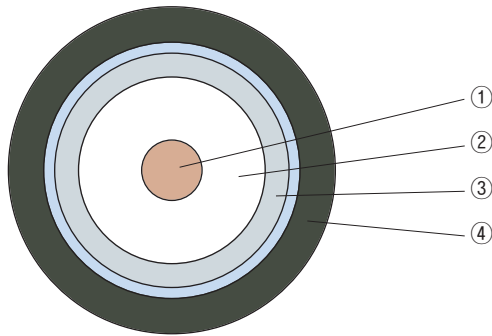
This cable is used for CATV and satellite broadcasting.

### ■ 구 조

1. 도 체 : 연동선
2. 절 연 체 : 고발포 폴리에틸렌
3. 외 부 도 체 : 알루미늄박 테이프 + 알루미늄 합금선 편조 + 알루미늄 합금선 테이프(HFBT한함)
4. 피 복 체 : P.V.C(흑색, 백색)

### ■ Construction

1. Conductor : Annealed copper conductor
2. Insulation : High foamed PE
3. Outer conductor : Al coated polyester tape and Aluminium Alloy Braid and Al coated polyester tape(HFBT only)
4. Sheath : P.V.C



- |        |                   |
|--------|-------------------|
| ① 도체   | ① Conductor       |
| ② 절연체  | ② Insulation      |
| ③ 외부도체 | ③ Outer Conductor |
| ④ 피복체  | ④ Sheath          |

Item 품명	Inner Conductor			InsulOuter 절연외경 (약) Outer Dia. mm	Outer Conductor				Outer Dia. 완성외경 (약) - mm	Weight 정미중량 (약) kg-mm
	도체구성 Construction NO/mm	도체경 Outer Dia. mm	절연두께 Thickness mm		알루미늄박 (약) AL Tape mm	알미늄편조 (약) AL Alloy Braid mm	알루미늄박 (약) AL Tape mm	Sheath 피복두께 Thickness mm		
5C-HFB	1/1.2	1.2	1.9	5.0	0.05	0.16×5×16	-	0.95	7.7	65
7C-HFB	1/1.8	1.8	2.75	7.3	0.05	0.16×5×16	-	1.00	10.2	120
10C-HFB	1/2.4	2.4	3.5	9.4	0.05	0.16×9×16	-	1.30	12.9	165
5C-HFBT	1/1.2	1.2	1.9	5.0	0.05	0.16×5×16	0.05	0.95	7.7	66
7C-HFBT	1/1.8	1.8	2.75	7.3	0.05	0.16×5×16	0.05	1.00	10.2	122
10C-HFBT	1/2.4	2.4	3.5	9.4	0.05	0.16×9×16	0.05	1.30	12.9	175

### ■ 전기적 특성(Electrical Characteristics)

Item 품명	Characteristic Impedance Ω	Nominal Capacitance pF/m	VSWR 정재파비	Leakage Electronic Wave 누설전자파 μV/m			Max.Attenuation 감쇠량 dB			
				54MHz	54~216MHz	216~MHz	50MHz	250MHz	450MHz	750MHz
5C	75±3	52±3	1.2 ↓	15 ↓	20 ↓	15 ↓	47.2 ↓	98.9 ↓	137.0 ↓	185.0 ↓
7C	75±3	52±3	1.2 ↓	15 ↓	20 ↓	15 ↓	30.7 ↓	71.0 ↓	95.9 ↓	124.3 ↓
10C	75±3	52±3	1.2 ↓	15 ↓	20 ↓	15 ↓	25.4 ↓	54.0 ↓	73.4 ↓	96.2 ↓

# Unshielded Twisted Pair Category 3

KS C 3342

## CM, CMR

### ■ 적용규격

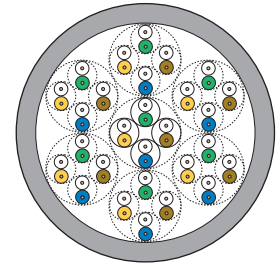
- ANSI/EIA/TIA 568B
- ISO/IEC-11801
- UL 444, 444(13)
- UL 1581(CM), UL 1666(CMR)
- ⓂKS C 3342

### ■ 사용용도

- 옥내 수평 및 간선 배선망 (16MHz)
- 100 Base T4
- IEEE 802.3
- IEEE 802.5
- 4 Mbps Token Ring
- IBM 3270 etc.

### ■ 구 조

1. 도 체 : 연동선 0.511 (AWG24)
2. 절 연 체 : HDPE
3. 쉬 스 : FR-PVC



구분 Pair	절연외경 Insulation Dia. mm	외경 Cable Dia. mm	중량 Weight kg/km	포장 Packing
25	0.89	11.5	143	Reel
50	0.89	15.0	275	Reel
75	0.89	18.0	440	Reel
100	0.89	21.0	525	Reel
200	0.89	28.7	1,020	Reel
300	0.89	31.7	1,470	Reel
400	0.89	41.0	1,900	Reel
600	0.89	46.0	2,600	Reel

### ■ 전기적 특성

- DC Resistance [Ohms/100m] Max. 9.38
- Resistance Unbalance [%] Max. 5
- Mutual Capacitance [nF/100m] Max. 6.5
- Capacitance Unbalance to ground [pF/100m] Max. 330

주파수 Frequency MHz	특성임피던스 Impedance $\Omega$	감쇄량 Attenuation Max. dB/100m	근단누화 NEXT Min. dB $\geq$ 100m	SRL Min. dB
0.772	-	2.2	43	-
1	100 $\pm$ 15	2.6	41	12
4	100 $\pm$ 15	5.6	32	12
8	100 $\pm$ 15	8.5	28	12
10	100 $\pm$ 15	9.8	26	12
16	100 $\pm$ 15	13.1	23	12

# Unshielded Twisted Pair Category 5

KS C 3342

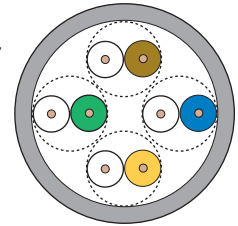
## CM, CMR, CMP

### ■ 적용규격

- ANSI/EIA/TIA 568B
- ISO/IEC-11801
- UL 444, 444(13)
- UL 1581(CM), UL -1666(CMR), UL910(CMP)
- ☞KS C 3342

### ■ 사용용도

- 옥내 수평 및 간선 배선망 (100MHz)
- 155 Mbps ATM PMD
- IEEE 802.3
- IEEE 802.5
- 16 Mbps Token Ring
- 100 Bass-VG, -T4, -X etc.



### ■ 구 조

종류 Item	도체 Conductor	절연 Insulation	피복 Sheath
CM, CMR	연동선 0.511(AWG24)	HDPE	FR-PVC
CMP	연동선 0.511(AWG24)	TEFLON	LS-PVC

종류 Item	구분 Pair	절연외경 Insulation Dia. mm	외경 Cable Dia. mm	중량 Weight kg/300m	포장 Packing
CM, CMR	4	0.90	5.0	10	Box
CMP	4	0.88	5.0	10	Box

### ■ 전기적 특성

- DC Resistance [Ohms/100m] Max. 9.38
- Resistance Unbalance [%] Max. 5
- Mutual Capacitance [nF/100m] Max. 5.5
- Capacitance Unbalance to ground [pF/100m] Max. 330

주파수 Frequency MHz	특성임피던스 Impedance Ω	감쇄량 Attenuation Max. dB/100m	근단누화 NEXT Min. dB ≥ 100m	SRL Min. dB
0.772	-	1.8	64.0	-
1	100 ± 15	2.0	62.0	23
4	100 ± 15	4.1	53.0	23
8	100 ± 15	5.8	48.0	23
10	100 ± 15	6.5	47.0	23
16	100 ± 15	8.2	44.0	23
20	100 ± 15	9.3	42.0	23
25	100 ± 15	10.4	41.0	22
31.25	100 ± 15	11.7	39.0	21
62.5	100 ± 15	17.0	35.0	18
100	100 ± 15	22.0	32.0	16

# Unshielded Twisted Pair Enhanced Category 5

KS C 3342

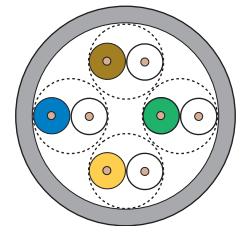
## CM, CMR, CMP

### ■ 적용규격

- ANSI/EIA/TIA 568B
- UL 444, 444(13)
- UL 1581(CM), UL 1666(CMR), UL 910(CMP)
- ☞KS C 3342

### ■ 사용용도

- 옥내 수평 및 간선 배선망 (100MHz)
- 155 Mbps ATM PMD
- IEEE 802.3
- IEEE 802.5
- 16 Mbps Token Ring
- 100 Bass-VG, -T4, -X etc.



### ■ 구 조

종류 Item	도체 Conductor	절연 Insulation	피복 Sheath
CM, CMR	연동선 0.518(AWG24)	HDPE	FR-PVC
CMP	연동선 0.518(AWG24)	TEFLON	LS-PVC

종류 Item	구분 Pair	절연외경 Insulation Dia. mm	외경 Cable Dia. mm	중량 Weight kg/300m	포장 Packing
CM, CMR	4	0.90	5.0	10	Box
CMP	4	0.88	5.0	10	Box

### ■ 전기적 특성

- DC Resistance [Ohms/100m] Max. 9.38
- Resistance Unbalance [%] Max. 5
- Mutual Capacitance [nF/100m] Max. 5.5
- Capacitance Unbalance to ground [pF/100m] Max. 330

주파수 Frequency MHz	특성임피던스 Impedance Ω	감쇄량 Attenuation Max.dB/100m	NEXT Min.dB ≥ 100m	Power Sum NEXT Min.dB ≥ 100m	ACR Min.dB	ELFEXT Min.dB/ 100m	Power Sum ELFEXT Min.dB/100m
0.772	-	1.8	67.0	64.0	65.2	66.0	63.0
1	100±15	2.0	65.3	62.3	63.2	63.8	60.8
4	100±15	4.1	56.3	53.3	52.2	51.7	48.7
8	100±15	5.8	51.8	48.8	46.0	45.7	42.7
10	100±15	6.5	50.3	47.3	43.8	43.8	40.8
16	100±15	8.2	47.3	44.3	39.1	39.7	36.7
20	100±15	9.3	45.3	42.8	36.5	37.7	34.7
25	100±15	10.4	44.8	41.3	33.9	35.8	32.8
31.25	100±15	11.7	42.9	39.9	31.2	33.9	30.9
62.5	100±15	17.0	38.4	35.4	21.4	27.8	24.8
100	100±15	22.0	35.3	32.3	13.3	23.8	20.8

# UL2464(UL STYLE NO. 2464)

PVC 자켓 케이블(AME-SB 코어타입)

## CSA Type AWM

300V 이하의 전자적 장비의 내/외부 연결용에 사용하는 주석도금 도체, 알루미늄-마일러 테이프 차폐, 편조차폐한 케이블이다.

### ■ 제품의 용도

- 전자적 장비의 외부 또는 내부 연결용으로 사용  
(사무용 계산기, 탐지기 또는 X-ray 장비 등에 쓰임)

### ■ 제품의 특징

- 정격 : (UL) 300V, 80℃  
(CSA) 300V, 80℃
- 절연선심 : UL Style 1061 및 1007 Type 사용
- 유연성과 전기적 특성이 우수함.
- 난연성 : VW-1, FT1 만족함.
- 적용규격 : UL Subject 758, 1581  
CSA C22.2 No.210
- 제품인증 : Underwriters Laboratories Inc.(R)

### ■ Application of Product

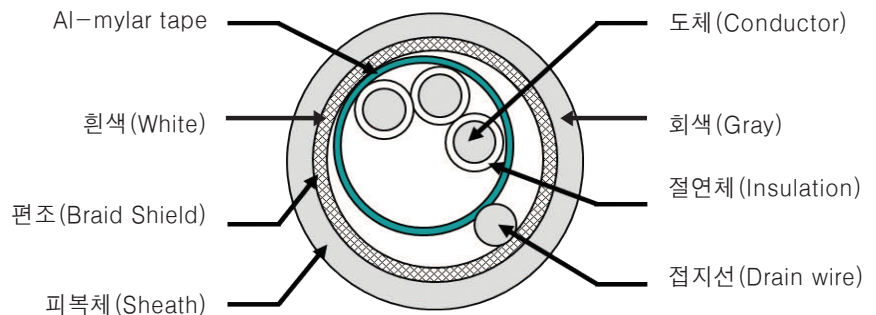
- Internal wiring of external interconnection of electronic equipment.(Such as desk-type calculators, dictating machines, or X-ray equipment.)

### ■ Characteristics of Product

- Rating : (UL) 300V, 80℃  
(CSA) 300V, 80℃
- Flammability : VW-1, FT1 Satisfaction
- Standard : UL Subject 758, 1581  
CSA C22.2 No.210
- Cerification : ⓈUnderwriters Laboratories Inc.(R)

### ■ 구조 및 구성(Construction & Formation)

- 도 체 : 주석도금 연동연선
- 절 연 체 : PVC
- 차 폐 : 알루미늄-마일러 테이프 차폐
- 편 조 : 주석도금 편조(편조밀도 70%, 85%)
- 피 복 체 : PVC
- 최고 허용온도 : 80℃
- 표준조장 : 300m, 500m



### ■ 표면인쇄(Identification Marking) : DAEWON E150633 AWM 2464 80℃ 300V VW-1 24AWG

도체 Conductor			절연체 Insulation		편조체 Shield			시스체 Sheeth	
규격 AWG Size	선심수 No. Of Cores	구성 Construction (mm)	재질 Material	두께 Thickness (mm)	재질 Material	편조율 Braid coverage in percent(%)	접지선 재질 Drain Wire Material	재질 Material	두께 Thickness (mm)
28	2~50	7/0.127	Heat Resisart PVC	0.42	AL/ps Tape	Min. 70	Tin-coated Copper Stranded wire	Extruded PVC	0.8~2.0
26		7/0.160							
24		7/0.203							
22		11/0.160							
20		17/0.160							
18		21/0.180							
16		16/0.254							
28	2~50	7/0.127	Semi-Rigid PVC	0.25	AL/ps Tape	Min. 70	Tin-coated Copper Stranded wire	Extruded PVC	0.8~2.0
26		7/0.160							
24		7/0.203							
22		11/0.160							
20		17/0.160							
18		21/0.180							
16		16/0.254							

# UL2919(UL STYLE NO. 2919)

저압용 컴퓨터 케이블(EIA RS-422/485Type)

## CSA Type AWM

30V 이하의 전기, 전자기기의 신호 전송용 또는 전자적 컴퓨터와 전기장치의 회로안의 외부연결용에 사용하는 주석도금 연동연선, 알루미늄-마일러 테이프 차폐, 편조차폐한 케이블이다

### ■ 제품의 용도

- 전기, 전자기기의 신호 전송용
- 전자적 컴퓨터와 전기장치의 Class 2 회로 안의 외부 연결용
- VTR, TV, 스테레오 수신기 등의 리모콘 제어용
- VTR 카메라와 뷰파인더, 오디오, 비디오 장비의 연결용

### ■ 제품의 특징

- 정격 : (UL) 30V, 80℃  
(CSA) 30V, 80℃
- 유연성이 매우 우수함.
- 난연성 : VW-1, FT1 만족함.
- 적용규격 : UL Subject 758, 1581
- 제품인증 : Underwriters Laboratories Inc.(R)

### ■ 구조 및 구성(Construction & Formation)

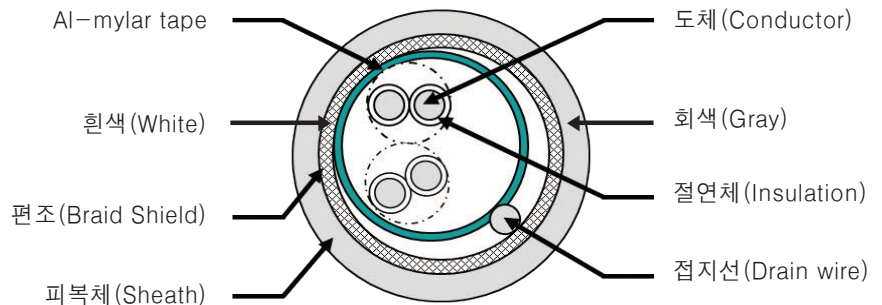
1. 도 체 : 주석도금 연동연선
2. 절 연 체 : PVC, PE
3. 차 폐 : 알루미늄-마일러 테이프 차폐
4. 편 조 : 주석도금 편조(편조밀도 70%, 85%)
5. 피 복 체 : PVC
6. 최고 허용온도 : 80℃
7. 표준조장 : 300m, 500m

### ■ Application of Product

- A Signal transmission of electronic computer and electric equipment.
- External interconnection in class 2 circuits of electronic equipment
- Remote control cord for VTR, TV, Stereo receiver, etc.
- Cord connecting VTR Camera, Viewfinder, Audio and Video equipment.

