

HANSHIN CABLE



좋은사람 · 좋은제품

韓信電線(株)



GREETING

This company, HANSHIN Electric Wire & Cable Co., LTD. founded in 1969 year, have manufactured many kinds of wires and cables.

Since then, we have doing our heart with the motor "HARMONY, COOPERATION, RESPONSIBILITY AND CREATIVE DEVELOPMENT" to supply best quality products as well as to satisfy our customers, At the same time settling quality assurance system and managing quality cost in order to improve reliability of the products.

We bear in mind that we should continuously insure substantiality in its own fields so as to connect national nucleus key industries.

We have made our efforts sincerely and earnestly around 40 years to renovate products through research and development and to meet voluntarily various domestic and overseas requirements that are rapidly fluctuated.

Beginning with bare copper wires, we have acquired about 600 KS marks and 50 certificates of type related to the ELECTRIC Safety APPLIANCE, including insulated wires, cords, power cables.

We take part in export as a consequence of acquiring the UL and ISO 9001 certifications not to mention domestic demands. Either never cease our endeavor day and night in order to produce the products reduced toxin-gas by fire. As a result, this company is producing general flame retardant and non toxin free halogen flame retardant cable.

In the 21st century of unlimited competition and globalization, HANSHIN will continue to perform satisfaction of customers and safety, reliability of product. The members of HANSHIN do their best with arduous labor.

We would like to appreciate cooperation and support for property and growth of HANSHIN. We are also looking forward to expecting that you will give us valuable advices and concern.

HANSHIN will challenge for the future as a leading runner in its own fields.

THANK YOU

HANSHIN Electric Wire & Cable Co., LTD.

President





안녕하십니까?

1969년에 설립된 저희 한신전선은 인화단결, 책임완수, 창의개발의 사훈을 가지고 창립 이래 오늘에 이르기까지 고객에 대한 신용과 제품의 신뢰성 향상을 위하여 전사적인 품질관리의 정착은 물론 품질 보증(Q.A) 체계의 확립에서부터 품질 비용(Q-COST)의 관리에 이르기까지 고객의 만족도를 충족시키고 최고의 품질을 공급하는 것이 고객 여러분께 보답하는 길임을 염두에 두며, 고객만족의 경영체제확립 및 국가산업의 동맥을 튼튼히 연결하는 기업으로 자리 매김하고 있습니다.

40년간 급증하는 국내외의 다양한 수요에 능동적으로 대처하기 위하여 꾸준한 연구개발을 통한 제품 개발에 노력하였습니다.

나동선류를 비롯한 주요 절연전선, 코오드, 전력케이블에 575종의 KS표시허가 및 50여종의 전기용품 안전인증을 취득하였고, UL 및 ISO 9001 인증을 획득하여 내수는 물론 수출에도 일익을 담당하고 있습니다. 또한 화재시 발생하는 유독가스에 의한 인명 피해를 줄이기 위한 일환으로 일반 난연 케이블 및 저독성 난연 케이블의 생산에 박차를 가하여 고객 여러분의 품질 만족도를 최대로 끌어올리고자 불철주야 최선의 노력을 다하고 있습니다.

지구촌이 한가족인 동시에 무한 경쟁 시대인 21세기에는 전선 업계의 초석으로서 고객의 만족도 및 안전도, 신뢰도를 최적화 시키기 위하여 보다 나은 제품, 보다 철저한 품질 체제, 보다 확실한 납기 및 서비스를 통하여 고객의 마음에 감동을 남기고자, 한신 가족 일체가 합심하여 각고의 노력을 다할 것입니다. 그동안 한신전선의 발전과 성장을 지켜보아주신 여러분께 진심으로 감사드리며 고객 여러분의 배전의 관심과 독려, 지속적인 성원을 부탁드립니다.

감사합니다.