### ■ Characteristics of Product

- Rating : (UL) 30V, 80℃  
(CSA) 30V, 80℃
- Flammability : VW-1, FT1 Satisfaction
- Standard : UL Subject 758, 1581
- Certification : Underwriters Laboratories Inc.(R)



### ■ 표면인쇄(Identification Marking) : DAEWON E150633 AWM 2919 80℃ 30V VW-1 24AWG

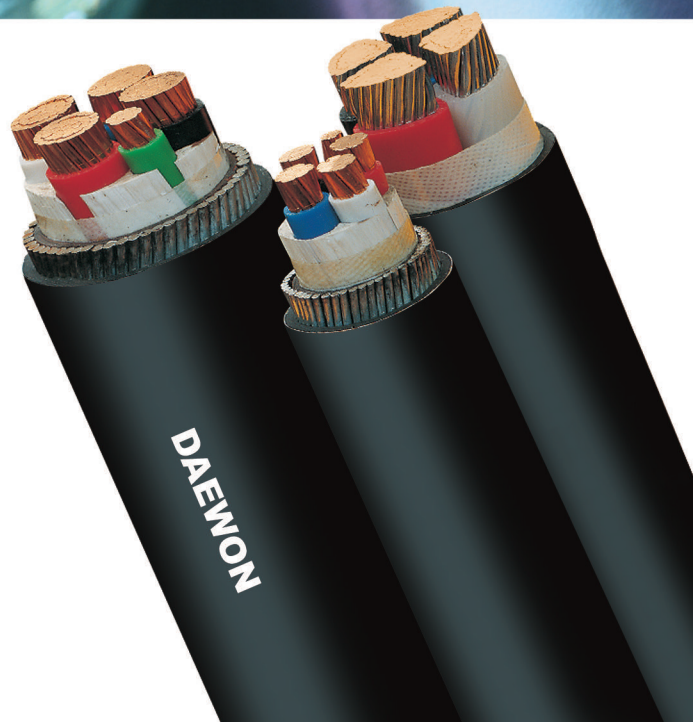
선심수 Pair of Core	도체 Conductor		절연체 Insulation		편조체 Shield			시스체 Sheeth	
	규격 AWG Size	구성 Construction	재질 Material	두께 Thickness (mm)	테이프 재질 Material of Tape	편조율 Coverage of percent(%)	접지선 재질 Drain Wire Material	재질 Material	두께 Thicknes (mm)
1P 2P 3P 4P 5P 6P 8P 10P 15P	26 24 22 20 18 16	7/0.160 7/0.203 11/0.160 17/0.160 21/0.180 34/0.180 37/0.260	PE Or PVC	RS-422 Type (0.40T) RS-485 Type (0.60T)	Al/ps Tape	Min. 70	Tin-coetrd Copper wire	Extruded PVC	0.8~2.0

# PVC 절연 전력용 케이블

## PVC Insulate Power Cable

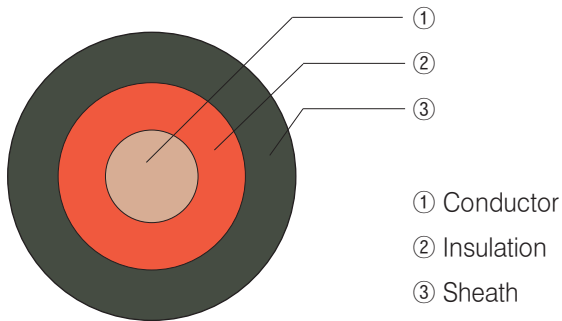
DAEWON CABLE

- Australian Standards AS
- British Standards Institution BSI
- Verband Deutscher Elektrotechniker VDE



## PVC Building Wires

## AS/NZS 5000



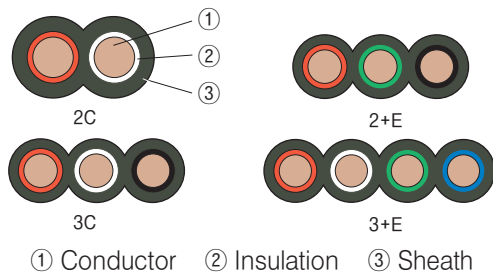
- Rating Voltage : 0.6/1kV
- Max. Conductor Temp. : 75°C
- Construction
- Conductor : Annealed Copper Conductor
- Insulation and Sheath : PVC to AS/NZS 3808
- Color of core Identification : Red or Black
- Color of Sheath : White or Orange
- Specification : AS/NZS 5000

No of Core	Conductor			Thickness of Insulation mm	Thickness of Sheath	Approx. Overall Diameter mm	Max. Conductor Resistance $\Omega/\text{km}$	Spark Test kV
	Nominal Cross-Sectional Area $\text{mm}^2$	Number & Diameter of wire	Outside Diameter mm					
1	1.0	1/1.13	1.13	0.8	1.4	5.7	18.1	8
	1.5	7/0.50	1.5	0.8	1.4	6.0	13.6	8
	E1.5	7/0.50	1.5	0.6	1.4	5.6	13.6	6
	2.5	1/1.78	1.78	0.8	1.4	6.3	7.28	8
	2.5	7/0.67	2.01	0.8	1.4	6.5	7.41	8
	E2.5	7/0.67	2.01	0.7	1.4	6.3	7.41	7
	4	7/0.85	2.55	1.0	1.4	7.4	4.61	10
	6	7/1.04	3.12	1.0	1.4	8.0	3.08	10
	10	7/1.35	4.05	1.0	1.4	8.9	1.83	10
	16	7/1.7	5.1	1.0	1.4	10.0	1.15	10

(0.6/1kV VV)

# PVC Flat Cables

## AS/NZS 5000



- Color of core Identification  
 2 Core : Red, White(Red, Black or Red, Green/Yellow)  
 3 Core : Red, White, Black  
 2 Core + E : Red, Green/Yellow, Black  
 3 Core + E : Red, White, Green/Yellow, Blue)
- Specification : AS/NZS 5000

No of Core	Conductor			Earth Core		Insulation	Sheath	Approx. Overall Diameter mm	Max. Conductor Resistance $\Omega/\text{km}$	Spark Test kV
	Nominal Cross-Sectional Area $\text{mm}^2$	Number & Diameter of wire	Outside Diameter mm	Nominal Area mm	Thickness of Insulation mm					
2C (1C + E)	1.0	1/1.13	1.13	(1.5)	(0.6)	0.8	1.8	$10.0 \times 7.2$	18.1	8(6)
	1.5	7/0.50	1.5	-	-	0.8	1.8	$10.7 \times 7.6$	13.6	8
	2.5	1/1.78	1.78	-	-	0.8	1.8	$11.3 \times 7.9$	7.28	8
	2.5	7/0.67	2.01	-	-	0.8	1.8	$11.7 \times 8.1$	7.41	8
	4	7/0.85	2.55	-	-	1.0	1.8	$13.7 \times 9.2$	4.61	10
	6	7/1.04	3.12	-	-	1.0	1.8	$14.9 \times 9.8$	3.08	10
	10	7/1.35	4.05	-	-	1.0	1.8	$19.0 \times 10.8$	1.83	10
	16	7/1.7	5.1	-	-	1.0	1.8	$19.0 \times 11.9$	1.15	10
3C	1.0	1/1.13	1.13	-	-	0.8	1.8	$12.8 \times 7.3$	18.1	8
	1.5	7/0.50	1.5	-	-	0.8	1.8	$14.3 \times 7.7$	13.6	8
	2.5	1/1.78	1.78	-	-	0.8	1.8	$14.7 \times 8.0$	7.28	8
	2.5	7/0.67	2.01	-	-	0.8	1.8	$15.5 \times 8.3$	7.41	8
	4	7/0.85	2.55	-	-	1.0	1.8	$18.5 \times 9.4$	4.61	10
	6	7/1.04	3.12	-	-	1.0	1.8	$20.3 \times 10.0$	3.08	10
	10	7/1.35	4.05	-	-	1.0	1.8	$23.2 \times 11.1$	1.83	10
	16	7/1.7	5.1	-	-	1.0	1.8	$26.4 \times 12.2$	1.15	10
2C + E	1.0	1/1.13	1.13	1.5	0.6	0.8	1.8	$12.8 \times 7.3$	18.1	8(6)
	1.5	7/0.50	1.5	1.5	0.6	0.8	1.8	$13.7 \times 7.7$	13.6	8(6)
	2.5	1/1.78	1.78	2.5	0.7	0.8	1.8	$14.7 \times 8.0$	7.28	8(7)
	2.5	7/0.67	2.01	2.5	0.7	0.8	1.8	$15.5 \times 8.3$	7.41	8(7)
	4	7/0.85	2.55	2.5	0.7	1.0	1.8	$17.2 \times 9.3$	4.61	10(7)
	6	7/1.04	3.12	2.5	0.7	1.0	1.8	$18.7 \times 9.9$	3.08	10(7)
	10	7/1.35	4.05	4	1.0	1.0	1.8	$21.6 \times 11.0$	1.83	10(10)
	16	7/1.7	5.1	6	1.0	1.0	1.8	$24.3 \times 12.1$	1.15	10(10)
3C + E	1.0	1/1.13	1.13	1.5	0.6	0.8	1.8	$15.6 \times 7.4$	18.1	8(6)
	1.5	7/0.50	1.5	1.5	0.6	0.8	1.8	$17.0 \times 7.6$	13.6	8(6)
	2.5	1/1.78	1.78	2.5	0.7	0.8	1.8	$18.3 \times 8.2$	7.28	8(7)
	2.5	7/0.67	2.01	2.5	0.7	0.8	1.8	$19.1 \times 8.5$	7.41	8(7)
	4	7/0.85	2.55	2.5	0.7	1.0	1.8	$22.2 \times 9.3$	4.61	10(7)
	6	7/1.04	3.12	2.5	0.7	1.0	1.8	$24.0 \times 9.9$	3.08	10(7)
	10	7/1.35	4.05	4	1.0	1.0	1.8	$27.9 \times 11.3$	1.83	10(10)
	16	7/1.7	5.1	6	1.0	1.0	1.8	$31.7 \times 12.4$	1.15	10(10)

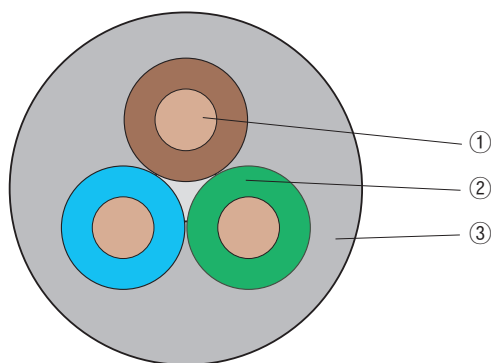
\* ( ) Earth Core

(0.6/1kV VV)

## 250/440V Flexible Cords And Cables

AS/NZS 5000

### Copper Conductor – PVC Insulated, Sheatherd, V75



- ① Conductor
- ② Insulation
- ③ Sheath

- Rating Voltage : 250/440V
- Max. Conductor Temp. : 75℃
- Type : Ordinary Duty
- Construction
  - Conductor : Bunched Circular Copper Conductor
  - Insulation and Sheath : PVC to AS/NZS 3808
  - Color for Core Identification
    - 2 Core : Brown, Sky blue
    - 3 Core : Brown, Sky blue, Green/Yellow
    - 4 Core : Brown, Black, Sky blue, Green/Yellow
    - 5 Core : Brown, Black, White, Sky blue, Green/Yellow
  - Color of Sheath : Grey or Orange
- Specification : AS/NZS 5000

No of Core	Conductor			Thickness of Insulation mm	Thickness of Sheath mm	Approx. Overall diameter mm	Approx. Weight kg/100m	Max. conductor resistance (20℃) Ω/km	Insulation resistance constant (Ki) MΩ-km		Spark test on core mm	High voltage test kV/5min
	Nominal Cross-Sectional Area mm²	Number & Diameter of wire No/mm	Outside Diameter mm						20℃	75℃		
2	0.75	24/0.2	1.13	0.6	0.8	7.0	6	26.0	40	0.02	6	3.5
	1.0	32/0.2	1.31	0.6	0.8	7.2	7	19.5	40	0.02	6	3.5
	1.5	30/0.25	1.58	0.7	0.8	8.2	9	13.3	40	0.02	7	3.5
	2.5	50/0.25	2.04	0.8	1.0	10.1	14	7.98	40	0.02	8	3.5
	4.0	56/0.3	2.59	0.8	1.0	11.1	19	4.95	40	0.02	8	3.5
3 (2C + E)	0.75	24/0.2	1.13	0.6	0.8	7.4	7	26.0	40	0.02	6	3.5
	1.0	32/0.2	1.31	0.6	0.8	7.6	8	19.5	40	0.02	6	3.5
	1.5	30/0.25	1.58	0.7	0.9	8.9	11	13.3	40	0.02	7	3.5
	2.5	50/0.25	2.04	0.8	1.1	10.9	17	7.98	40	0.02	8	3.5
	4.0	56/0.3	2.59	0.8	1.1	12.1	24	4.95	40	0.02	8	3.5
4 (3C + E)	0.75	24/0.2	1.13	0.6	0.8	8.0	8	26.0	40	0.02	6	3.5
	1.0	32/0.2	1.31	0.6	0.9	8.5	10	19.5	40	0.02	6	3.5
	1.5	30/0.25	1.58	0.7	1.0	10.0	14	13.3	40	0.02	7	3.5
	2.5	50/0.25	2.04	0.8	1.1	11.9	21	7.98	40	0.02	8	3.5
	4.0	56/0.3	2.59	0.8	1.1	12.1	24	4.95	40	0.02	8	3.5
5 (4C + E)	0.75	24/0.2	1.13	0.6	0.9	8.9	10	26.0	40	0.02	8	3.5
	1.0	32/0.2	1.31	0.6	0.9	9.2	12	19.5	40	0.02	6	3.5
	1.5	30/0.25	1.58	0.7	1.1	11.0	17	13.3	40	0.02	7	3.5
	2.5	50/0.25	2.04	0.8	1.2	13.2	26	7.98	40	0.02	8	3.5
	4.0	56/0.3	2.59	0.8	1.3	14.5	36	4.95	40	0.02	8	3.5

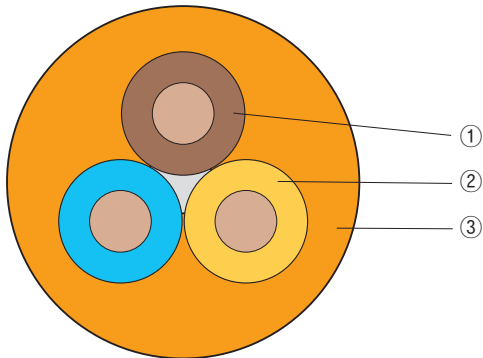
\* E : Earth core

(250/440V VVS)

## 0.6/1KV Flexible Cords and Cables

AS/NZS 5000

### Copper Conductor – PVC Insulated, Sheath, V75



- ① Conductor
- ② Insulation
- ③ Sheath

- Rating Voltage : 0.6/1KV
- Max. Conductor Temp. : 75℃
- Type : Heavy Duty
- Construction
  - Conductor : Bunched Circular Copper Conductor
  - Insulation and Sheath : PVC to AS/NZS 3808
  - Color for Core Identification
    - 2 Core : Brown, Sky Blue
    - 3 Core : Brown, Sky Blue, Green/Yellow
    - 4 Core : Brown, Black, Sky Blue, Green/Yellow
    - 5 Core : Brown, Black, White, Sky Blue, Green/Yellow
  - Color for Sheath : Grey or Orange
- Specification : AS/NZS 5000

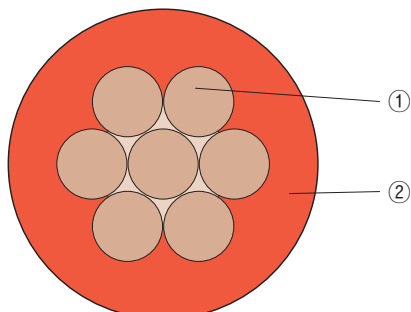
No of Core	Conductor			Thick-ness of Insulation mm	Thick-ness of Sheath mm	Approx. Overall diameter mm	Approx. Weight kg/100m	Max. conductor resistance (20℃) Ω/km	Insulation resistance constant (Ki) MΩ-km		Spark test on core mm	High voltage test kV/5min
	Nominal Cross-Sectional Area mm²	Number & Diameter of wire No/mm	Outside Diameter mm						20℃	75℃		
2	0.75	24/0.2	1.13	0.8	1.3	8.8	9	26.0	40	0.02	8	3.5
	1.0	32/0.2	1.31	0.8	1.3	9.0	10	19.5	40	0.02	8	3.5
	1.5	30/0.25	1.58	0.8	1.5	10.1	12	13.3	40	0.02	8	3.5
	2.5	50/0.25	2.04	0.9	1.7	11.9	18	7.98	40	0.02	9	3.5
	4.0	56/0.3	2.59	1.0	1.8	13.6	25	4.95	40	0.02	10	3.5
3 (2C + E)	0.75	24/0.2	1.13	0.8	1.4	9.5	10	26.0	40	0.02	8	3.5
	1.0	32/0.2	1.31	0.8	1.4	9.8	12	19.5	40	0.02	8	3.5
	1.5	30/0.25	1.58	0.8	1.6	10.8	15	13.3	40	0.02	8	3.5
	2.5	50/0.25	2.04	0.9	1.8	12.8	22	7.98	40	0.02	9	3.5
	4.0	56/0.3	2.59	1.0	1.9	14.5	30	4.95	40	0.02	10	3.5
4 (3C + E)	0.75	24/0.2	1.13	0.8	1.5	10.5	13	26.0	40	0.02	8	3.5
	1.0	32/0.2	1.31	0.8	1.5	10.7	14	19.5	40	0.02	8	3.5
	1.5	30/0.25	1.58	0.8	1.7	11.8	18	13.3	40	0.02	8	3.5
	2.5	50/0.25	2.04	0.9	1.9	14.0	27	7.98	40	0.02	9	3.5
	4.0	56/0.3	2.59	1.0	2.0	16.0	38	4.95	40	0.02	10	3.5
5 (4C + E)	0.75	24/0.2	1.13	0.8	1.6	11.5	15	26.0	40	0.02	8	3.5
	1.0	32/0.2	1.31	0.8	1.6	11.7	17	19.5	40	0.02	8	3.5
	1.5	30/0.25	1.58	0.8	1.8	13.0	22	13.3	40	0.02	8	3.5
	2.5	50/0.25	2.04	0.9	2.0	15.4	32	7.98	40	0.02	9	3.5
	4.0	56/0.3	2.59	1.0	2.2	17.8	46	4.95	40	0.02	10	3.5

\* E : Earth core

(0.6/1kV VVS)

# PVC—Insulated Non—Sheathed Cables (single core)

BS 6004



- ① Conductor  
② Insulation

- Rating Voltage : 600/1000V
- Max. Conductor Temp. : 70°C
- Construction
- Conductor : Annealed Copper Conductor
- Insulation : PVC to BS 6746
- Color : Red, Black, Yellow, Blue or Green
- Specification : BS 6004