한신전선 주식회사

대표이사

이영재

COMPANY PROFILE

- Oct. 1969. Founded HAN SHIN Co. LTD.
- Jul. 1979. Acquired the certificate of type related to the electric appliance, by National Technology Qualification institution.
(besides 2 sorts, 1 sort) total 30 kinds.
- Dec. 1982. Acquired the certificate of Korea telecommunication.(CCP cable) total 14 kinds.
- Jul. 1983. Acquired the authorization of expression of the Korea industrial standard.(KS mark)
(besides KSC 3101, 3 sorts) total 600 kinds.
- Apr. 1985. Approved as a company for the modernize practical plans of small and medium enterprise.
- May. 1985. Selected to be a bright prospective small and medium enterprise by the office of science and technology.
- May. 1986. Acquired the certificate of UL
(Underwriters Laboratories Inc.)
- May. 1987. Acquired the approval of the Korea Electric Power Corporation (KEPCo)(ACSR) total 24 kinds.
- Oct. 1995. Researched and developed CN/CV cable and acquired the approval of KEPCo.
- May. 1996. Award a Korea industrial decoration prize by the government.
- May. 1996. Award the prize of achievement of Non-Calamity target.
- Jul. 1996. Acquired the certificate of ISO 9002.
- Mar. 1997. Selected to be a bright prospective small and medium enterprise by the GYUNGKI province governor.
- May. 1997. Established Laboratory as a subsidiary of HAN SHIN.
- Nov. 1997. Acquired the certificate of type related to the electric appliance(NFR) by National Technology Qualification Institution.
- Mar. 1998. Acquired the approval of the KEPCO (22.9kV CN/CV-W)
- Sep. 2001. Acquired the approval of the KEPCO (22.9kV CNCV-W)
- Apr. 2002. Acquired the certificate of type related to be electric safety appliance (600V TFR-CV)
- May. 2003. Acquired the certificate of ISO 9001:2000 (KETI)
- Jun. 2003. Acquired the certificate of type related to be electric safety appliance (600V TFR-8)
- Oct. 2003. Acquired the certificate of type related to be electric safety appliance (600V TFR-GV)
- Jul. 2004. Acquired the approval of the KEPCO (22.9kV TR CNCV-W)
- Dec. 2004. Acquired the certificate of type related to be electric safety appliance (0.6/1kV FR-CVVS)
- Sep. 2007. Acquired the approval of the KEPCO (22.9kV TR CNCE-W)
- Oct. 2007. Acquired the certificate of Organization Standard(6/10kV TFR-CV, 0.6/1kV TFR-CV, TFR-GV)
- Dec. 2008. Award the prize of Export Tower of Ten Million \$
- Jan. 2009. Award the Certificate of Appreciation by UNICEF
- Dec. 2009. Selected as a export assistance 'good supplier' company by the KEPCO
- Jan. 2010. Selected as a environmental management self-inspection company by Gyeonggi-do
- Mar. 2010. Acquired the certificate of ISO 9001:2008 (KETI)
- Mar. 2010. Acquired the certificate of type related to be electric safety appliance(600V HF-CO)
1969. 10. 10. 회사창립
1979. 5. 전기용품 형식승인 획득 (전 3-1-389 외 1종) 외 총 28종 추가 획득
1982. 12. 한국통신 규격 획득 (CCP케이블 외 총 14규격)
1983. 7. KS 표시허가 획득 (KSC 3101 외 3종) 외 571종 추가 획득
1985. 4. 중소기업 진흥공단 근대화 실천 계획 업체 승인
1985. 5. 유망 중소기업체 선정 (과학 기술처)
1986. 5. UL 승인 획득
1987. 5. 한국전력 승인 획득(ACSR), 외 24종 추가획득
1995. 10. CN/CV 케이블 국산화 개발 및 한국전력 승인 획득
1996. 5. 대한민국 산업 포장 수상, 무재해 1배 목표 달성상 수상
1996. 7. ISO 9002 인증 획득
1997. 3. 유망 중소기업체 선정 (경기도지사)
1997. 5. 한신전선(주) 기업부설연구소 설립
1997. 11. 전기용품 형식승인 획득 (저독 난연폴리올레핀 케이블)
1998. 3. CN/CV-W 케이블 한전 승인 획득
2001. 9. 22.9kV CNCV-W 한전승인 획득 (통합사양)
2002. 3. 600V 트레이용 난연성 전력케이블(TFR-CV) 전기용품 안전인증 획득
2003. 5. ISO 9001:2000 인증 획득 (KETI)
2003. 6. 600V 트레이용 소방용전선 (TFR-8) 전기용품 안전인증 획득
2003. 10. 600V 트레이용 접지전선 (TFR-GV) 전기용품 안전인증 획득
2004. 7. 22.9kV 트리역제형 전력케이블 (TR CNCV-W) 한전승인 획득
2004. 12. 0.6/1kV 트레이용 난연성 제어케이블 (0.6/1kV FR-CVVS) 전기용품 안전인증 획득
2007. 9. 22.9kV 수트리역제 충실 전력케이블 (TR CNCE-W) 한전승인 획득
2007. 10. 6/1kV 난연성 전력케이블 (6/10kV TFR-CV) 외 2종 단체인증 획득
2008. 12. '천만불 수출의 탑' 수상 및 지식경제부장관 표창장 수상
2009. 1. 유니세프 (UNICEF) 감사장 수상
2009. 12. 한국전력 수출지원 'Good Supplier' 업체 선정
2010. 1. 경기도 지정 환경관리 자율점검 업체 선정
2010. 3. ISO 9001:2008 인증 획득 (KETI), 600V 저독성 난연 전력케이블 (HF-CO) 전기용품 안전인증 획득