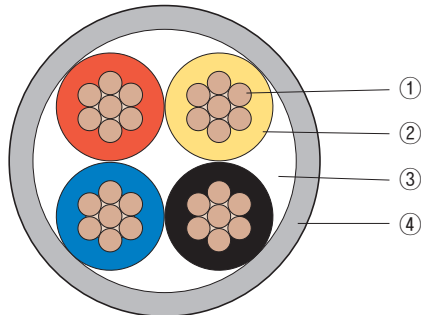
Conductor		Radial Thickness of Insulation mm	Approx. Overall Diameter mm	Minimum Insulation Resistance at 20°C MΩ • km	Test Voltage V/5min.
Nominal Cross-Sectional Area mm <sup>2</sup>	Number and Diameter of Wires No/mm				
1.0	1/1.13	0.8	2.9	23	1500
1.5	1/1.38	0.8	3.1	20	1500
2.5	1/1.78	0.8	3.5	18	1500
4	7/0.85	0.8	4.3	16	1500
6	7/1.04	0.8	4.9	13	1500
10	7/1.35	1.0	6.2	13	3000
16	7/1.70	1.0	7.3	11	3000
25	19/1.53	1.2	9.0	10	3000
35	19/1.78	1.2	10.3	8	3000
50	7/2.14	1.4	12.0	8	3000
70	19/1.78	1.4	13.8	7	3000
95	19/2.14	1.6	16.1	7	3000
120	19/2.52	1.6	17.7	7	3000
150	37/2.25	1.8	19.6	7	3000
185	37/2.52	2.0	22.0	7	3000
240	61/2.25	2.2	25.0	6	3000
300	61/2.52	2.4	37.8	6	3000
400	61/2.85	2.6	31.3	6	3000
500	61.3.20	2.8	34.9	6	3000
630	127/2.52	2.8	38.8	6	3000

(0.6/1kV IV)

# PVC–Insulated PVC–Sheathed Cables

BS 6004

(single core, circular twin, three and four core)



- ① Conductor
- ② Insulation
- ③ Filler
- ④ Sheath

- Rating Voltage : 600/1000V
- Max. Conductor Temp. : 70℃
- Construction
  - Conductor : Annealed Copper Conductor
  - Insulation and Sheath : PVC to BS 6746
  - Color for Core Identification
    - Single Core : Red or Black
    - Twin : Red and Blue
    - Three core : Red, Yellow and Blue
    - Four Core : Red, Yellow, Blue and Black
- Color of Sheath : Grey
- Specification : BS 6004

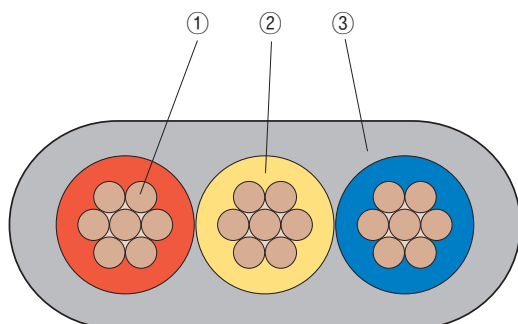
Conductor		Radial Thick-ness of Insulation mm	Radial Thickness of Sheath				Approx. Overall Diameter				Minimum Insulation Resistance at 20℃ MΩ • km	Test Voltage V/5min
Nominal Cross-Sectional Area mm <sup>2</sup>	Number and Diameter of Wires No/mm		Single Core mm	Twin mm	Three Core mm	Four Core mm	Single Core mm	Twin mm	Three Core mm	Four Core mm		
1.0	1/1.13	0.6	0.8	0.9	0.9	0.9	4.2	6.4	7.1	7.7	23	1500
1.5	1/1.38	0.6	0.8	0.9	0.9	0.9	4.4	7.2	7.6	8.3	20	1500
2.5	1/1.78	0.7	0.8	1.0	1.0	1.0	5.0	8.6	9.1	10.0	18	1500
4	7/0.85	0.8	0.9	1.0	1.1	1.1	6.2	10.7	11.5	12.6	16	1500
6	7/1.04	0.8	0.9	1.1	1.1	1.2	6.8	12.0	12.8	14.2	13	1500
10	7/1.35	1.0	0.9	1.2	1.2	1.3	8.1	14.9	15.8	17.6	13	3000
16	7/1.70	1.0	1.0	1.3	1.3	1.4	9.4	17.2	18.3	20.3	11	3000
25	7/2.14	1.2	1.1	1.4	1.5	1.6	11.4	20.9	22.5	25.0	10	3000
35	19/1.53	1.2	1.1	1.5	1.6	1.7	12.6	23.6	25.4	28.2	8	3000
50	19/1.78	1.4	1.2	1.6	1.7	1.8	14.5	27.1	29.1	32.5	8	3000
70	19/2.14	1.4	1.2	1.8	1.9	2.0	16.3	31.2	33.5	37.2	7	3000
95	19/2.52	1.6	1.3	2.0	2.1	2.2	18.8	36.2	38.9	43.3	7	3000
120	37/2.03	1.6	1.4	2.1	2.2	2.4	20.7	39.6	42.7	47.6	7	3000
150	37/2.25	1.8	1.5	2.2	2.4	2.6	22.8	43.8	47.3	52.8	7	3000
185	37/2.52	2.0	1.6	2.4	2.6	2.8	25.3	48.7	52.7	58.7	7	3000
240	61/2.25	2.2	1.7	2.7	2.8	3.1	28.5	55.5	59.6	66.7	6	3000
300	61/2.52	2.4	1.8	2.9	3.1	3.2	31.6	61.6	66.4	73.9	6	3000
400	61/2.85	2.6	1.9	-	-	-	35.2	-	-	-	6	3000
500	61/3.20	2.8	2.1	-	-	-	39.2	-	-	-	6	3000
630	127/2.52	2.8	2.2	-	-	-	43.4	-	-	-	5	3000

\* E : Earth core

(0.6/kV VV)

# PVC–Insulated PVC–Sheathed Cables (flat twin and three Core)

BS 6004



- ① Conductor
- ② Insulation
- ③ Sheath

- Rating Voltage : 600/1000V
- Max. Conductor Temp. : 70℃
- Construction
  - Conductor : Annealed Copper Conductor
  - Insulation and Sheath : PVC to BS 6746
  - Color for Core Identification
    - Twin : Red and Blue
    - Three core : Red, Yellow and Blue
- Color of Sheath : Grey
- Specification : BS 6004

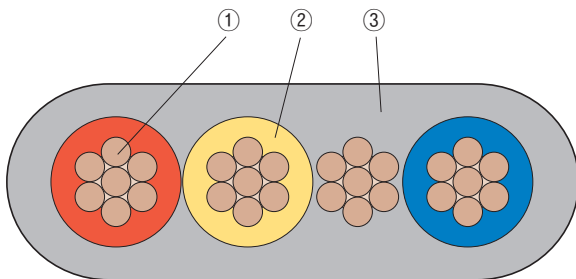
Conductor		Radial Thickness of Insulation mm	Radial Thickness of Sheath		Approx. Overall Diameter		Minimum Insulation Resistance at 20℃ MΩ • km	Test Voltage V/5min.
Nominal Cross-sectional Area mm <sup>2</sup>	Number and Diameter of Wires No/mm		Twin mm	Three-core mm	Flat Twin mm	Flat Three-core mm		
1.0	1/1.13	0.6	0.9	0.9	4.4×6.7	4.4×9.0	23	1500
1.5	1/1.38	0.6	0.9	0.9	4.6×7.2	4.6×9.8	20	1500
2.5	1/1.78	0.7	1.0	1.0	5.4×8.6	5.5×11.9	18	1500
4	7/0.85	0.8	1.0	1.1	6.5×10.7	6.7×15.0	16	1500
6	7/1.04	0.8	1.1	1.1	7.3×12.0	7.3×16.7	13	1500
10	7/1.35	1.0	1.2	1.2	8.8×14.9	8.9×21.0	13	3000
16	7/1.70	1.0	1.3	1.3	10.1×17.2	10.2×24.4	11	3000

(0.6/kV VVF)

# PVC–Insulated PVC–Sheathed Cables

BS 6004

## (flat twin and three core with earth continuity conductor)



- ① Conductor
- ② Insulation
- ③ Sheath

- Rating Voltage : 600/1000V
- Max. Conductor Temp. : 70℃
- Construction
  - Conductor : Annealed Copper Conductor
  - Insulation and Sheath : PVC to BS 6746
  - Color for Core Identification
    - Twin : Red and Black
    - Three core : Red, Yellow and Blue
- Position of Earth Continuity Conductor
  - Twin : Centrally Placed in same plane.
  - Three core : Centrally placed between Yellow and Blue cores in same plane.
- Color of Sheath : Grey
- Specification : BS 6004

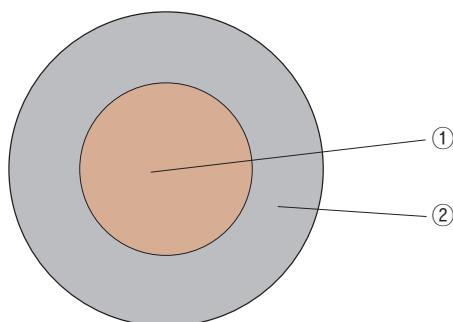
Conductor		Radial Thickness of Insulation mm	Radial Thickness of Sheath		Approx. Overall Diameter		Earth Continuity Conductor No. and Diameter of wires	Minimum Insulation Resistance at 20℃ MΩ • km	Test Voltage V/5min.
Nominal Cross-sectional Area mm <sup>2</sup>	Number and Diameter of Wires No/mm		Twin mm	Three-core mm	Flat Twin mm	Flat Three-core mm			
1.0	1/1.13	0.6	0.9	0.9	4.4×7.8	4.4×10.2	1/1.13	23	1500
1.5	1/1.38	0.6	0.9	0.9	4.6×8.3	4.7×11.0	1/1.13	20	1500
2.5	1/1.78	0.7	1.0	1.0	5.4×9.7	5.5×13.0	1/1.13	18	1500
4	7/0.85	0.8	1.0	1.1	6.5×12.0	6.7×16.4	1/1.38	16	1500
6	7/1.04	0.8	1.1	1.1	7.3×13.8	7.3×18.5	1/1.78	13	1500
10	7/1.35	1.0	1.2	1.2	8.8×17.4	8.9×23.6	7/.85	13	3000
16	7/1.70	1.0	1.3	1.3	10.1×20.3	10.2×27.5	7/1.04	11	3000

(0.6/1kV VVF)

# PVC—Insulated Non—Sheathed Cables

## (single core)

VDE 2050



- ① Conductor  
② Insulation

- Rating Voltage : 600/1000V
- Max. Conductor Temp. : 70℃
- Construction
  - Conductor : Annealed Copper Conductor
  - Insulation : PVC to VDE 0209
  - Color : Black or other Colors if required
- Specification : VDE 2050

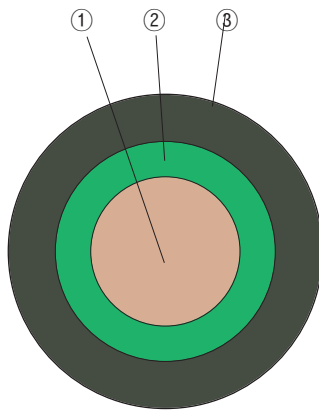
### ■ Type NTA

Conductor		Radial Thickness of Insulation mm	Approx. Overall Diameter mm	Approx. Net Weight kg/km	AC Testing Voltage V/1min	Minimum Insulation Resistance at 60℃ MΩ • km	Standard Length mm
Nominal Cross-sectional Area mm <sup>2</sup>	Number and Diameter of Wires No/mm						
0.5	1/8.0	0.6	2.1	9	2500	0.029	300
0.75	1/0.98	0.6	2.3	12	2500	0.025	300
1.0	1/1.13	0.6	2.5	14	2500	0.022	300
1.5	1/1.39	0.6	2.7	20	2500	0.019	300
2.5	1/1.79	0.7	3.3	31	2500	0.016	300
4	1/2.26	0.7	3.8	50	2500	0.014	300
6	1/2.77	0.8	4.5	70	2500	0.014	300
10	1/3.57	0.8	5.3	115	2500	0.011	300
16	1/4.52	1.0	6.7	170	2500	0.011	300
16	7/1.71	1.0	7.3	185	2500	0.010	300
25	7/2.14	1.2	9.1	285	2500	0.009	300
35	19/1.54	1.2	10.3	380	2500	0.008	300
50	19/1.83	1.4	12.2	535	2500	0.008	300
70	19/2.17	1.4	13.9	735	2500	0.007	300
95	19/2.53	1.6	16.1	995	2500	0.007	300
120	37/2.04	1.6	17.7	1240	2500	0.005	300
150	37/2.28	1.8	19.8	1550	2500	0.005	300
185	37/2.53	2.0	22.1	1910	2500	0.005	300
240	61/2.24	2.2	25.0	2460	2500	0.005	200
300	61/2.51	2.4	27.8	3100	2500	0.005	200
400	61/2.89	2.6	31.7	4080	2500	0.005	200
500	91/2.65	3.0	35.6	5120	2500	0.005	200

(0.6/1kV IV)

# PVC-Insulated PVC-Sheathed Circular Cables (Type NYY)

VDE 0271



- ① Conductor
- ② Insulation
- ③ Sheath

- Rating Voltage : 600/1000V
- Max. Conductor Temp. : 70°C
- Construction
  - Conductor : Annealed Copper Conductor
  - Insulation and Sheath : PVC to VDE 0209
  - Colours for core identification
    - Cables Containing a Green/Yellow Core
      - Single-core : Green/Yellow or Light Blue or Black
      - Twin : Green/Yellow, Black
      - Three-core : Green/Yellow, Black, Light-Blue
      - Four-core : Green/Yellow, Black, Light-Blue, Brown
      - Five-core : Green/Yellow, Black, Light-Blue, Brown, Black
      - Multi-core : Green/Yellow, the other cores Black with printed numbers
    - Cables without a Green/Yellow core
      - Single core : Light Blue or Black
      - Twin : Black, Light-Blue
      - Three-core : Black, Light-Blue, Brown
      - Four-core : Black, Light-Blue, Brown, Black
      - Five-core : Black, Light-Blue, Brown, Black, Black
      - Multi-core : Black cores with printed numbers

• Specification : VDE 0271

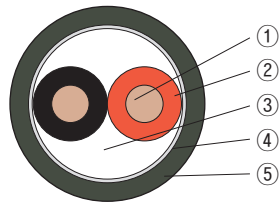
## ■ Single-core

Conductor		Thickness of Insulation mm	Thickness of Sheath mm	Approx. Diameter mm	Approx. Weight kg/km	AC Testing Voltage V/1min	Minimum Insulation Resistance at 60°C MΩ • km	Standard Length m
Nominal Cross-sectional Area mm²	No. & Diameter of Wire No./mm							
1.5	1/1.39	0.8	1.8	6.9	65	4000	0.024	300
2.5	1/1.79	0.9	1.8	7.6	80	4000	0.022	300
4	1/2.26	1.0	1.8	8.3	105	4000	0.019	300
6	1/2.77	1.0	1.8	8.8	125	4000	0.017	300
10	1/3.57	1.0	1.8	9.6	175	4000	0.013	300
16	1/4.52	1.0	1.8	10.5	240	4000	0.011	300
25	7/2.14	1.2	1.8	13	370	4000	0.009	300
35	19/1.54	1.2	1.8	14	475	4000	0.008	300
50	19/1.83	1.4	1.8	16	645	4000	0.008	300
70	19/2.17	1.4	1.8	18	860	4000	0.007	300
95	19/2.53	1.6	1.8	20	1140	4000	0.007	300
120	37/2.04	1.6	1.8	22	1390	4000	0.005	300
150	37/2.28	1.8	1.8	24	1720	4000	0.005	300
185	37/2.53	2.0	2.0	27	2140	4000	0.005	200
240	61/2.24	2.2	2.0	30	2710	4000	0.005	200
300	61/2.51	2.4	2.0	33	3380	4000	0.005	150
400	61/2.89	2.6	2.2	37	4390	4000	0.005	150
500	61/3.23	3.0	2.2	41	5530	4000	0.005	100

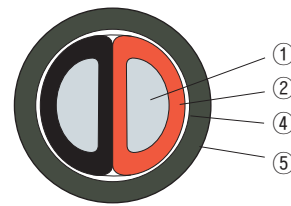
(0.6/1kV VV)

# PVC-Insulated PVC-Sheathed Circular Cables (Type NYY)

VDE 0271



Twin



Twin with Shaped Conductor

- ① Conductor
- ② Insulation
- ③ Filler
- ④ Tape
- ⑤ Sheath

## ■ Twin

Conductor		Thickness of Insulation mm	Thickness of Sheath mm	Approx. Diameter mm	Approx. Weight kg/km	AC Testing Voltage V/1min	Minimum Insulation Resistance at 60 °C MΩ • km	Standard Length m
Nominal Cross-sectional Area mm <sup>2</sup>	No. & Diameter No./mm							
1.5	1/1.39	0.8	1.8	12	155	4000	0.024	300
2.5	1/1.79	0.9	1.8	13.5	200	4000	0.022	300
4	1/2.26	1.0	1.8	14.5	255	4000	0.019	300
6	1/2.77	1.0	1.8	15.5	310	4000	0.017	300
10	1/3.57	1.0	1.8	17.5	415	4000	0.013	300
16	1/4.52	1.0	1.8	19.5	565	4000	0.011	300
25	7/2.14	1.2	2.0	26	940	4000	0.009	300
35	19/1.54	1.2	2.0	28	1190	4000	0.008	300
50	19/1.83	1.4	2.0	32	1580	4000	0.008	300
70	19/2.17	1.4	2.2	36	2140	4000	0.007	300
95	19/2.53	1.6	2.2	41	2790	4000	0.007	300
120	37/2.04	1.6	2.4	44	3430	4000	0.005	300
150	37/2.28	1.8	2.6	49	4260	4000	0.005	300
185	37/2.53	2.0	2.8	54	5150	4000	0.005	200
240	61/2.24	2.2	3.0	61	6640	4000	0.005	200
300	61/2.51	2.4	3.2	68	8380	4000	0.005	150
400	61/2.89	2.6	3.4	76	10690	4000	0.005	150

## ■ Twin with Shaped Conductor

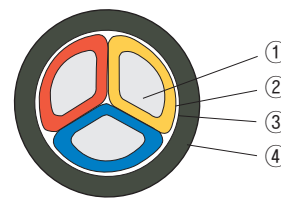
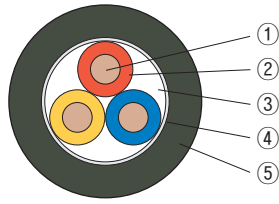
Conductor		Thickness of Insulation mm	Thickness of Sheath mm	Approx. Diameter mm	Approx. Weight kg/km	AC Testing Voltage V/1min	Minimum Insulation Resistance at 60 °C MΩ • km	Standard Length m
Nominal Cross-sectional Area mm <sup>2</sup>	Shape (*1) No./mm							
35	S.C	1.2	1.8	23	1050	4000	0.008	300
50	S.C	1.4	2.0	27	1450	4000	0.008	300
70	S.C	1.4	2.0	29	1890	4000	0.007	300
95	S.C	1.6	2.0	33	2520	4000	0.007	300
120	S.C	1.6	2.2	36	3070	4000	0.005	300
150	S.C	1.8	2.2	39	3840	4000	0.005	300
185	S.C	2.0	2.2	43	4590	4000	0.005	200
240	S.C	2.2	2.6	48	5920	4000	0.005	200
300	S.C	2.4	2.6	53	7320	4000	0.005	150
400	S.C	2.6	3.0	60	9260	4000	0.005	150

\*1) S.C : Sector Shaped Stranded Conductor

# PVC-Insulated PVC-Sheathed Circular Cables

VDE 0271

(Type NYY)



- ① Conductor
- ② Insulation
- ③ Filler
- ④ Tape
- ⑤ Sheath

## ■ Three+core

## Twin with Shaped Conductor

Conductor		Thickness of Insulation mm	Thickness of Sheath mm	Approx. Diameter mm	Approx. Weight kg/km	AC Testing Voltage V/1min	Minimum Insulation Resistance at 60℃ MΩ • km	Standard Length m
Nominal Cross-sectional Area mm <sup>2</sup>	No. & Diameter No./mm							
1.5	1/1.39	0.8	1.8	12.5	180	4000	0.024	300
2.5	1/1.79	0.9	1.8	14	240	4000	0.022	300
4	1/2.26	1.0	1.8	15.5	310	4000	0.019	300
6	1/2.77	1.0	1.8	16.5	390	4000	0.017	300
10	1/3.57	1.0	1.8	18	535	4000	0.013	300
16	1/4.52	1.0	1.8	21	745	4000	0.011	300
25	7/2.14	1.2	2.0	27	1140	4000	0.009	300
35	19/1.54	1.2	2.0	30	1590	4000	0.008	300
50	19/1.83	1.4	2.0	34	2180	4000	0.008	300
70	19/2.17	1.4	2.2	38	2900	4000	0.007	300
95	19/2.53	1.6	2.2	43	3,820	4000	0.007	300
120	37/2.04	1.6	2.6	48	4790	4000	0.005	300
150	37/2.28	1.8	2.6	52	5850	4000	0.005	300
185	37/2.53	2.0	3.0	59	7270	4000	0.005	200
240	61/2.24	2.2	3.0	62	9160	4000	0.005	200
300	61/2.51	2.4	3.4	72	11550	4000	0.005	150
400	61/2.89	2.6	3.8	82	15050	4000	0.005	150

## ■ Three Core with Shaped Conductor

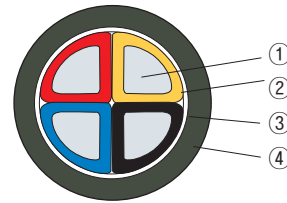
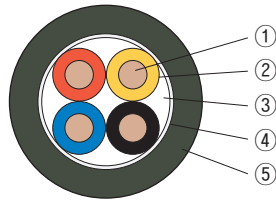
Conductor		Thickness of Insulation mm	Thickness of Sheath mm	Approx. Diameter mm	Approx. Weight kg/km	AC Testing Voltage V/1min	Minimum Insulation Resistance at 60℃ MΩ • km	Standard Length m
Nominal Cross-sectional Area mm <sup>2</sup>	Shape (*1) No./mm							
35	S.C	1.2	2.0	26	1530	4000	0.008	300
50	S.C	1.4	2.0	30	1770	4000	0.008	300
70	S.C	1.4	2.0	34	2770	4000	0.007	300
95	S.C	1.6	2.2	38	3670	4000	0.007	300
120	S.C	1.6	2.2	41	4460	4000	0.005	300
150	S.C	1.8	2.6	46	5670	4000	0.005	300
185	S.C	2.0	2.6	50	6850	4000	0.005	200
240	S.C	2.0	2.6	56	8710	4000	0.005	200
300	S.C	2.4	3.0	62	10870	4000	0.005	150
400	S.C	2.6	3.4	70	14260	4000	0.005	150

\*1) S.C : Sector Shaped Stranded Conductor

# PVC-Insulated PVC-Sheathed Circular Cables

## (Type NYY)

VDE 0271



- ① Conductor
- ② Insulation
- ③ Filler
- ④ Tape
- ⑤ Sheath

### ■ Four core

### Twin with Shaped Conductor

Conductor		Thickness of Insulation mm	Thickness of Sheath mm	Approx. Diameter mm	Approx. Weight kg/km	AC Testing Voltage V/1min	Minimum Insulation Resistance at 60 °C MΩ • km	Standard Length m
Nominal Cross-sectional Area mm <sup>2</sup>	No. & Diameter No./mm							
1.5	1/1.39	0.8	1.8	13	210	4000	0.024	300
2.5	1/1.79	0.9	1.8	15	285	4000	0.022	300
4	1/2.26	1.0	1.8	16.5	380	4000	0.019	300
6	1/2.77	1.0	1.8	18	480	4000	0.017	300
10	1/3.57	1.0	1.8	19.5	665	4000	0.013	300
16	1/4.52	1.0	1.8	23	990	4000	0.011	300
25	7/2.14	1.2	2.0	29	1570	4000	0.009	300
35	19/1.54	1.2	2.0	32	2020	4000	0.008	300
50	19/1.83	1.4	2.2	38	2810	4000	0.008	300
70	19/2.17	1.4	2.2	42	3720	4000	0.007	300
95	19/2.53	1.6	2.6	49	5050	4000	0.007	300
120	37/2.04	1.6	2.6	53	6150	4000	0.005	300
150	37/2.28	1.8	3.0	59	7690	4000	0.005	300
185	37/2.53	2.0	3.0	64	9370	4000	0.005	200
240	61/2.24	2.2	3.4	73	12050	4000	0.005	200
300	61/2.51	2.4	3.8	81	15130	4000	0.005	150
400	61/2.89	2.6	4.0	90	19560	4000	0.005	150

### ■ Four core with Shaped Conductor

Conductor		Thickness of Insulation mm	Thickness of Sheath mm	Approx. Diameter mm	Approx. Weight kg/km	AC Testing Voltage V/1min	Minimum Insulation Resistance at 60 °C MΩ • km	Standard Length m
Nominal Cross-sectional Area mm <sup>2</sup>	Shape (*1) No./mm							
35	S.C	1.2	2.0	29	1970	4000	0.008	300
50	S.C	1.4	2.0	34	2730	4000	0.008	300
70	S.C	1.4	2.2	38	3630	4000	0.007	300
95	S.C	1.6	2.2	42	4780	4000	0.007	300
120	S.C	1.6	2.6	47	5960	4000	0.005	300
150	S.C	1.8	2.6	52	7350	4000	0.005	300
185	S.C	2.0	3.0	58	9110	4000	0.005	200
240	S.C	2.2	3.0	61	11500	4000	0.005	200
300	S.C	2.4	3.4	71	14470	4000	0.005	150
400	S.C	2.6	3.8	80	18900	4000	0.005	150

\*1) S.C : Sector Shaped Stranded Conductor

## PVC–Insulated PVC–Sheathed Circular Cables

### (Type NYY)

#### ■ Multi-core

Conductor		No. & Diameter of Wire mm	Thickness of Insulation mm	Thickness of Sheath mm	Approx. Overall Diameter mm	Approx. Weight kg/km	AC Testing Voltage V/1min	Minimum Insulation Resistance at 60 °C MΩ • km	Standard Length m
Number of Cores mm <sup>2</sup>	Nominal Sectional Area No./mm								
5	1.5	1/1.39	0.8	1.8	14	245	4000	0.024	300
7	1.5	1/1.39	0.8	1.8	15	300	4000	0.024	300
10	1.5	1/1.39	0.8	1.9	18	415	4000	0.024	300
12	1.5	1/1.39	0.8	1.8	18.5	465	4000	0.024	300
16	1.5	1/1.39	0.8	1.8	21	575	4000	0.024	300
19	1.5	1/1.39	0.8	1.8	22	685	4000	0.024	300
21	1.5	1/1.39	0.8	1.8	23	755	4000	0.024	300
24	1.5	1/1.39	0.8	2.0	26	890	4000	0.024	300
30	1.5	1/1.39	0.8	2.0	27	1040	4000	0.024	300
5	2.5	1/1.79	0.9	1.8	16	335	4000	0.022	300
7	2.5	1/1.79	0.9	1.8	17	420	4000	0.022	300
10	2.5	1/1.79	0.9	1.8	22	620	4000	0.022	300
12	2.5	1/1.79	0.8	1.8	23	670	4000	0.022	300
16	2.5	1/1.79	0.9	2.0	25	895	4000	0.022	300
19	2.5	1/1.79	0.9	2.0	26	1020	4000	0.022	300
21	2.5	1/1.79	0.9	2.0	28	1120	4000	0.022	300
24	2.5	1/1.79	0.9	2.0	30	1280	4000	0.022	300
30	2.5	1/1.79	0.9	2.2	32	1510	4000	0.022	300
5	4	1/2.26	1.0	1.8	18	450	4000	0.019	300
7	4	1/2.26	1.0	1.8	21	650	4000	0.019	300
10	4	1/2.26	1.0	2.0	25	875	4000	0.019	300
12	4	1/2.26	1.0	2.0	26	985	4000	0.019	300
16	4	1/2.26	1.0	2.0	29	1240	4000	0.019	300
19	4	1/2.26	1.0	2.0	31	1560	4000	0.019	300
21	4	1/2.26	1.0	2.2	35	1850	4000	0.019	300
24	4	1/2.26	1.0	2.2	35	1850	4000	0.019	300
30	4	1/2.26	1.0	2.2	37	2190	4000	0.019	300

## Maximum Resistance of Annealed Copper Conductor

### (Conparison of AS 1125 and BS 6360 and VDE 0201)

Conductor					BS 6360						VDE 0201					
Nominal Cross-sectional Area mm²	Minimum number of Wires	Maximum Diameter mm	Maximum Resistance of Cable at 20°C Ω/km		Nominal Sectional Area mm²	Minimum number of Wire			Maximum Resistance of Cable at 20°C Ω/km		Nominal Sectional Area mm²	Number of Wire No.	Maximum Resistance of Cable at 20°C Ω/km			
													Plain		Tinned	
			Plain	Tinned		C	C.C	S.C	Plain	Tinned			Single	Multi	Single	Multi
0.5	1	0.82	36.0	36.7	0.5	7	-	-	36.0	36.7	0.5	1	35.3	36.0	36.0	36.7
0.5	7	0.9	38.4	39.6	0.75	7	-	-	24.5	24.8	0.75	1	24.0	24.5	24.3	24.8
1.0	1	1.16	18.1	18.2	-	-	-	-	-	-	1	1	17.7	18.1	17.9	18.2
1.0	7	1.3	21.2	21.6	1	7	-	-	18.1	18.2	-	-	-	-	-	-
1.5	1	1.41	12.1	12.2	-	-	-	-	-	-	1.5	1	11.9	12.1	12.0	12.2
1.5	7	1.6	13.6	13.8	1.5	7	6	-	12.1	12.2	-	-	-	-	-	-
2.5	1	1.83	7.28	7.35	-	-	-	-	-	-	2.5	1	7.14	7.28	7.21	7.35
2.5	7	2.1	7.41	7.56	2.5	7	6	-	7.41	7.56	-	-	-	-	-	-
4	7	2.6	4.61	4.70	4	7	6	-	4.61	4.70	4	1	4.47	4.56	4.51	4.60
6	7	3.2	3.08	3.11	6	7	6	-	3.08	3.11	6	1	2.97	3.03	3.00	3.06
10	7	4.2	1.83	1.84	10	7	6	-	1.83	1.84	10	1	1.77	1.81	1.79	1.83
16	7	5.2	1.15	1.16	16	7	6	-	1.15	1.16	16	1	1.12	-	-	-
25	7	6.6	0.727	0.734	25	7	6	6	0.727	0.734	16	7	1.13	1.15	1.13	1.16
25	19℥™	6.9	0.727	0.734	-	-	-	-	-	-	25	7	0.712	0.727	0.719	0.734
35	7	7.8	0.524	0.529	35	7	6	6	0.524	0.529	-	-	-	-	-	-
35	19℥™	7.9	0.524	0.529	-	-	-	-	-	-	35	19	0.514	0.524	0.519	0.529
50	19	9.1	0.387	0.391	50	19	6	6	0.387	0.391	50	19	0.379	0.387	0.383	0.391
70	19	11.0	0.268	0.270	70	19	12	12	0.268	0.270	70	19	0.262	0.268	0.265	0.270
95	19	12.9	0.193	0.195	95	19	15	15	0.193	0.195	95	19	0.189	0.193	0.191	0.195
95	37	12.8	0.199	0.201	-	-	-	-	-	-	-	-	-	-	-	-
120	37	14.6	0.153	0.154	120	37	18	18	0.153	0.154	120	37	0.150	0.153	0.151	0.154
150	37	16.2	0.124	0.126	150	37	18	18	0.124	0.126	150	37	0.122	0.124	0.123	0.125
185	37	18.1	0.0991	0.100	185	37	30	30	1.0991	0.100	185	37	0.0972	0.0991	0.0982	0.100
240	61	20.8	0.0754	0.0762	240	61	34	34	0.0754	0.0762	240	61	0.0740	0.0754	0.0747	0.0762
300	61	23.2	0.0601	0.0607	300	61	34	34	0.0601	0.0607	300	61	0.0590	0.0601	0.0595	0.0607
400*	61	26.3	0.0470	0.0475	400	61	53	53	0.0470	0.0475	400	61	0.0461	0.0470	0.0465	0.0475
500*	61	29.5	0.0366	0.0369	500	61	53	53	0.0366	0.0369						
630*	91	33.6	0.0283	0.0286	630	91	53	53	0.0283	0.0286						
800*	91	38.0	0.0221	0.0224	800	91	53	53	0.0221	0.0224						
1000*	91	42.2	0.0176	0.0177	1000	91	53	53	0.0176	0.0177						

\*Single Core Cable only

\*\*C : Circular Conductor

CC : Circular Compacted Conductor

\*\*\*Ships' Cables

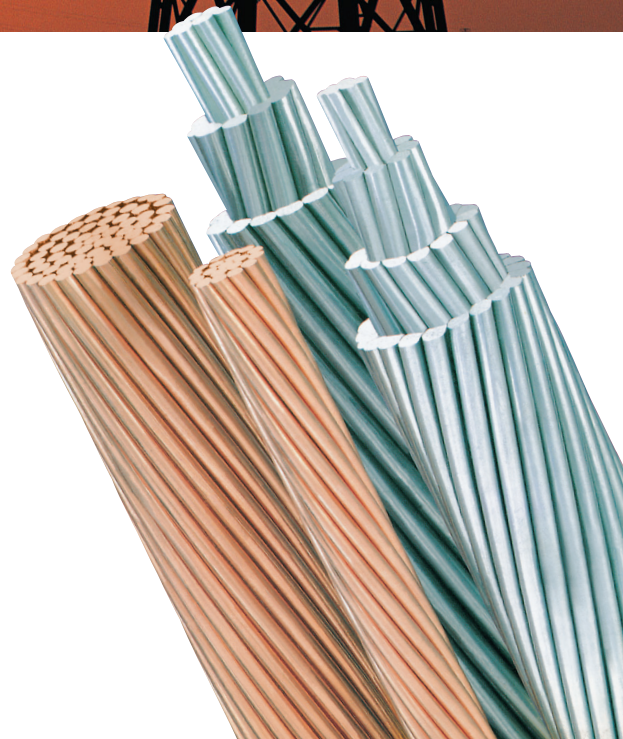
SC : Sector Shaped Compact Conductor

# 송·배전선 나동선 및 알루미늄선

## Copper and Aluminium Wire

DAEWON CABLE

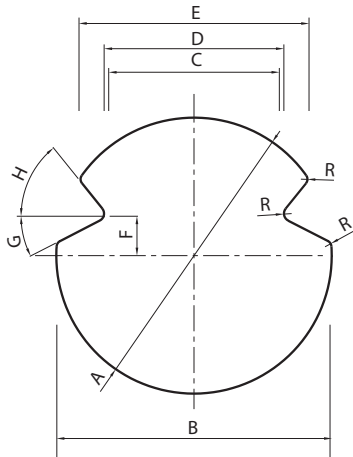
- 전차선
- 조가선
- 전기용 경동연선(HS)  
(일반용-For General Purpose)  
(가공송전용-For Overhead Transmission Purpose)
- 전기용 연동연선(AS)
- 전기용 경알루미늄선(HAL)
- 전기용 경알루미늄연선(HASC)
- 압축형 강심 알루미늄연선(SB-ACSR)
- 강심 알루미늄연선(ACSR)
- 알루미늄피복 강심 알루미늄연선(ACSR/AW)



## 전차선

## 원형전차선 (Cu)

### Trolley Wire



전철구간 중 지하구간(지하철)을 제외한  
지상구간에 전원공급용 가공선으로 사용

To be used for overhead power  
supply line of electric railways  
except the underground area.