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- 10 전기용 경 알루미늄연선 | HSAL KSC 3112
Hard drawn aluminum stranded wire for electric purpose.
- 11 강심 알루미늄연선 | ACSR KSC 3113
Aluminum stranded conductor steel reinforced
- 11 Cardinal PS 121-410
- 12 알루미늄피복 강심 알루미늄연선 | ACSR/AW PS 121-313~360
Aluminum stranded clad (PS121-313~360) steel wire
- 12 알루미늄피복 강심 가교폴리에틸렌절연전선 | ACSR/AW-OC ES 121-192~196
Aluminum conductor steel reinforced aluminum clad steel wire out-door crosslinked PE insulated wire
- 12 (특)고압 강심알루미늄도체 가교폴리에틸렌절연전선 | ACSR-OC ES 121-200~202
Aluminum conductor steel reinforced outdoor XLPE insulated wire

코드(Cords)

- 14 비닐 코드 | PVC Cords KSC IEC60227-5

절연전선(Insulated Wire)

- 20 450/750V 일반용 단심비닐절연전선 | IV KSC IEC60227-3
450/750V PVC insulated wire
- 24 옥외용 비닐절연전선 | OW KSC 3313
Outdoor weather-proof PVC insulated wire
- 26 300/500V 내열비닐절연전선 | HIV KSC IEC60227-3
300/500V Heat-resistant PVC insulated wire
- 28 0.6/1kV 접지용 절연전선 | HS-D-138
0.6/1kV PVC insulated wire for Grounding
- 28 0.6/1kV 트레이용 접지절연전선 | HS-D-143
0.6/1kV flame retardant PVC insulated wire for grounding in Tray



전력케이블(Power Cable)

- 31 0.6/1kV 가교폴리에틸렌절연 비닐시스케이블 | CV KSC IEC60502-1
0.6/1kV XLPE insulated PVC sheathed cable
- 31 0.6/1kV 트레이용 난연전력케이블 | TFR-CV, HS-D-141
0.6/1kV XLPE insulated FR-PVC sheathed cable in Tray
- 34 6/10kV 가교폴리에틸렌 전력케이블 | CV KSC IEC60502-2
XLPE insulated PVC sheathed cable for 6/10kV
- 34 6/10kV 트레이용 가교폴리에틸렌 난연전력케이블 | TFR-CV, HS-D126
XLPE insulated FR-PVC sheathed cable for 6/10kV in Tray
- 42 고압가교폴리에틸렌 절연(강대외장) 비닐시스케이블 | IEC502
- 43 0.6/1kV 비닐절연 비닐시스 제어케이블 | CVV KSC IEC60502-1, FR-CVVS(ES 124-921-994)
0.6/1kV PVC insulated & sheathed control cable / Flame retardance PVC sheathed
- 48 0.6/1kV 비닐절연 비닐시스케이블 | VV KSC IEC60502-1
0.6/1kV PVC Insulated & sheathed cables
- 51 22.9kV 동심중성선 전력케이블 | CNCV-W, FR CNCO-W, 수밀형, 난연성, HS-D-129
22.9kV Concentric neutral type XLPE insulated vinyl sheathed power cable(Include water-proof type, Flame-retardant type)
- 51 22.9kV 트리억제형 전력케이블 | TR CNCV-W
22.9kV Concentric neutral type tree retardant XLPE insulated PVC sheathed water proof power cable
- 52 트레이용 난연 내열케이블 | TFR-3, HS-D-131
Tray flame retardant heat-resistant cable
- 52 트레이용 난연 내화케이블 | TFR-8, HS-D-130
Tray flame retardant fire-resistant cable
- 52 저독성 난연케이블 | NFR, HS-D-133
Low smoke, Halogen free flame retardant polyolefin cable
- 59 0.6/1kV 저독성 난연 전력용 케이블 | HF-CO, KSC IEC60502-1
0.6/1kV XLPE insulated halogen free flame retardant polyolefin sheathed power cables
- 62 0.6/1kV 저독성 난연 제어용 케이블 | HF-CCO, KSC IEC60502-1
0.6/1kV XLPE insulated halogen free flame retardant polyolefin sheathed control cables
- 65 6/10kV 저독성 난연 전력용 케이블 | HF-CO, KSC IEC60502-2
6/10kV XLPE insulated halogen free flame retardant polyolefin sheathed power cables