#### 구 조

1. 재 질 : 경동선
2. 적용규격 : 한국철도표준규격

#### Construction

1. Material : Hard drawn copper
2. Standard : Korean Railway Standards

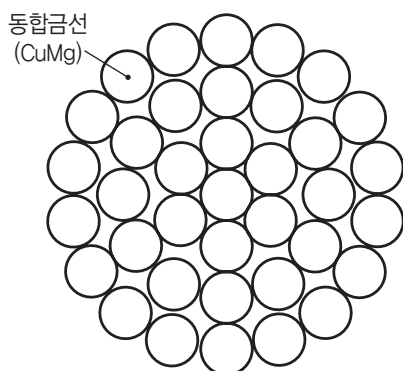
Nominal Sectional Area mm <sup>2</sup>	Calculated Sectional Area mm <sup>2</sup>	A mm	B mm	C mm	D mm	E mm	F mm	G °	H °	R mm	Approx. Weight kg/km	Min. Breaking Force kg	Min. Elongation %
170	170	15.49	15.49	7.32	7.74	11.43	2.4	27	51	0.38	1511.3	5900	3.4
110	111.1	12.34	12.34	6.85	7.27	9.75	1.7	27	51	0.38	987.7	3900	3.0

※ 허용치 A :  $\pm 1\%$  B, D, E :  $\pm 2\%$

## 조가선

## 조가선(CuMg)

### Messenger Wire



전철구간 중 전차선을 같은 높이로 수평  
하게 유지시키기 위해 사용

To be used for overhead power  
supply line of electric railways  
except the underground area.

#### 구 조

1. 재 질 : 동합금선(CuMg)
2. 적용규격 : 한국철도표준규격  
한국철도시설공단  
물품구매 사양서

#### Construction

1. Material : Copper Magnesium Alloy
2. Standard : Korean Railway Standards  
Purchasing  
Specification of Korea  
Rail Network Authority

Nominal Sectional Area mm <sup>2</sup>	Number & Diameter of Wire No./mm	Approx. Overall Diameter mm	Max. Conductor Resistance at 20°C Ω/km	Approx. Weight kg/km	Min. Breaking Force kN	Min. Conductivity %	Magnesium Content wt%
65	37/1.5	10.5	0.462	602	45.5	60	0.4~0.5
116	37/2.0	14.0	0.216	1050	72.1	72	0.2~0.3

## 전기용 경동연선

ES 120-019-085, 대원표준

### Hard-Drawn Copper Stranded Wire for Electrical Purpose(HS)

#### ■ 일반용(For General Purpose)

Nominal Sectional Area mm <sup>2</sup>	No. & Dia of Wire No./mm	Calculated Section Area mm <sup>2</sup>	Overall Diameter mm	Weight kg/km	Max. Conductor Resistance at 20℃ Ω/km	Min Tensile force kgf	Length m/reel	Weight kg/reel
1,000	127/3.2	1,021	41.6	9,315	0.0179	40,100	300	3,380
850	127/2.9	838.8	37.7	7,651	0.0217	33,100	300	2,880
725	91/3.2	731.8	35.2	6,655	0.0248	28,700	300	2,560
600	91/2.9	601.1	31.9	5,466	0.0303	23,800	300	2,010
500	61/3.2	490.6	28.8	4,448	0.0370	19,300	300	1,630
400	61/2.9	402.9	26.1	3,654	0.0450	15,900	300	1,310
325	61/2.6	323.8	23.4	2,937	0.0560	12,900	300	1,070
250	61/2.3	253.5	20.7	2,298	0.0715	10,200	500	1,280
200	37/2.6	196.4	18.2	1,776	0.0920	7,830	500	1,020
150	37/2.3	153.7	16.1	1,390	0.118	6,160	600	945
125	19/2.9	125.5	14.5	1,129	0.143	4,960	600	765
100	19/2.6	100.9	13.0	907.6	0.178	4,020	600	625
80	19/2.3	78.95	11.5	710.3	0.228	3,160	1,000	795
60	19/2.0	59.70	10.0	537.0	0.301	2,410	1,000	605
50	19/1.8	48.36	9.0	435.1	0.376	1,970	1,000	480
38	7/2.6	37.16	7.8	334.4	0.484	1,480	300	-
30	7/2.3	29.09	6.9	261.7	0.618	1,170	300	-
22	7/2.0	21.99	6.0	197.9	0.818	888	300	-
14	7/1.6	14.08	4.8	126.7	1.29	574	500	-
8.0	7/1.2	7.917	3.6	71.19	2.30	326	500	-
5.5	7/1.0	5.498	3.0	49.46	3.31	227	500	-
3.5	7/0.8	3.519	2.4	31.66	5.17	146	500	-
2.0	7/0.6	1.979	1.8	17.80	9.18	83	500	-
1.4	7/0.5	1.375	1.5	12.37	13.2	58	500	-
0.9	7/0.4	0.8799	1.2	7.913	20.7	37	500	-

#### ■ 가공송전용(For Overhead Transmission Purpose)

Nominal Sectional Area mm <sup>2</sup>	No. & Dia of Wire No./mm	Calculated Section Area mm <sup>2</sup>	Overall Diameter mm	Weight kg/km	Max. Conductor Resistance at 20℃ Ω/km	Min Tensile force kgf	Length m/reel	Weight kg/reel
240	19/4.0	238.8	20.0	2,148	0.0753	9,180	600	1,450
200	19/3.7	204.3	18.5	1,838	0.0880	7,900	700	1,430
180	19/3.5	182.8	17.5	1,645	0.0984	7,130	800	1,490
150	19/3.2	152.8	16.0	1,375	0.118	6,000	1,000	1,550
125	19/2.9	125.5	14.5	1,129	0.143	4,960	1,000	1,250
100	7/4.3	101.6	12.9	914.5	0.177	3,880	600	625
75	7/3.7	75.25	11.1	677.0	0.239	2,910	700	545
55	7/3.2	56.29	9.6	506.4	0.320	2,210	1,000	575
45	7/2.9	46.24	8.7	416.0	0.389	1,830	1,000	465
38	7/2.6	37.16	7.8	334.4	0.484	1,480	1,000	380
30	7/2.3	29.09	6.9	261.7	0.618	1,170	1,200	355
22	7/2.0	21.99	6.0	197.9	0.818	888	1,200	275

## 전기용 연동 연선

### Annealed Copper Stranded Wire for Electrical Purpose(AS)

Nominal Sectional Area mm <sup>2</sup>	Minimum number of Wires in the conductor	Calculated Area mm <sup>2</sup>	Appox. Overall Diameter mm	Max. Conductor Resistance at 20°C Ω/km	Approx. Weight kg/km	Standard Length m
1000	91	1021.39	41.6	0.0176	9439.86	300
800	91	810.18	37.05	0.0221	7481.7	300
630	91	633.42	32.76	0.0283	5854.3	300
500	61	481.19	28.53	0.0366	4333.71	300
400	61	374.61	25.17	0.047	3374.6	300
300	61	293.56	22.28	0.0601	2643.44	300
240	61	234.09	19.9	0.0754	2108.98	300
185	37	177.92	17.33	0.0991	1600.82	500
150	37	142.12	15.48	0.124	1278.56	600
120	37	115.48	13.96	0.153	1039.37	600
95	19	91.44	12.38	0.193	821.92	600
70	19	66.03	10.52	0.268	593.02	1000
50	19	45.68	8.75	0.387	410.55	1000
35	7	33.69	7.43	0.524	302.14	300
25	7	24.28	6.31	0.727	217.73	300
16	7	15.34	5.01	1.15	137.61	500
10	7	10.02	4.05	1.83	89.92	500
6	7	5.95	3.12	3.08	53.38	500
4	7	3.97	2.55	4.61	35.64	500
2.5	7	2.47	2.01	7.41	22.14	500
1.5	7	1.54	1.59	12.1	13.85	500
1	7	0.89	1.2	18.1	7.9	500
0.75	7	0.752	1.11	24.5	6.84	500
0.5	7	0.56	0.96	36	5.09	500

※ 소선경, 연선경, 개산중량 등은 참고치로 실제 제품과 차이가 날 수 있습니다.

## 전기용 경 알루미늄선

### Hard-Drawn Aluminium Wire for Electrical Purpose(HAL)

Diameter mm	Tolerance ± mm	Calculated Sectional Area mm <sup>2</sup>	Approx. Weight kg/km	Min. Tensile Strength Mpa	Max. Resisivity at 20℃ nΩm	Density at 20℃ kg/dmm <sup>3</sup>	Coefficient of linear expansion ℃
5.0	±1%	19.635	53.03	160	28.264	2.703	23 × 10 <sup>-6</sup>
4.8		18.096	48.87	160			
4.6		16.619	44.87	160			
4.5		15.904	42.93	160			
4.3		14.522	39.20	160			
4.2		13.854	37.40	160			
4.0		12.566	33.94	160			
3.8		11.341	30.62	160			
3.7		10.752	29.03	160			
3.5		9.621	25.98	160			
3.2		8.042	21.71	165			
3.1		7.548	20.38	165			
2.9	±0.03mm	6.605	17.38	170			
2.8		6.158	16.63	170			
2.6		5.309	14.33	170			
2.3		4.155	11.22	175			
2.0		3.142	8.483	185			
1.8		2.545	6.872	185			
1.6		2.011	5.430	190			

## 전기용 경 알루미늄연선

### Hard-Drawn Aluminium Stranded Wire for Electrical Purpose(HASC)

Nominal Sectional Area mm <sup>2</sup>	Number & Dia. of Wire No./mm	Calculated Sectional Area mm <sup>2</sup>	Overall Diameter mm	Max. Conductor Resistance at 20℃ Ω/km	Approx. Weight kg/km	Min. Tensile force N	Standard Length m
1260	91/4.2	1260.75	46.2	0.0230	3499	179950	600
980	91/3.7	978.44	40.7	0.0297	2716	142200	600
850	61/4.2	845.12	37.8	0.0342	2334	120620	1300
660	61/3.7	655.88	33.3	0.0441	1812	95320	1300
510	37/4.2	512.61	29.4	0.0563	1413	73160	1300
400	37/3.7	397.83	25.9	0.0726	1097	57760	1300
300	37/3.2	297.57	22.4	0.0969	820.1	43440	1500
240	19/4.0	238.76	20.0	0.120	654.5	34230	1300
200	19/3.7	204.29	18.5	0.140	559.8	29710	1300
150	19/3.2	152.81	16.0	0.188	418.7	22260	1500
95	7/4.2	96.98	12.6	0.295	264.9	13830	1000
55	7/3.2	56.30	9.6	0.507	153.8	8220	1000
38	7/2.6	37.17	7.8	0.769	101.5	5650	1800
30	7/2.3	29.08	6.9	0.984	79.40	4600	1800

Nominal Sectional Area mm <sup>2</sup>	Number & Dia. of Wire No./mm	Calculated Sectional Area mm <sup>2</sup>	Overall Diameter mm	Max. Conductor Resistance at 20℃ Ω/km	Approx. Weight kg/km	Min. Tensile force KN	Standard Length m
1500	91/4.58	1499.21	50.4	0.0193	4143.1	240.00	600
1400	91/4.43	1402.62	48.7	0.0207	3866.9	224.00	600
1250	91/4.18	1248.77	46.0	0.0231	3452.60	200.00	600
1120	91/3.96	1120.78	43.5	0.0258	3093.5	179.20	600
1000	61/4.57	1000.58	41.1	0.0289	2759.2	160.00	600
900	61/4.33	898.25	39.0	0.0321	2483.3	144.00	600
800	61/4.09	801.43	36.8	0.0361	2207.4	128.00	1300
710	61/3.85	710.14	34.6	0.0407	1959.1	113.60	1300
630	61/3.63	631.30	32.6	0.0458	1738.3	100.80	1300
560	37/4.39	560.04	30.7	0.0515	1542.9	89.60	1300
500	37/4.15	500.48	29.0	0.0577	1377.6	80.00	1300
450	37/3.94	451.11	27.5	0.0641	1239.8	72.00	1300
400	37/3.71	399.98	26.0	0.0721	1102.0	64.00	1300
315	37/3.29	314.55	23.0	0.0916	867.9	51.97	1300
250	19/4.09	249.63	20.5	0.1151	687.1	40.00	1300
200	19/3.66	199.90	18.3	0.1439	549.7	32.00	1300
160	19/3.27	159.57	16.4	0.1798	439.8	26.40	1300
125	19/2.89	124.63	14.5	0.2302	343.6	21.25	1500
100	19/2.59	100.10	12.9	0.2877	274.8	17.00	1500
63	7/3.39	63.18	10.2	0.4545	172.3	10.39	1000
40	7/2.70	40.08	8.09	0.7158	109.4	6.80	1000
25	7/2.13	24.94	6.40	1.1453	68.4	4.50	1800
16	7/1.71	16.08	5.12	1.7896	43.8	3.04	1800
10	7/1.35	10.02	4.05	2.8633	27.4	1.95	1800

## 강심알루미늄연선

### Aluminium Conductor Steel Reinforced (ACSR) / (ACSR(Cardinal))

Nominal Sectional Area mm <sup>2</sup>	No. & Dia of Wire		Calculated Sectional Area		Overall Diameter		Calculated Weight			Min. Tensile force kg	Max. Conductor Resistance at 20℃ Ω/km	Hard- drawn Copper Equiv.Area mm <sup>2</sup>	Length m
	Aluminum No./mm	Steel No./mm	Aluminum mm <sup>2</sup>	Steel mm <sup>2</sup>	Aluminum mm	Steel mm	Aluminum kg/km	Steel kg/km	Total kg/km				
860	54/4.5	19/2.7	858.6	108.8	40.5	13.5	2,381	854.5	3,236	25,710	0.0339	540	600
750	54/4.2	19/2.5	747.9	93.27	37.8	12.5	2,074	732.6	2,807	22,220	0.0388	470	600
680	54/4.0	19/2.4	678.8	85.96	36.0	12.0	1,882	675.2	2,557	20,310	0.0428	427	800
610	54/3.8	7/3.8	612.4	79.38	34.2	11.4	1,698	622.2	2,320	18,150	0.0474	385	1,000
590	30/5.0	19/3.0	589.2	134.3	35.0	15.0	1,634	1,055	2,689	24,300	0.0493	371	1,000
580	54/3.7	7/3.7	580.5	75.25	33.3	11.1	1,610	589.9	2,200	17,470	0.0500	365	1,000
520	54/3.5	7/3.5	519.5	67.35	31.5	10.5	1,441	527.9	1,969	15,600	0.0559	327	1,000
510	26/5.0	7/3.9	510.6	83.65	31.7	11.7	1,415	655.7	2,071	17,210	0.0568	321	1,000
480	30/4.5	10/2.7	477.0	108.9	31.5	13.5	1,323	854.5	2,178	20,160	0.0609	300	1,000
480(Ca.)	54/3.38	7/3.38	484.53	62.81	30.42	10.14	1,345	495.0	1,850	15,300	0.0599	300	1,000or2000
430	26/4.6	7/3.6	432.1	71.26	29.2	10.8	1,197	558.6	1,756	14,610	0.0671	272	1,000
420	30/4.2	19/2.5	415.5	93.27	29.4	12.5	1,152	732.6	1,885	17,380	0.0698	261	1,000
410	26/4.5	7/3.5	413.4	67.35	28.5	10.5	1,145	527.9	1,673	13,890	0.0702	260	1,000
380	30/4.0	19/2.4	377.1	85.96	28.0	12.0	1,046	675.2	1,721	15,930	0.0070	237	1,000
360	26/4.2	7/3.2	360.1	56.29	26.4	9.6	997	441.3	1,439	11,860	0.0805	226	1,000
330	26/4.0	7/3.1	326.8	52.84	25.3	9.3	905.4	414.2	1,320	10,930	0.0888	206	1,000
320	30/3.7	7/3.7	322.5	75.25	25.9	11.1	894.4	589.9	1,484	13,630	0.090	203	1,000
290	30/3.5	7/3.5	288.6	67.35	24.5	10.5	800.4	527.9	1,328	12,170	0.101	181	1,000
280	26/3.7	7/2.9	279.5	46.24	23.5	8.7	774.4	362.4	1,237	9,780	0.104	176	1,400
250	26/3.5	7/2.7	250.1	40.08	22.1	8.1	693.0	313.8	1,007	8,590	0.116	157	1,400
240	30/3.2	7/3.2	241.3	56.29	22.4	9.6	668.9	441.3	1,110	10,210	0.120	152	1,400
210	26/3.2	7/2.5	209.1	34.36	20.3	7.5	578.1	269.4	848.5	7,290	0.139	131	1,400
200	30/2.9	7/2.9	198.2	46.24	20.3	8.7	549.3	362.4	911.7	8,620	0.147	125	1,400
170	26/2.9	7/2.25	171.7	27.83	18.35	6.75	475.6	218.2	693.8	5,980	0.169	108	1,250
160	30/2.6	7/2.6	159.3	37.16	18.2	7.8	441.5	291.3	732.8	6,990	0.182	100	1,900
140	26/2.6	7/2.0	138.0	21.99	16.4	6.0	382.3	172.4	554.7	4,810	0.210	87	1,450
120	30/2.3	7/2.3	124.7	29.09	16.1	6.9	345.7	228.0	573.7	5,550	0.233	78	1,300
120	12/3.5	7/3.5	115.5	67.35	17.5	10.5	318.0	527.9	845.9	9,950	0.250	73	1,300
110	26/2.3	7/1.8	108.0	17.82	14.6	5.4	299.3	139.6	438.9	3,990	0.268	68	1,300
97	12/3.2	7/3.2	96.50	56.26	16.0	9.6	265.7	441.3	707.0	8,050	0.298	61	1,400
95	6/4.5	1/4.5	95.40	15.90	13.5	4.5	261.2	124.0	385.2	3,180	0.301	60	1,300
80	6/4.2	1/4.2	83.10	13.85	12.6	4.2	227.5	108.0	335.5	2,770	0.345	52	1,000
79	12/2.9	7/2.9	79.26	46.24	14.5	8.7	218.2	362.4	580.6	6,820	0.364	50	1,000
75	6/4.0	1/4.0	75.42	12.57	12.0	4.0	206.5	98.05	304.6	2,510	0.380	47	1,000
65	6/3.7	1/3.7	64.50	10.75	11.1	3.7	176.6	83.85	260.5	2,220	0.444	41	1,000
64	12/2.6	7/2.6	63.71	37.16	13.0	7.8	175.4	291.3	466.7	5,510	0.452	40	1,000
58	6/3.5	1/3.5	57.73	9.621	10.5	3.5	158.1	75.04	233.1	1,980	0.497	36	1,000
48	6/3.2	1/3.2	48.25	8.042	9.6	3.2	132.1	62.73	194.8	1,660	0.593	30	1,000
40	6/2.9	1/2.9	39.63	6.605	8.7	2.9	108.50	51.52	160.0	1,400	0.723	25	1,000
32	6/2.6	1/2.6	31.85	5.309	7.8	2.6	87.18	41.41	128.6	1,140	0.899	20	950
25	6/2.3	1/2.3	24.93	4.155	6.9	2.3	68.26	32.41	100.7	907	1.15	16	1,000
19	6/2.0	1/2.0	18.85	3.152	6.0	2.0	51.61	24.51	76.12	698	1.52	12	1,000

## 압축형 강심 알루미늄 연선

### Smooth Body ACSR (SB-ACSR)

Nominal Sectional Area mm <sup>2</sup>	Construction		Overall Diameter mm	Min. Tensile Strength kg	Calculated Weight			Max. Conductor Resistance at 20 °C Ω/km	Hard- drawn Copper Equiv. Area mm <sup>2</sup>	Length m
	Aluminum	Steel			Aluminum kg/km	Steel kg/km	Total kg/km			
	No./shape	No./mm								
12	6/SB	1/1.6	4.4	460	33.05	15.69	48.74	2.40	3.2(mm)	900
19	6/SB	1/2.0	5.5	698	52.33	24.51	76.84	1.52	4.0(mm)	900
25	6/SB	1/2.3	6.3	907	68.85	32.41	101.3	1.15	14	900
32	6/SB	1/2.6	7.2	1,140	88.13	41.41	129.5	0.901	5.0(mm)	900
58	6/SB	1/3.5	9.7	1,980	159.7	75.04	234.7	0.497	38	600
95	6/SB	1/3.5	12.0	2,510	261.6	75.04	336.6	0.303	60	300
120	6/SB	1/4.2	13.6	3,300	330.5	108.0	438.5	0.240	80	300

## 알루미늄피복 강심 알루미늄연선

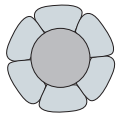
### Aluminium Conductor Aluminum-Clad Steel Reinforced (ACSR/AW) / (ACSR/AW(Cardinal))

Nominal Sectional Area mm <sup>2</sup>	No. & Dia. of Wire		Calculated Sectional Area		Tensile force kgf	Overall Diameter		Approx. Weight kg/km	Approx. Conductor Resistance Ω/km	Length m
	AL No./mm	AW No./mm	AL No./mm	AW No./mm		AL mm	AW mm			
520	54/3.5	7/3.5	519.5	67.35	15,600	31.5	10.5	1,848	0.0536	* (1,000 2,000)
480	45/3.7	7/2.47	483.84	33.54	11,800	29.61	7.41	1,544	0.0586	"
480(Ca.)	54/3.38	7/3.38	484.53	62.81	15,300	30.42	10.14	1,850	0.0599	"
410	26/4.5	7/3.5	413.4	67.35	13,890	28.5	10.5	1,578	0.0665	"
330	26/4.0	7/3.1	326.8	52.84	10,930	25.3	9.3	1,239	0.0842	"
240	30/3.2	7/3.2	241.3	56.29	10,210	22.4	9.6	1,024	0.111	"
160	30/2.6	7/2.6	159.3	37.16	6,990	18.2	7.8	676.4	0.169	"
130	12/3.5	7/3.5	115.45	67.35	9,590	17.5	10.5	737	0.210	"
97	12/3.2	7/3.2	96.5	56.29	10,600	16.0	9.6	608	0.295	"
95	6/4.5	1/4.5	95.40	15.90	3,180	13.5	4.5	362	0.285	"
65	12/2.6	7/2.6	63.71	37.17	5,415	13.0	7.8	401	0.380	"
58	6/3.5	1/3.5	57.73	9.621	1,980	10.5	3.5	299.7	0.471	1,000
32	6/2.6	1/2.6	31.85	5.309	1,140	7.8	2.6	120.6	0.852	1,000

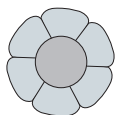
주: \*; 1조의 길이 1,000M는 보수 및 소규모 공사용이고 2,000M는 대규모 공사용임.  
(Ca.); (ACSR(Cardinal)) or (ACSR/AW(Cardinal))를 나타냄.

# ACSR 순서도

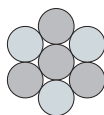
## ACSR CONSTRUCTION



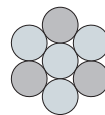
Smooth Body



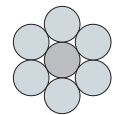
Smooth Body



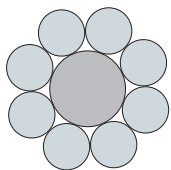
3 Al./4 St.



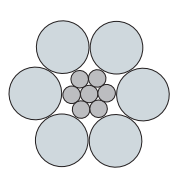
4 Al./3 St.



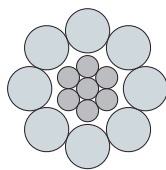
6 Al./1 St.



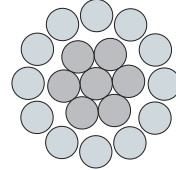
8 Al./1 St.



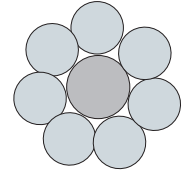
6 Al./7 St.



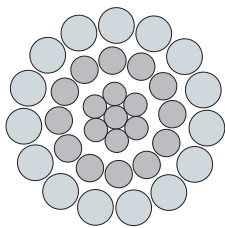
8 Al./7 St.



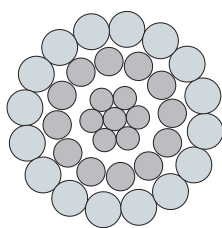
12 Al./7 St.



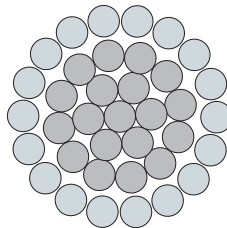
7 Al./1 St.



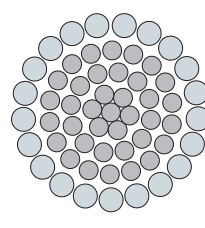
15 Al./19 St.



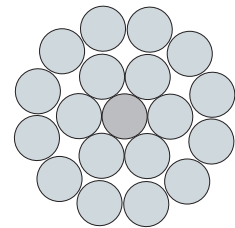
16 Al./19 St.



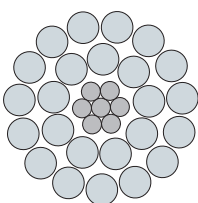
18 Al./19 St.



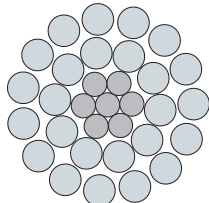
21 Al./37 St.



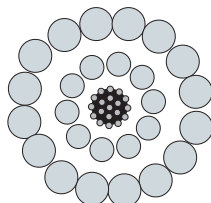
18 Al./1 St.



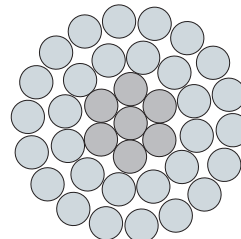
24 Al./7 St.



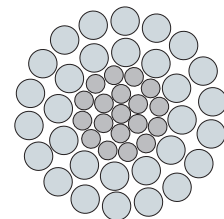
26 Al./7 St.



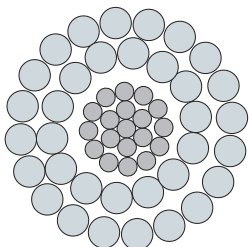
26 Al./19 St.



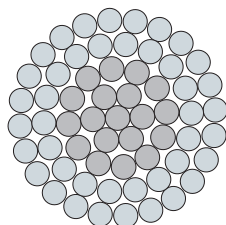
30 Al./7 St.



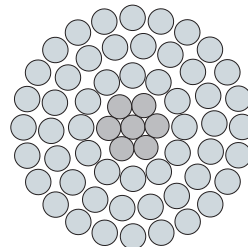
30 Al./19 St.



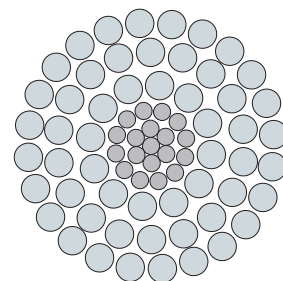
34 Al./19 St.



42 Al./19 St.



54 Al./7 St.



54 Al./19 St.

# 부록

## Appendix



DAEWON CABLE

- 허용전류표  
The Maximum Current
- 케이블 취급시 안전 주의사항
- 동선표  
Wire Gauges

## 허용전류

### THE MAXIMUM PERMISSIBLE CURRENT


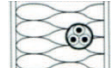



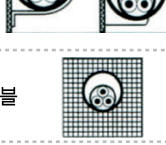

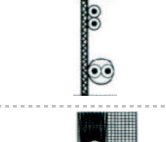
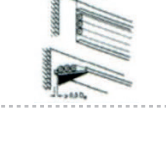


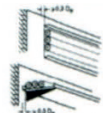

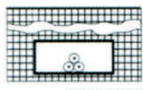
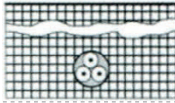




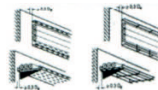



- ◆ 적용규격 KS C IEC 60364-5-52 : 건축전기설비-제5-52부
- ◆ 주위온도 (무부하시) 기중 30℃, 지중 20℃
- ◆ 토양의 열저항률 2.5 K.m/W
- ◆ 시공방법 KS C IEC 60364-5-52 시공방법

최대 도체 허용온도		90℃	
포설온도	기중	30℃	
	지중	20℃	
토양의 열저항		2.5 K.m/W	
매설깊이		0.6/1kV : 50cm	
		6/10kV : 80cm	
케이블 배치 (D:케이블 외경)	기중	평형	
		삼각	
	지중	평형	
		삼각	

## 허용전류

### THE MAXIMUM PERMISSIBLE CURRENT

#### 포설방법

기호	시공방법				
A1	- 단열이 된 벽 내의 전선관에 시공한 절연도체		방	- 단열벽내에 직접 매설한 다심케이블	
A2	- 단열이 된 벽 내의 전선관에 시공한 다심케이블		방		
B1	- 목재 또는 석재 벽면의 전선관에 시공한 절연도체			- 목재 벽면의 케이블 트렁킹에 시공한 절연도체 또는 다심케이블	
	- 빌딩빈틈에 시공한 단심, 다심 케이블 (틈새의 치수와 케이블 외경에 따라 B2로도 계산됨)			- 석조벽 내 전선관의 절연도체 또는 단심 케이블	
B2	- 목재 또는 석재 벽면의 전선관에 시공한 다심케이블			- 빌딩 빈틈에 시공한 단심, 다심 케이블 (틈새의 치수와 케이블 외경에 따라 B1로도 계산됨)	
	- 석조벽(콘크리트) 내 전선관의 다심케이블				
C	- 목재 벽면의 단심, 다심 케이블 (고정 또는 목재 벽면으로부터 케이블 지름의 0.3배 이하로 이격)			- 막힘형 트레이에 포설한 단심, 다심 케이블	
	- 석조벽에 직접 시공한 단심 또는 다심 케이블				
D1	- 지중내 전선관이나 덕트 내에 시공한 단심 또는 다심케이블				
D2	- 지중내에 직접 매설한 단심 또는 다심 케이블				
E	- 기중의 다심 케이블 (벽과의 이격 거리는 케이블 지름의 0.3배 이상)			- 환기형 트레이, 브래킷, 금속망에 포설된 다심 케이블	
	- 사다리에 포설된 다심 케이블				
F	- 단심 케이블로 자유 공기와 접촉 (벽과의 이격거리는 케이블 지름의 0.3배 이상)			- 환기형 트레이 브래킷, 금속망에 포설된 단심 케이블	
	- 사다리에 포설된 단심 케이블				
G	- 기중 개방의 단심 케이블 이격			- 애자 위의 나선 또는 절연전선	

## 허용전류

■ 0.6/1kV XLPE 절연 케이블 ; 도체 최고허용온도 : 90℃

- CV, TFR-CV, TFR-3, TFR-8, HF-CO, HF-CCO, NFR-3, NFR-8

(단위 : A)

공칭 단면적 (mm <sup>2</sup> )	공사 방법													
	A1		A2		B1		B2		C		D1		D2	
	단상	3상	단상	3상	단상	3상	단상	3상	단상	3상	단상	3상	단상	3상
1.5	19	17	18.5	16.5	23	20	22	19.5	24	22	25	21	27	23
2.5	26	23	25	22	31	28	30	26	33	30	33	28	35	30
4	35	31	33	30	42	37	40	35	45	40	43	36	46	39
6	45	40	42	38	54	48	51	44	58	52	53	44	58	49
10	61	54	57	51	75	66	69	60	80	71	71	58	77	65
16	81	73	76	68	100	88	91	80	107	96	91	75	100	84
25	106	95	99	89	133	117	119	105	138	119	116	96	129	107
35	131	117	121	109	164	144	146	128	171	147	139	115	155	129
50	158	141	145	130	198	175	175	154	209	179	164	135	183	153
70	200	179	183	164	253	222	221	194	269	229	203	167	225	188
95	241	216	220	197	306	269	265	233	328	278	239	197	270	226
120	278	249	253	227	354	312	305	268	382	322	271	223	306	257
150	318	285	290	259	393	342	334	300	441	371	306	251	343	287
185	362	324	329	295	449	384	384	340	506	424	343	181	387	324
240	424	380	386	346	528	450	459	398	599	500	395	324	448	375
300	486	435	442	396	603	514	532	455	693	576	446	365	502	419

단상 : 2개의 부하도체

3상 : 3개의 부하도체

## 허용전류

■ 0.6/1kV XLPE 절연 케이블 ; 도체 최고허용온도 : 90℃

- CV, TFR-CV, TFR-3, TFR-8, HF-CO, HF-CCO, NFR-3, NFR-8

(단위 : A)

공칭 단면적 (mm <sup>2</sup> )	도체수와 배치						
	다심 케이블		단심 케이블				
	E		F			G	
	단상	3상	단상 밀착	3상 개연형상	3상 밀착	3상 수평이격	3상 수직이격
1.5	26	23	-	-	-	-	-
2.5	36	32	-	-	-	-	-
4	49	42	-	-	-	-	-
6	63	54	-	-	-	-	-
10	86	75	-	-	-	-	-
16	115	100	-	-	-	-	-
25	149	127	161	135	141	182	161
35	185	158	200	169	176	226	201
50	225	192	242	207	216	275	246
70	289	246	310	268	279	353	318
95	352	298	377	328	342	430	389
120	410	346	437	383	400	500	454
150	473	399	504	444	464	577	527
185	542	456	575	510	533	661	605
240	641	538	679	607	634	781	719
300	741	621	783	703	736	902	833
400	-	-	940	823	868	1085	1008
500	-	-	1083	946	998	1253	1169
630	-	-	1254	1088	1151	1454	1362

단상 : 2개의 부하도체

3상 : 3개의 부하도체

## 허용전류

■ 0.6/1kV PVC 절연 케이블 ; 도체 최고허용온도 : 70℃  
 - VV, CVV(-S, -SB, -AMS), TFR-CVV(-S, -SB, -AMS)

(단위 : A)

공칭 단면적 (mm <sup>2</sup> )	공사 방법													
	A1		A2		B1		B2		C		D1		D2	
	단상	3상	단상	3상	단상	3상	단상	3상	단상	3상	단상	3상	단상	3상
1.5	14.5	13.5	14	13	17.5	15.5	16.5	15	19.5	17.5	22	18	22	19
2.5	19.5	18	18.5	17.5	24	21	23	20	27	24	29	24	28	24
4	26	24	25	23	32	28	30	27	36	32	37	30	38	33
6	34	31	32	29	41	36	38	34	46	41	46	38	48	41
10	46	42	43	39	57	50	52	46	63	57	60	50	64	54
16	61	56	57	52	76	68	69	62	85	76	78	64	83	70
25	80	73	75	68	101	89	90	80	112	96	99	82	110	92
35	99	89	92	83	125	110	111	99	138	119	119	98	132	110
50	119	108	110	99	151	134	133	118	168	144	140	116	156	130
70	151	136	139	125	192	171	168	149	213	184	173	143	192	162
95	182	164	167	150	232	207	201	179	258	223	204	169	230	193
120	210	188	192	172	269	239	232	206	299	259	231	192	261	220
150	240	216	219	196	300	262	258	225	344	299	261	217	293	246
185	273	245	248	223	341	296	294	255	392	341	292	243	331	278
240	321	286	291	261	400	346	344	297	461	403	336	280	382	320
300	367	328	334	298	458	394	394	339	530	464	378	316	427	359

단상 : 2개의 부하도체

3상 : 3개의 부하도체

## 허용전류

■ 0.6/1kV PVC 절연 케이블 ; 도체 최고허용온도 : 70℃  
 - VV, CVV(-S, -SB, -AMS), TFR-CVV(-S, -SB, -AMS)

(단위 : A)

공칭 단면적 (mm <sup>2</sup> )	도체수와 배치						
	다심 케이블		단심 케이블				
	E		F			G	
	단상	3상	단상 밀착	3상 개연형상	3상 밀착	3상 수평이격	3상 수직이격
1.5	22	18.5	-	-	-	-	-
2.5	30	25	-	-	-	-	-
4	40	34	-	-	-	-	-
6	51	43	-	-	-	-	-
10	70	60	-	-	-	-	-
16	94	80	-	-	-	-	-
25	119	101	131	110	114	146	130
35	148	126	162	137	143	181	162
50	180	153	196	167	174	219	197
70	232	196	251	216	225	281	254
95	282	238	304	264	275	341	311
120	328	276	352	308	321	396	362
150	379	319	406	356	372	456	419
185	434	364	463	409	427	521	480
240	514	430	546	485	507	615	459
300	593	497	629	561	587	709	659
400	-	-	754	656	689	852	795
500	-	-	868	749	789	982	920
630	-	-	1005	855	905	1138	1070