나동선

Bare Copper Wire

전기용 연동선 | A KSC 3101

Annealed copper wire for electric purpose

전기용 경동선 | H KSC 3102

Hard drawn copper wire for electric purpose

1등급 | 단심 및 다심 케이블용 단선

전기용 연동연선 | AS KSC 3103

Annealed copper stranded wire for electric purpose

2등급 | 단심 및 다심 케이블용 연선

전기용 경동연선 | HS KSC 3104

Hard drawn copper stranded wire for electric purpose

전기용 연동선 | Annealed Copper Solid Wire for Electrical Purpose | A

지름 Diameter	오차범위 Tolerance	계산단면적 Calculated Sectional Area	중량 Weight	최대 도체저항 Max. Conductor Resistance at 20°C	최대저항 Max. Resistivity at 20°C	인장하중 Tensile Load	인장강도 Tensile Elongation Strength	신장률 Elongation	중량 Weight	
mm	±mm	mm ²	kg/mm	Ω/km	Ω.mm ² /km	kgf	kg/mm ²	%	kg/piece	kg/reel
12.0	0.06	113.1	1,005	0.1524	17.241	2,830	25.0	35.0	90(coil)	-
10.0	0.06	78.54	698.2	0.2195	17.241	1,960	25.0	35.0	90 "	-
9.0	0.06	63.62	565.6	0.2710	17.241	1,590	25.0	35.0	90 "	-
8.0	0.06	50.27	446.9	0.3430	17.241	1,260	25.0	35.0	90 "	-
7.0	0.06	38.48	342.1	0.4481	17.241	1,000	26.0	30.0	90 "	-
6.5	0.06	33.18	295.0	0.5196	17.241	863	26.0	30.0	90 "	-
6.0	0.06	28.27	251.3	0.6099	17.241	735	26.0	30.0	90 "	-
5.5	0.04	23.76	211.2	0.7256	17.241	618	26.0	30.0	90 "	-
5.0	0.04	19.64	174.6	0.8779	17.241	511	26.0	30.0	80 "	-
4.5	0.04	15.90	141.4	1.084	17.241	413	26.0	30.0	80 "	-
4.0	0.04	12.57	111.7	1.372	17.241	327	26.0	30.0	80 "	-
3.5	0.04	9.621	85.53	1.792	17.241	250	26.0	30.0	80 "	-
3.2	0.04	8.042	71.49	2.144	17.241	209	26.0	30.0	80 "	-
2.9	0.03	6.605	58.72	2.610	17.241	172	26.0	30.0	80 "	-
2.6	0.03	5.309	47.20	3.248	17.241	143	27.0	30.0	60 "	-
2.3	0.03	4.155	36.94	4.149	17.241	112	27.0	30.0	60 "	-
2.0	0.03	3.142	27.93	5.487	17.241	84.8	27.0	30.0	60 "	-
1.8	0.03	2.545	22.63	6.774	17.241	68.7	27.0	25.0	60 "	-
1.6	0.03	2.011	17.88	8.573	17.241	54.3	27.0	25.0	25 "	-
1.4	0.03	1.539	13.68	11.20	17.241	41.6	27.0	25.0	25 "	-
1.2	0.03	1.131	10.05	15.24	17.241	31.7	28.0	25.0	25 "	-
1.0	0.03	0.7854	6.982	21.95	17.241	22.0	28.0	25.0	25 "	-
0.90	0.02	0.6362	5.656	27.10	17.241	17.8	28.0	25.0	20 "	-
0.80	0.02	0.5027	4.469	34.30	17.241	14.1	28.0	25.0	20 "	-
0.70	0.02	0.3848	3.421	44.81	17.241	10.8	28.0	20.0	15 "	-
0.65	0.02	0.3318	2.950	51.96	17.241	9.29	28.0	20.0	15 "	-
0.60	0.02	0.2827	2.513	60.99	17.241	7.92	28.0	20.0	15 "	-
0.55	0.02	0.2376	2.112	72.56	17.241	6.65	28.0	20.0	15 "	-
0.50	0.01	0.1964	1.746	87.79	17.241	5.50	28.0	20.0	10 "	-
0.45	0.01	0.1590	1.414	109.2	17.363	-	-	20.0	10 "	-
0.40	0.01	0.1257	1.117	138.1	17.363	-	-	20.0	10 "	-
0.35	0.01	0.09621	0.8553	180.5	17.363	-	-	20.0	10 "	-
0.32	0.01	0.08042	0.7149	215.9	17.363	-	-	20.0	3(reel)	3.5
0.29	0.01	0.06605	0.5872	266.4	17.415	-	-	20.0	1 "	1.2
0.26	0.01	0.05309	0.4720	331.4	17.415	-	-	15.0	1 "	1.2
0.23	0.008	0.04155	0.3694	423.4	17.415	-	-	15.0	1 "	1.2
0.20	0.008	0.03142	0.2793	559.9	17.415	-	-	15.0	1 "	1.2
0.18	0.008	0.02545	0.2263	691.3	17.415	-	-	15.0	1 "	1.2
0.16	0.008	0.02011	0.1788	874.9	17.415	-	-	15.0	1 "	1.2
0.14	0.008	0.01539	0.1368	1,143.0	17.415	-	-	15.0	1 "	1.2
0.12	0.008	0.01131	0.1005	1,556.0	17.415	-	-	15.0	1 "	1.2
0.10	0.008	0.007854	0.06982	2,240.0	17.415	-	-	15.0	1 "	1.2
0.08	0.008	0.005026	0.04468	3,500.6	17.415	-	-	10.0	1 "	1.2