단상 : 2개의 부하도체  
 3상 : 3개의 부하도체

## 허용전류

■ 0.6/1kV TFR-GV 도체 최고허용온도 : 70℃

(단위 : A)

공칭단면적 (mm <sup>2</sup> )	도체수와 배치	
	단심 케이블	
	F	F
	단상 밀착	3상 밀착
1.5	23	-
2.5	31	-
4	42	-
6	54	-
10	75	-
16	100	-
25	131	114
35	162	143
50	196	174
70	251	225
95	304	275
120	352	321
150	406	372
185	463	427
240	546	507
300	629	587
400	754	689
500	868	789
630	1005	905

단상 : 2개의 부하도체

3상 : 3개의 부하도체

## 허용전류

■ 450/750V HF-IX ; 도체 최고허용온도 : 90℃

(단위 : A)

공칭단면적 (mm <sup>2</sup> )	공사 방법	
	A1	B1
1.5	19	23
2.5	26	31
4	35	42
6	45	54
10	61	75
16	81	100
25	106	133
35	131	164
50	158	198
70	200	253
95	241	306
120	278	354
150	318	-
185	362	-
240	424	-
300	486	-

## 허용전류

■ 300/500V HIV ; 도체 최고허용온도 : 90℃

(단위 : A)

공칭단면적 (mm <sup>2</sup> )	공사 방법	
	A1	B1
1.5	19	23
2.5	26	31

## 허용전류

■ 450/750V 구리도체, IV ; 도체 최고허용온도 : 70℃

(단위 : A)

공칭단면적 (mm <sup>2</sup> )	공사 방법	
	A1	B1
1.5	14.5	17.5
2.5	19.5	24
4	26	32
6	34	41
10	46	57
16	61	76
25	80	101
35	99	125
50	119	151
70	151	192
95	182	232
120	210	269
150	240	-
185	273	-
240	321	-
300	367	-

## 허용전류

■ 0.6/1kV 알루미늄 도체, XLPE 절연 케이블 ; 도체 최고허용온도 : 90℃  
- CV, TFR-CV

(단위 : A)

공칭 단면적 (mm <sup>2</sup> )	공사 방법													
	A1		A2		B1		B2		C		D1		D2	
	단상	3상	단상	3상	단상	3상	단상	3상	단상	3상	단상	3상	단상	3상
2.5	20	19	19.5	18	25	2	23	21	26	24	26	22	-	-
4	27	25	26	24	33	29	31	28	35	32	33	28	-	-
6	35	32	33	31	43	38	40	35	45	41	42	35	-	-
10	48	44	45	41	59	52	54	48	62	57	55	46	-	-
16	64	58	60	55	79	71	72	64	84	79	71	59	76	64
25	84	76	78	71	105	93	94	84	101	90	90	75	98	82
35	103	94	96	87	130	116	115	103	126	112	108	90	117	98
50	125	113	115	104	157	140	138	124	154	136	128	106	139	117
70	158	142	145	131	200	179	175	156	198	174	158	130	170	144
95	191	171	175	157	242	217	210	188	241	211	186	154	204	172
120	220	197	201	180	281	251	242	216	280	245	211	174	233	197
150	253	226	230	206	307	267	261	240	324	283	238	197	261	220
185	288	256	262	233	351	300	300	272	371	323	267	220	296	250
240	338	300	307	273	412	351	358	318	439	382	307	253	343	290
300	387	344	352	313	471	402	415	364	508	440	346	286	386	326

단상 : 2개의 부하도체

3상 : 3개의 부하도체

## 허용전류

■ 0.6/1kV 알루미늄 도체, XLPE 절연 케이블 ; 도체 최고허용온도 : 90℃  
- CV, TFR-CV

(단위 : A)

공칭 단면적 (mm <sup>2</sup> )	도체수와 배치						
	E	E	F	F	F	G	G
	단상	3상	단상 밀착	3상 개연형상	3상 밀착	3상 수평이격	3상 수직이격
2.5	28	24	-	-	-	-	-
4	38	32	-	-	-	-	-
6	49	42	-	-	-	-	-
10	67	58	-	-	-	-	-
16	91	77	-	-	-	-	-
25	108	97	121	103	107	138	122
35	135	120	150	129	135	172	153
50	164	146	184	159	165	210	188
70	211	187	237	206	215	271	244
95	257	227	289	253	264	332	300
120	300	263	337	296	308	387	351
150	346	304	389	343	358	448	408
185	397	347	447	395	413	515	470
240	470	409	530	471	492	611	561
300	543	471	613	547	571	708	652
400	-	-	740	663	694	856	792
500	-	-	856	770	806	991	921
630	-	-	996	899	942	1154	1077

단상 : 2개의 부하도체

3상 : 3개의 부하도체

## 허용전류

■ 0.6/1kV 알루미늄 도체, PVC 절연 케이블 ; 도체 최고허용온도 : 70℃  
 - VV, CVV(-S, -SB, -AMS), TFR-CVV(-S, -SB, -AMS)

(단위 : A)

공칭 단면적 (mm <sup>2</sup> )	공사 방법													
	A1		A2		B1		B2		C		D1		D2	
	단상	3상	단상	3상	단상	3상	단상	3상	단상	3상	단상	3상	단상	3상
2.5	15	14	14.5	13.5	18.5	16.5	17.5	15.5	21	18.5	22	18.5	-	-
4	20	18.5	19.5	17.5	25	22	24	21	28	25	29	24	-	-
6	26	24	25	23	32	28	30	27	36	32	36	30	-	-
10	36	32	33	31	44	39	41	36	49	44	47	39	-	-
16	48	43	44	41	60	53	54	48	66	59	61	50	63	53
25	63	57	58	53	79	70	71	62	83	73	77	64	82	69
35	77	70	71	65	97	86	86	77	103	90	93	77	98	83
50	93	84	86	78	118	104	104	92	125	110	109	91	117	99
70	118	107	108	98	150	133	131	116	160	140	135	112	145	122
95	142	129	130	118	181	161	157	139	195	170	159	132	173	148
120	164	149	150	135	210	186	181	160	226	197	180	150	200	169
150	189	170	172	155	234	204	201	176	261	227	204	169	224	189
185	215	194	195	176	266	230	230	199	298	259	228	190	255	214
240	252	227	229	107	312	269	269	232	352	305	262	218	298	250
300	289	261	263	237	358	306	308	265	406	351	296	247	336	282

단상 : 2개의 부하도체

3상 : 3개의 부하도체

## 허용전류

■ 0.6/1kV 알루미늄 도체, PVC 절연 케이블 ; 도체 최고허용온도 : 70℃  
 - VV, CVV(-S, -SB, -AMS), TFR-CVV(-S, -SB, -AMS)

(단위 : A)

공칭 단면적 (mm <sup>2</sup> )	도체수와 배치						
	E	E	F	F	F	G	G
	단상	3상	단상 밀착	3상 개연형상	3상 밀착	3상 수평이격	3상 수직이격
2.5	23	19.5	-	-	-	-	-
4	31	26	-	-	-	-	-
6	39	33	-	-	-	-	-
10	54	46	-	-	-	-	-
16	73	61	-	-	-	-	-
25	89	78	98	84	87	112	99
35	111	96	122	105	109	139	124
50	135	117	149	128	133	169	152
70	173	150	192	166	173	217	196
95	210	183	235	203	212	265	241
120	244	212	273	237	247	308	282
150	282	245	316	274	287	356	327
185	322	280	363	315	330	407	376
240	380	330	430	375	392	482	447
300	439	381	497	434	455	557	519
400	-	-	600	526	552	671	629
500	-	-	694	610	640	775	730
630	-	-	808	711	746	900	852

단상 : 2개의 부하도체

3상 : 3개의 부하도체

## 보정 계수

### ■ 주위온도에 대한 허용전류 보정 계수

(단위 : A)

주위온도(℃)	기중 포설		직매 포설	
	70℃	90℃	70℃	90℃
10	1.22	1.15	1.10	1.07
15	1.17	1.12	1.05	1.04
20	1.12	1.08	1.00	1.00
25	1.06	1.04	0.95	0.96
30	1.00	1.00	0.89	0.93
35	0.94	0.96	0.84	0.89
40	0.87	0.91	0.77	0.85
45	0.79	0.87	0.71	0.80
50	0.71	0.82	0.63	0.76
55	0.61	0.76	0.55	0.71
60	0.50	0.71	0.45	0.65
65	-	0.65	-	0.60
70	-	0.58	-	0.53
75	-	0.50	-	0.46
80	-	0.41	-	0.38

## 보정 계수

### ■ 토양의 열저항율이 2.5 K.m/W 이외인 경우의 보정계수

저항율 K.m/W	1.0	1.5	2.0	2.5	3.0
보정계수	1.18	1.1	1.05	1.0	0.96

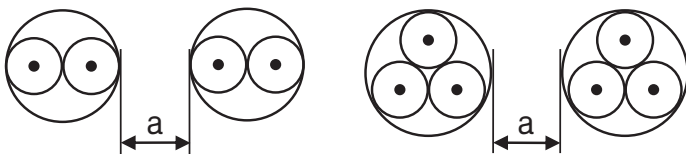
### ■ 복수회로 또는 다심 케이블 복수의 집합에 대한 감소계수

케이블 배치	회로 또는 다심 케이블의 수											
	1	2	3	4	5	6	7	8	9	12	16	20
기중이나 벽면에 묶거나 매설 또는 수납	1.00	0.80	0.70	0.65	0.60	0.57	0.54	0.52	0.50	0.45	0.41	0.38
벽 또는 막힘형 트레이의 단일층	1.00	0.85	0.79	0.75	0.73	0.72	0.72	0.71	0.70	-	-	-
목재 전정면 아래에 직접 고정된 단일층	0.95	0.81	0.72	0.68	0.66	0.64	0.63	0.62	0.61	-	-	-
환기형 수평 또는 수직트레이의 단일층	1.00	0.88	0.82	0.77	0.75	0.73	0.73	0.72	0.72	-	-	-
사다리 지지대 또는 클리트의 단일층	1.00	0.87	0.82	0.80	0.80	0.79	0.79	0.78	0.78	-	-	-

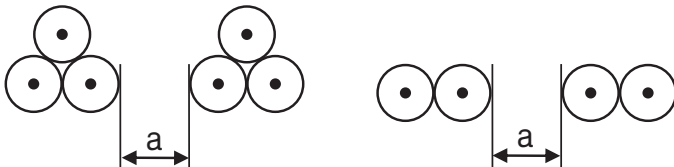
### ■ 지중에 직접 시설한 복수의 케이블에 대한 보정계수(단심 또는 다심 케이블)

회로수	케이블 간격(a)				
	케이블 밀착	1케이블 지름	0.125m	0.25m	0.5m
2	0.75	0.80	0.85	0.90	0.90
3	0.65	0.70	0.75	0.80	0.85
4	0.60	0.60	0.70	0.75	0.80
5	0.55	0.55	0.65	0.70	0.80
6	0.50	0.55	0.60	0.70	0.80

다심



단심



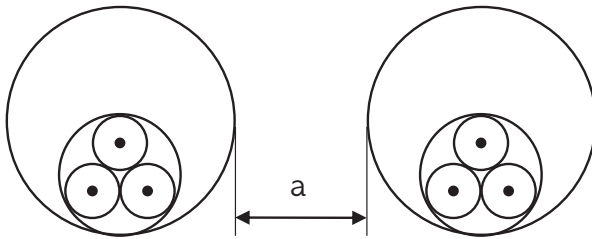
• 매설깊이가 0.7m,  
토양의 열저항율 2.5 K.m/W인  
경우에 적용

## 보정 계수

### ■ 지중 원웨이 덕트내에 시설한 복수의 케이블에 대한 보정계수 (다심 케이블)

회로수	덕트의 간격(a)			
	덕트 밀착	0.25m	0.5m	1.0m
2	0.85	0.90	0.95	0.95
3	0.75	0.85	0.90	0.95
4	0.70	0.80	0.85	0.90
5	0.65	0.80	0.85	0.90
6	0.60	0.80	0.80	0.90

다심

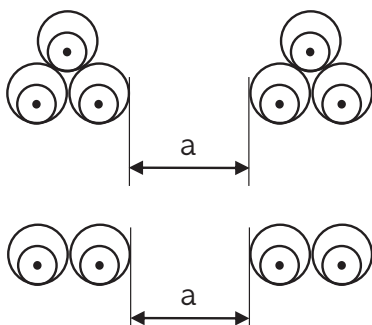


• 매설깊이가 0.7m,  
토양의 열저항율 2.5 K.m/W인  
경우에 적용

### ■ 지중 원웨이 덕트내에 시설한 복수의 케이블에 대한 보정계수 (단심 케이블)

회로수	덕트의 간격(a)			
	덕트 밀착	0.25m	0.5m	1.0m
2	0.80	0.90	0.90	0.95
3	0.70	0.80	0.85	0.90
4	0.65	0.75	0.80	0.90
5	0.60	0.70	0.80	0.90
6	0.60	0.70	0.80	0.90

다심



• 매설깊이가 0.7m,  
토양의 열저항율 2.5 K.m/W인  
경우에 적용

## 허용전류

### THE MAXIMUM PERMISSIBLE CURRENT

#### 6/10kV CV, TFR-CV, HF-CO

◆ 적용규격 : IEC 60287

◆ 주위온도(무부하시) : 기중(30℃), 지중(20℃)

◆ 토양의 열저항 : 1.5 K.m/W

◆ 도체최고 허용온도 : 90℃

(단위 : A)

포설조건		기중 포설		직매 포설	
		3 가닥 S=2d	1가닥 포설	3 가닥 S=2d	1가닥 포설
선심수		단심	3심	단심	3심
공칭 단면적 (mm <sup>2</sup> )	16	150	109	113	101
	25	196	142	144	129
	35	238	170	172	153
	50	286	204	203	181
	70	356	253	246	221
	95	434	304	293	262
	120	500	351	332	298
	150	559	398	366	334
	185	637	455	410	377
	240	745	531	470	434
	300	846	606	524	489
	400	938	—	572	—
	500	951	—	609	—
	630	1083	—	681	—

※ 주위온도에 대한 허용전류 보정계수는 0.6/1kV급의 보정계수에 따른다.

## 허용전류

### THE MAXIMUM PERMISSIBLE CURRENT

#### 22.9kV-y CNCV-W, FR CNCO-W, TR CNCV-W, TR CNCE-W

◆ 주위온도 : 25℃

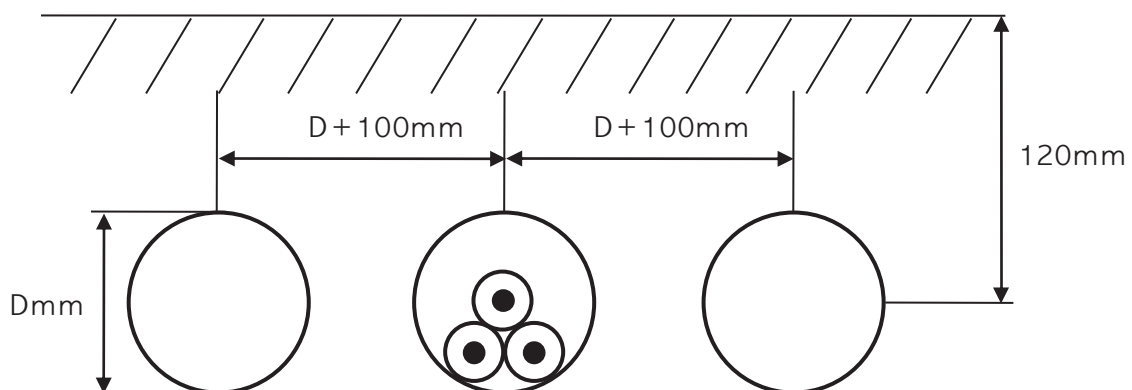
◆ 토양의 열저항 : 1.0 K.m/W

◆ 도체 최고 허용온도 : 90℃

◆ 손실율 : 1.0

(단위 : A)

포설조건		1공 3조		
배 열		삼 각		
회선수		1	2	3
공칭 단면적 (mm <sup>2</sup> )	60	220	200	188
	100	287	258	244
	150	354	317	300
	200	408	363	342
	325	496	438	410
	400	531	466	436
	600	579	505	470



## 케이블 취급시 안전 주의사항

케이블 취급시 다음과 같은 주의 사항을 반드시 숙지하여 제품을 안전하고 정확하게 사용함으로써 불의의 사고나 손해를 사전에 예방합니다.

- 1) 본 제품은 자격이 있는 지정된 사람만이 취급하고 사용하십시오.
- 2) 안전 주의사항은 사용하는 사람이 언제라도 볼 수 있는 장소에 보관하고 반드시 읽어 주십시오.
- 3) 작업 전에 장갑 · 안전모 · 안전화 · 안전복을 착용하십시오.

### 케이블 운반 · 보관 · 포설 및 폐기시 주의사항

#### ◎ 작업전 확인 사항

- 1) 드럼을 싣거나 내릴 때는 지게차나 크레인을 사용하고 충격을 주지 마십시오.
- 2) 드럼에 표시된 중량을 확인하고 드럼보다 큰 용량의 지게차나 크레인을 사용하십시오.
- 3) 드럼은 작업장이나 작업자의 반대 또는 옆방향에 보관 하십시오.

#### ◎ 지게차를 이용한 운반

- 1) 드럼을 들어올릴 때는 지게차 발이 드럼 폭보다 길게 나오도록 하십시오.
- 2) 이동시는 천천히 이동하고 도로의 요철에 의해 드럼에 충격을 가하지 않도록 하십시오.
- 3) 드럼은 가급적 수평인 곳에 내려놓고 드럼이 굴러가는 것을 방지하기 위해 고임목을 설치하십시오.