전기용 경동선

| Hard-Drawn Copper Solid Wire for Electrical Purpose

| H

지름 Diameter	오차범위 Tolerance	계산단면적 Calculated Sectional Area	중량 Weight	최대도체저항 Max. Conductor Resistance at 20°C	최대저항 Max. Resistivity at 20°C	인장하중 Tensile Load	인장강도 Tensile Strength	신장률 Elongation	중량 Coil Weight
mm	±mm	mm ²	kg/km	Ω/km	Ω. mm ² /km	kg	kg/mm ²	%	kg/piece
12.0	0.06	113.10	1,005	0.1572	17.774	3,830	33.9	3.12	90
10.0	0.06	78.54	698.2	0.2263	17.774	2,840	36.1	2.64	90
9.0	0.06	63.62	565.6	0.2794	17.774	2,370	37.2	2.40	90
8.0	0.06	50.27	446.9	0.3536	17.774	1,930	38.3	2.16	90
7.0	0.06	38.48	342.1	0.4619	17.774	1,520	39.4	1.92	90
6.5	0.06	33.18	295.0	0.5357	17.774	1,330	40.0	1.80	90
6.0	0.06	28.27	251.3	0.6287	17.774	1,140	40.5	1.68	90
5.5	0.04	23.76	211.2	0.7481	17.774	977	41.1	1.56	90
5.0	0.04	19.64	174.6	0.9050	17.774	817	41.6	1.44	80
4.5	0.04	15.90	141.4	1.118	17.774	671	42.2	1.32	80
4.3	0.04	14.52	129.1	1.224	17.774	616	42.4	1.27	80
4.0	0.04	12.57	111.7	1.414	17.774	537	42.7	1.20	80
3.7	0.04	10.75	95.37	1.653	17.774	462	43.0	1.13	80
3.5	0.04	9.621	85.53	1.847	17.774	417	43.3	1.08	80
3.2	0.04	8.042	71.49	2.210	17.774	351	43.6	1.01	80
2.9	0.03	6.605	58.72	2.691	17.774	290	43.9	0.94	80
2.6	0.03	5.309	47.20	3.348	17.774	235	44.2	0.86	60
2.3	0.03	4.155	36.94	4.278	17.774	185	44.6	0.79	60
2.0	0.03	3.142	27.93	5.657	17.774	141	44.9	0.72	60
1.8	0.03	2.545	22.63	7.057	17.959	115	45.1	0.67	60
1.6	0.03	2.011	17.88	8.931	17.959	91.1	45.3	0.62	25
1.4	0.03	1.539	13.68	11.67	17.959	70.2	45.6	0.58	25
1.2	0.03	1.131	10.05	15.88	17.959	51.8	45.8	0.53	25
1.0	0.03	0.7854	6.982	22.87	17.959	36.1	46.0	0.48	25
0.90	0.02	0.6362	5.656	28.23	17.959	29.3	46.1	0.46	20
0.80	0.02	0.5027	4.469	35.73	17.959	23.2	46.2	0.43	20
0.70	0.02	0.3848	3.421	46.67	17.959	17.8	46.3	0.41	15
0.65	0.02	0.3318	2.950	54.13	17.959	15.4	46.4	0.40	15
0.60	0.02	0.2827	2.513	63.53	17.959	13.1	46.4	0.38	15
0.55	0.02	0.2376	2.112	75.59	17.959	11.0	46.5	0.37	15
0.50	0.01	0.1964	1.746	91.44	17.959	9.15	46.6	0.36	10
0.45	0.01	0.1590	1.414	113.0	17.959	7.41	46.6	0.35	10
0.40	0.01	0.1257	1.117	142.9	17.959	5.87	46.7	0.34	10

1등급

| 단심 및 다심 케이블용 단선

| KSC IEC60228

공칭단면적 Nominal Sectional Area	최대도체저항 Max. Conductor Resistance at 20°C	공칭단면적 Nominal Sectional Area	최대도체저항 Max. Conductor Resistance at 20°C	공칭단면적 Nominal Sectional Area	최대도체저항 Max. Conductor Resistance at 20°C
mm ²	Ω/km	mm ²	Ω/km	mm ²	Ω/km
0.5	36	10	1.83	120	0.153
0.75	24.5	16	1.15	150	0.124
1	18.1	25	0.727	185	-
1.5	12.1	35	0.524	240	-
2.5	7.41	50	0.387	300	-
4	4.61	70	0.268		
6	3.08	95	0.193		

전기용 연동연선 | Annealed Copper Stranded Wire for Electrical Purpose | AS

공칭단면적 Nominal Sectional Area	소선수/지름 No. & Dia. of Wire	계산단면적 Calculated Section Area	완성외경 Overall Diameter	중량 Weight	최대도체저항 Max. Conductor Resistance at 20°C	표준길이 Length	표준길이 대비중량 Weight
mm ²	No./mm	mm ²	mm	kg/km	Ω/km	m/reel	kg/reel
1,000	127/3.2	1,021	41.6	9,315	0.0173	300	2,795
850	127/2.9	838.8	37.7	7,651	0.0211	300	2,295
725	91/3.2	731.8	35.2	6,655	0.0241	300	1,997
600	91/2.9	601.1	31.9	5,166	0.0293	300	1,550
500	61/3.2	490.6	28.8	4,448	0.0359	300	1,334
400	61/2.9	402.9	26.1	3,654	0.0454	300	1,096
325	61/2.6	323.8	23.4	2,937	0.0543	300	881
250	61/2.3	253.5	20.7	2,298	0.0694	300	689
200	37/2.6	196.4	18.2	1,776	0.0893	500	888
150	37/2.3	153.7	16.1	1,390	0.114	600	834
125	19/2.9	125.5	14.5	1,129	0.139	600	677
100	19/2.6	100.9	13.0	907.6	0.173	600	545
80	19/2.3	78.95	11.5	710.3	0.221	1,000	710
60	19/2.0	59.70	10.0	537.0	0.292	1,000	537
50	19/1.8	48.36	9.0	435.1	0.361	1,000	435
38	7/2.6	37.16	7.8	334.4	0.470	300	100
30	7/2.3	29.09	6.9	261.7	0.600	300	79
22	7/2.0	21.99	6.0	197.9	0.793	300	59
14	7/1.6	14.08	4.8	126.7	1.24	500	63
8	7/1.2	7.917	3.6	71.19	2.20	500	36
5.5	7/1.0	5.498	3.0	49.46	3.17	500	25
3.5	7/0.8	3.519	2.4	31.66	4.96	500	16
2.0	7/0.6	1.979	1.8	17.80	8.82	500	9
1.4	7/0.5	1.357	1.5	12.37	12.7	500	6
1.25	7/0.45	1.113	1.35	10.02	15.8	500	5
0.9	7/0.4	0.8799	1.2	7.913	20.0	500	4