#### ◎ 차량을 이용한 운반

- 1) 드럼을 고정장치로 차량에 고정시키고, 드럼 중량이 큰 경우 고임목 사용하여 더욱 단단히 고정하십시오.
- 2) 드럼을 차량에 적재하는 운전자 또는 작업자는 드럼에 감는 철선의 단선 및 포장목 부러짐등의 포장상태와 제품의 고정상태를 확인 하십시오.
- 3) 운행 중 고정장치에 충격이 무리하게 가해져 풀림 현상이 발생하지 않도록 급출발 · 급제동을 하지 않아야 하며, 차량 총 높이를 인지하여 각종 도로 구조물들과의 충돌사고를 예방 하십시오.

#### ◎ 보관

- 1) 드럼은 수평인 곳에 보관하고, 드럼이 움직이는 것을 방지하기 위해 고임목을 설치하십시오.
- 2) 드럼과 포장목은 일반 나무재질이므로 가급적 화염 주위에 보관하지 마십시오.
- 3) 드럼은 눕히거나 2단 이상으로 적재하지 마십시오.
- 4) 드럼은 수분이 침투하지 않도록 케이블 양단을 캡 또는 열수축튜브 등으로 밀봉해 주십시오.

- 5) 드럼은 직접 햇빛에 노출되지 않도록 차단막이 있는 곳에 보관하고, 드럼의 포장목이 제거된 때에는 주위 환경으로부터 물리적, 화학적 변화를 발생하지 않도록 보호커버를 해 주십시오.

#### ◎ 포설

- 1) 포설 전 사용자는 제품이 포설 계획에 적합 여부 및 제품에 손상이 없는지 확인하고, 포설할 때 사용되는 장비는 적합한 것이어야 합니다.
- 2) 드럼의 포장목은 케이블 포설 전에 제거하여야 하며, 드럼 안쪽 표면에 튀어나온 못 등의 이물질 유무를 확인하고 제거하여 포설 중 케이블에 손상주지 않도록 하십시오.
- 3) 포설 작업시 케이블에 가해지는 인장강도는 허용 인장강도 이하가 되어야 하며, 인장강도의 급격한 변화가 없어야 합니다. (동도체 최대 허용 인장력 = 도체 공칭단면적 [mm<sup>2</sup>] x 7[kgf/mm<sup>2</sup>])
- 4) 포설 작업시 과도한 굴곡으로 인해 케이블이 꺾여 제품이 손상되지 않도록 허용 곡률반경 이상을 준수 하십시오.

##### ●포설작업시 최소 곡률 반경

- Cu 테이프, 동(銅)선 차폐 단심 케이블 : 케이블 외경의 20배xxx

- 3심 케이블 : 케이블 외경의 15배

##### ●포설 후 운용시 최소 곡률반경

- Cu 테이프, 동(銅)선 차폐 단심 케이블 : 케이블 외경의 15배

- 3심 케이블 : 케이블 외경의 12배

- 5) 포설작업시 케이블의 최외층 피복재가 PVC 재질인 경우 대기온도가 -10 이하에서는 취급 중 케이블 피복재에 금이 갈 수 있으므로 포설작업 및 드럼을 취급하지 않도록 하십시오.
- 6) 포설 또는 운용시에 제품에 직접 충격이나 과도한 압축을 가하면 케이블 손상으로 기능을 잃을 수 있으므로 주의 하십시오.
- 7) 케이블 포설 중 포설 완료 후 수분이 침입하지 않도록 케이블 양단을 캡 또는 열수축 튜브등으로 밀봉해 주십시오.

#### ◎ 제품 손상시 조치사항

포설/운용중에 제품 손상이 발생할 경우 제조자나 전문가에게 의뢰하기 바라며, 제조자나 전문가의 결정에 따라 사용여부를 결정해야 합니다.

#### ◎ 폐기시 주의사항

- 1) 폐기할 때에는 자격 있는 사람이 취급 및 폐기하여 주십시오.
- 2) 폐기할 때에는 케이블 및 드럼을 일반인이 재사용 및 다른 용도로 사용할 수 없도록 취급하여 주십시오.

## ■ 동선표 / Wire Gauges

Gauge System				Diameter		Cross-Sectional Areas			Copper Wire Weight			
mm.G	B.S. or A.W.G	S.W.G	B.W.G	mm	mil	sq.mm	sq.in	cir. mil	kg/km	1b/1,000 ft	1b/mile	
8	1	1	1	8.00	315	50.27	0.07793	99225	446.9	300.42	1586	
				7.62	300	45.60	0.07069	90000	405.4	272.42	1438	
		2	2	7.341	289	42.22	0.06560	83521	376.2	252.82	1335	
				7.214	284	40.87	0.06335	80656	363.3	244.14	1289	
				7.010	276	38.60	0.05983	76176	343.1	230.58	1217	
7	2	3	7.00	276	38.48	0.05983	76176	342.1	229.87	1214		
			6.579	259	33.99	0.05269	67081	303.2	203.05	1072		
6.553			258	33.94	0.05228	66564	299.8	201.48	1064			
6.5			3	4	6.5	256	33.18	0.05147	655336	295.0	198.22	1047
					6.401	252	32.18	0.04988	63504	286.1	192.22	1015
6	3	4	5	6.045	238	28.70	0.04449	56644	255.1	171.46	905.3	
				6.00	236	28.27	0.04374	55696	251.3	168.86	981.6	
				5.893	232	27.27	0.04227	53824	242.5	162.92	860.2	
				5.817	229	26.57	0.04119	57441	236.2	158.74	838.1	
				5.588	220	24.52	0.03801	48400	218.0	145.51	773.5	
5.5	4	5	6	5.50	217	23.76	0.03698	47089	211.2	141.91	749.3	
				5.385	212	22.77	0.03530	44944	202.5	136.04	718.3	
				5.182	204	21.09	0.03269	41616	187.5	125.97	665.1	
				5.156	203	20.88	0.03237	41209	185.6	124.74	658.6	
				5.00	197	19.64	0.03048	38809	174.6	117.32	619.4	
4.5	5	6	7	4.877	192	18.68	0.02895	36864	166.1	111.58	589.1	
				4.623	182	16.78	0.02602	33124	149.2	100.27	529.4	
				4.572	180	16.42	0.02545	32400	146.0	98.072	517.8	
				4.50	177	15.90	0.02416	31329	141.4	95.016	501.7	
				4.47	176	15.70	0.02433	30975	139.5	93.762	495.0	
4	6	8	9	4.191	165	13.79	0.02238	27225	122.6	82.403	435.1	
				4.115	162	13.30	0.02034	26244	118.2	79.439	419.4	
				4.065	160	12.97	0.02011	25600	115.3	77.489	409.1	
				4.00	158	12.67	0.01961	24964	111.7	75.060	396.3	
				3.759	148	11.10	0.01720	21904	98.68	66.302	350.1	
3.5	7	9	10	3.658	144	10.507	0.01629	20736	93.41	62.766	331.4	
				3.50	138	9.621	0.01496	19044	85.53	57.473	303.4	
				3.404	134	9.096	0.01410	17956	80.86	54.351	287.0	
3.2	8	10	11	3.251	128	8.302	0.01287	16384	73.80	49.598	261.9	
				3.20	126	8.042	0.01247	15876	71.49	48.036	253.6	
2.9	9	11	12	3.048	120	7.296	0.01131	14400	64.86	43.588	230.1	
				2.948	116	6.818	0.01057	13456	60.61	40.732	215.1	
				2.90	114.2	6.605	0.01024	13042	58.72	39.455	208.3	
				2.896	114	6.585	0.01021	12996	58.54	39.338	207.7	
				2.769	109	6.020	0.009331	11881	53.52	35.963	189.9	
2.6	10	12	13	2.642	104	5.480	0.008495	10816	48.72	32.739	172.9	
				2.60	102	5.309	0.008171	10404	47.20	31.713	167.4	
				2.591	102	5.272	0.008171	10404	46.87	31.492	166.3	
				2.413	95	4.572	0.007088	9025	40.65	27.318	144.2	
				2.337	92	4.284	0.006648	8464	38.08	25.622	135.3	
2.3	11	13	14	2.311	91	4.196	0.006504	8281	37.30	25.076	132.4	
				2.30	90.6	4.155	0.006447	8208	36.96	24.820	131.0	
				2.108	83	3.491	0.005411	6889	31.04	20.853	110.1	
				2.057	81	3.325	0.005153	6561	29.55	19.860	104.9	
				2.032	80	3.243	0.005027	6400	28.83	19.372	102.3	
2.0	13	15	15	2.00	79	3.142	0.004902	6241	27.93	18.767	99.09	
				1.828	72	2.627	0.004072	5184	23.35	15.692	82.85	
1.8	14	16	16	1.80	71	2.545	0.003959	5041	22.63	15.208	80.30	
				1.651	65	2.140	0.003318	4225	19.03	12.789	67.52	
				1.626	64	2.075	0.003217	4096	18.45	12.398	65.46	
1.6	15	17	17	1.60	63	2.011	0.003117	3969	17.88	12.015	63.44	
				1.473	58	1.704	0.002643	3364	15.15	10.183	53.76	
				1.448	57	1.646	0.002552	3249	14.64	9.835	51.93	
				1.422	56	1.589	0.002463	3136	14.13	9.493	50.12	
1.4	16	18	18	1.40	55	1.539	0.002376	3025	13.68	9.196	48.55	
				1.295	51	1.318	0.002043	2601	11.72	7.873	41.57	
				1.245	49	1.217	0.001886	2401	10.82	7.276	38.42	
				1.219	48	1.168	0.001810	2304	10.38	6.974	36.82	
				1.20	47	1.131	0.001735	2209	10.05	6.753	35.65	
1.2	17	19	19	1.143	45	1.026	0.001590	2025	9.122	6.129	32.36	
				1.067	42	0.8935	0.001385	1764	7.943	5.339	28.19	
				1.016	40	0.8107	0.001257	1600	7.207	4.843	25.57	
				1.00	39	0.7854	0.001195	1521	6.982	4.691	24.77	
				0.9144	36	0.6567	0.001018	1296	5.838	3.923	20.71	
0.9	19	20	20	0.90	35.4	0.6362	0.0009841	1253	5.656	3.801	20.07	
				0.889	35	0.6207	0.0009621	1225	5.518	3.708	19.58	
0.8	20	21	21	0.8128	32	0.5189	0.0008043	1024	4.613	3.098	16.36	
				0.80	31.5	0.5027	0.0007791	992	4.469	3.003	15.86	
				0.7239	28.5	0.4156	0.0006379	812.3	3.695	2.459	12.98	
				0.7112	28	0.3973	0.0006158	784	3.532	2.373	12.53	
				0.700	27.6	0.3748	0.0005983	761.8	3.421	2.299	12.14	
0.7 0.65	22	23	23	0.650	26	0.3318	0.0005309	676	2.950	1.982	10.46	
				0.6428	25.3	0.3243	0.0005027	640	2.883	1.937	10.23	
				0.635	25	0.3167	0.0004909	625	2.816	1.892	9.989	
				0.6096	24	0.2919	0.0004524	576	2.595	1.744	9.208	

Gauge System				Diameter		Cross-Sectional Areas			Copper Wire Weight		
mm.G	B.S. or A.W.G	S.W.G	B.W.G	mm	mil	sq.mm	sq.in	cir. mil	kg/km	1b/1,000 ft	1b/mile
0.60	23	24	24	0.600	23.6	0.2827	0.0004376	557	2.513	1.689	8.918
				0.574	22.6	0.2588	0.0004013	510.8	2.301	1.546	8.163
				0.5588	22	0.2452	0.0003801	484	22.181	1.465	7.735
0.55	24	25	25	0.550	21.7	0.2376	0.0003699	470.9	2.112	1.419	7.491
				0.5105	20.1	0.2047	0.0003173	404	2.820	1.223	6.457
				0.508	20	0.2021	0.0003142	400	1.797	1.211	6.394
0.50	25	26	26	0.500	19.7	0.1964	0.0003048	388.1	1.746	1.173	6.193
				0.458	18	0.1642	0.0002545	324	1.460	0.9807	5.178
				0.4547	17.9	0.1624	0.0002516	320.4	1.443	0.9699	5.121
0.45	26	27	27	0.450	17.7	0.1590	0.0002461	313.3	1.414	0.9504	5.018
				0.4166	16.4	0.1363	0.0002112	268.9	1.212	0.8141	4.298
				0.4064	14	0.1297	0.0002011	256	1.153	0.7749	4.091
0.40	27	28	28	0.4039	15.9	0.1281	0.0001986	252.8	1.139	0.7652	4.040
				0.400	15.8	0.1257	0.0001960	249.6	1.117	0.7506	3.963
				0.3759	14.8	0.1110	0.0001720	219	0.9868	0.6630	3.501
0.35	28	29	29	0.3607	14.2	0.1022	0.0001584	201.6	0.9083	0.6104	3.223
				0.3556	14	0.09928	0.0001539	196	0.8826	0.5933	3.133
				0.350	13.8	0.09621	0.0001495	190.4	0.8553	0.5747	3.034
0.32	29	30	30	0.3454	13.6	0.09372	0.0001453	184.9	0.8332	0.5599	2.956
				0.3302	13	0.0856	0.0001327	169	0.7610	0.5115	2.701
				0.320	12.6	0.08042	0.0001247	158.8	0.7149	0.4805	2.537
0.29	30	31	31	0.3150	12.4	0.0791	0.0001203	153.8	0.7032	0.4654	2.457
				0.3048	12	0.07276	0.0001131	144	0.6486	0.4359	2.301
				0.2946	11.6	0.06818	0.0001057	136.6	0.6061	0.4073	2.150
0.26	31	32	32	0.290	11.4	0.06605	0.0001021	130	0.5872	0.3946	2.083
				0.287	11.3	0.06470	0.0001003	127.7	0.5752	0.3865	2.041
				0.2743	10.8	0.05910	0.00009161	116.6	0.5254	0.3531	1.864
0.23	32	33	33	0.260	10.2	0.05309	0.00008168	104	0.4720	0.3171	1.674
				0.2540	10	0.05067	0.00007854	100	0.4505	0.3027	1.598
				0.2337	9.2	0.04289	0.00006648	84.64	0.3813	0.2562	1.353
0.20	33	34	34	0.230	9.1	0.04155	0.00006504	82.81	0.3694	0.2482	1.310
				0.2286	9	0.04105	0.00006362	81	0.3649	0.2452	1.295
				0.2261	8.9	0.04041	0.00006221	79.21	0.3568	0.2398	1.266
0.18	34	35	35	0.2134	8.4	0.03515	0.00005542	70.56	0.3125	0.2136	1.128
				0.2032	8	0.03243	0.00005027	64	0.2884	0.1937	1.023
				0.2019	7.9	0.03203	0.00004964	63.21	0.2847	0.1913	1.010
0.16	35	36	36	0.2000	7.9	0.03142	0.00004902	62.41	0.2793	0.1877	0.9910
				0.1930	7.6	0.02927	0.00004537	57.76	0.2602	0.1748	0.9229
				0.1803	7.1	0.0255	0.00003959	50.41	0.2271	0.1526	0.8057
0.14	36	37	37	0.180	7.1	0.02545	0.00003959	50.41	0.2263	0.1521	0.8031
				0.1778	7	0.02483	0.00003848	49	0.2207	0.1483	0.7830
				0.1727	6.8	0.02348	0.00003632	46.24	0.2087	0.1400	0.7392
0.12	37	38	38	0.160	6.3	0.02010	0.00003117	39.69	0.1788	0.1201	0.6341
				0.1524	6	0.01824	0.00002827	36	0.1622	0.1090	0.5755
				0.1422	5.6	0.01587	0.00002463	31.36	0.1413	0.09492	0.5012
0.10	38	39	39	0.140	5.5	0.01539	0.00002376	30.25	0.1368	0.09196	0.4855
				0.1321	5.2	0.01370	0.00002124	27.04	0.1218	0.08155	0.4306
				0.1270	5	0.01267	0.00001964	25	0.1126	0.07567	0.3995
0.08	39	40	40	0.1219	4.8	0.01167	0.00001810	23.04	0.1038	0.06947	0.3682
				0.120	4.7	0.01131	0.00001736	22.09	0.1005	0.06762	0.3570
				0.1131	4.5	0.01005	0.00001557	19.83	0.08931	0.06001	0.3168
0.06	40	41	41	0.1118	4.4	0.00981	0.00001521	19.36	0.08721	0.05860	0.3094
				0.1016	4	0.008107	0.00001257	16	0.07207	0.04843	0.2557
				0.100	3.9	0.007854	0.00001194	15.21	0.06982	0.04690	0.2476
0.05	41	42	42	0.0914	3.6	0.006567	0.00001018	12.96	0.05838	0.03923	0.2071
				0.0889	3.5	0.006207	0.00000962	12.25	0.05518	0.03708	0.1958
				0.0813	3.2	0.005187	0.000008043	10.24	0.04613	0.03100	0.1637
0.04	42	43	43	0.0787	3.1	0.004870	0.000007548	9.61	0.04329	0.02909	0.1535
				0.0711	2.8				0.00351		
				0.0633	2.494				0.02802		
0.03	43	44	44	0.0610	2.4				0.02595		
				0.0564	2.221				0.02222		
				0.0508	2.0				0.01802		
0.02	44	45	45	0.0502	1.978				0.01762		
				0.0500	1.969				0.01746		
0.01	45	46	46	0.0477	1.761						
				0.0406	1.6						
				0.0399	1.57						
0.00	46	47	47	0.0356	1.4						
				0.0315	1.24						
				0.0305	1.2						
0.00	47	48	48	0.0282	1.11						
				0.0254	1.0						
				0.0224	0.88						
0.00	48	49	49	0.0198	0.78						
				0.0178	0.7						
				0.0158	0.62						
0.00	49	50	50	0.0140	0.56						
				0.0125	0.5						

Note : mm. G (Millimeter Wire Gauge) S.W.G.(British Standard Wire Gauge) A.W.G.(American Wire Gauge) B.W.G.(Birmingham Wire Gauge) B.S.(Browne & Sharpe Wire Gauge)