2등급 | 단심 및 다심 케이블용 연선 | KSC IEC60228

공칭단면적 Nominal Sectional Area	도체의 최소 소선수			최대도체저항 Max. Conductor Resistance at 20°C	공칭단면적 Nominal Sectional Area	도체의 최소 소선수			최대도체저항 Max. Conductor Resistance at 20°C
	원형도체 Circular Stranded Conductor	원형압축도체 Circular Compacted Conductor	선형도체 Shape Conductor			원형도체 Circular Stranded Conductor	원형압축도체 Circular Compacted Conductor	선형도체 Shape Conductor	
mm ²	Cu	Cu	Cu	Ω/km	mm ²	Cu	Cu	Cu	Ω/km
0.5	7			36.0	150	37	18	18	0.124
0.75	7			24.5	185	37	30	30	0.099 1
1	7			18.1	240	61	34	34	0.175 4
1.5	7	6		12.1	300	61	34	34	0.060 1
2.5	7	6		7.41	400	61	53	53	0.047 0
4	7	6		4.61	500	61	53	53	0.036 6
6	7	6		3.08	630	91	53	53	0.028 3
10	7	6		1.83	800	91	53	-	0.022 1
16	7	6		1.15	1000	91	53	-	0.017 6
25	7	6	6	0.727	1200	(²)	(²)	-	0.015 1
35	7	6	6	0.524	(1400) (³)	(²)	(²)	-	0.012 9
50	19	6	6	0.387	1600	(²)	(²)	-	0.011 3
70	19	12	12	0.268	(1800) (³)	(²)	(²)	-	0.010 1
95	19	15	15	0.193	2000	(²)	(²)	-	0.009 0
120	37	18	18	0.153					

주) (²) 최소 소선수는 규정하지 않는다. (³) ()안의 치수는 권장하지 않는다.

전기용 경동연선 | Hard-Drawn Copper Stranded Wire for Electrical Purpose | HS

일반용 (For General Purpose)

공칭단면적 Nominal Sectional Area	소선수 소선지름 No. & Dia. of Wire	계산단면적 Calculated Section Area	완성외경 Overall Diameter	중량 Weight	최대도체저항 Max. Conductor Resistance at 20°C	최소인장하중 Min. Tensile Load	표준길이 Length	표준길이 대비중량 Weight
mm ²	No./mm	mm ²	mm	kg/km	Ω/km	kg	m/reel	kg/reel
1,000	127/3.2	1,021	41.6	9,315	0.0179	40,100	300	2,795
850	127/2.9	838.8	37.7	7,651	0.0217	33,100	300	2,295
725	91/3.2	731.8	35.2	6,655	0.0248	28,700	300	1,997
600	91/2.9	601.1	31.9	5,466	0.0303	23,800	300	1,640
500	61/3.2	490.6	28.8	4,448	0.0370	19,300	300	1,334
400	61/2.9	402.9	26.1	3,654	0.0450	15,900	300	1,096
325	61/2.6	323.8	23.4	2,937	0.0560	12,900	300	881
250	61/2.3	253.5	20.7	2,298	0.0715	10,200	500	1,149
200	37/2.6	196.4	18.2	1,776	0.0920	7,830	500	888
150	37/2.3	153.7	16.1	1,390	0.118	6,160	600	834
125	19/2.9	125.5	14.5	1,129	0.143	4,960	600	677
100	19/2.6	100.9	13.0	907.6	0.178	4,020	600	545
80	19/2.3	78.95	11.5	710.3	0.228	3,160	1,000	710
60	19/2.0	59.70	10.0	537.0	0.301	2,410	1,000	537
50	19/1.8	48.36	9.0	435.1	0.376	1,970	1,000	435
38	7/2.6	37.16	7.8	334.4	0.484	1,480	1,000	334
30	7/2.3	29.09	6.9	261.7	0.618	1,170	300	79
22	7/2.0	21.99	6.0	197.9	0.818	888	300	59
14	7/1.6	14.08	4.8	126.7	1.29	574	500	63
8.0	7/1.2	7.917	3.6	71.19	2.30	326	500	36
5.5	7/1.0	5.498	3.0	49.46	3.31	227	500	25
3.5	7/0.8	3.519	2.4	31.66	5.17	146	500	16
2.0	7/0.6	1.979	1.8	17.80	9.18	83	500	9
1.4	7/0.5	1.375	1.5	12.37	13.2	58	500	6
0.9	7/0.4	0.8799	1.2	7.913	20.7	37	500	4

가공송전용 (For Overhead Transmission Purpose)

공칭단면적 Nominal Sectional Area	소선수 소선지름 No. & Dia. of Wire	계산단면적 Calculated Section Area	완성외경 Overall Diameter	중량 Weight	최대도체저항 Max. Conductor Resistance at 20°C	최소인장하중 Min. Tensile Load	표준길이 Length	표준길이 대비중량 Weight
mm ²	No./mm	mm2	mm	kg/km	Ω/km	kg	m/reel	kg/reel
240	19/4.0	238.8	20.0	2,148	0.0753	9,180	600	1,289
200	19/3.7	204.3	18.5	1,838	0.0880	7,900	700	1,287
180	19/3.5	182.8	17.5	1,645	0.0984	7,130	800	1,316
150	19/3.2	152.8	16.0	1,375	0.118	6,000	1,000	1,375
125	19/2.9	125.5	14.5	1,129	0.143	4,960	1,000	1,129
100	7/4.3	101.6	12.9	914.5	0.177	3,880	600	549
75	7/3.7	75.25	11.1	677.0	0.239	2,910	700	474
55	7/3.2	56.29	9.6	506.4	0.320	2,210	1,000	506
45	7/2.9	46.24	8.7	416.0	0.389	1,830	1,000	416
38	7/2.6	37.16	7.8	334.4	0.484	1,480	1,000	334
30	7/2.3	29.09	6.9	261.7	0.618	1,170	1,200	314
22	7/2.0	21.99	6.0	197.9	0.818	888	1,200	237

알루미늄선

Aluminum Wire

전기용 경 알루미늄선 | HAL KSC 3111
Hard drawn aluminum wire for electric purpose

전기용 경 알루미늄연선 | HSAL KSC 3112
Hard drawn aluminum stranded wire for electric purpose

강심 알루미늄연선 | ACSR KSC 3113
Aluminum stranded conductor steel reinforced

Cardinal | PS 121-410

알루미늄 피복강심 알루미늄연선
| ACSR/AW PS 121-313~360
Aluminum stranded clad steel wire

알루미늄 피복강심 가교폴리에틸렌절연전선
| ACSR/AW-OC ES 121-192~196
Aluminum conductor steel reinforced aluminum clad
steel wire outdoor crosslinked PE insulated wire

(특)고압 강심알루미늄도체 가교폴리에틸렌절연전선
| ACSR-OC ES 121-200-202
Aluminum conductor steel reinforced outdoor XLPE insulated wire



전기용 경 알루미늄선 | Hard-Drawn Aluminum Wire for Electrical Purpose | HAL

지름 초과 Diameter Over	지름 이하 Diameter Under	오차범위 Tolerance	최소인장강도 Min. Tensile Strength	최대저항 Max. Resisivity at 20°C	참고 Reference			
					밀도 Density	선형팽창계수 Coefficient Linear Expansion	알루미늄 함유량 Contained Quantity of Aluminum	전도율 Conductivity
mm	mm	mm ²	MPa	nΩm	kg/dm ³	°C	%	%
-	1.25	± 0.03mm	200	28.264	2.703	23 X 10 ⁻⁶	99.5	61
1.25	1.50		195					
1.50	1.75		190					
1.75	2.00		185					
2.00	2.25		180					
2.25	2.50		175					
2.50	3.00	± 1%	170					
3.00	3.50		165					
3.50	5.00		160					

전기용 경 알루미늄연선 | Hard-Drawn Aluminum Stranded Wire | HSAL

공칭단면적 Nominal Sectional Area	소선수 소선지름 No. & Dia. of Wire	계산단면적 Calculated Section Area	완성외경 Overall Diameter	중량 Weight	최소인장하중 Min. Tensile Load	최대도체저항 Max. Conductor Resistance at 20°C	Hard-drawn Copper Equiv. Area	길이 Length
mm ²	No./mm	mm ²	mm	kg/km	kg	Ω/km	mm ²	m
1,260	91/4.2	1,260	46.2	3,499	18,350	0.0230	792	600
1,000	127/3.2	1,021	41.6	2,840	15,200	0.0285	642	800
980	91/3.7	978.3	40.7	2,716	14,500	0.0297	615	600
880	91/3.5	875.5	38.5	2,426	13,020	0.0331	551	700
850	61/4.2	844.9	37.8	2,334	12,300	0.0342	531	1,300
770	61/4.0	766.8	36.0	2,118	11,140	0.0377	482	1,000
725	91/4.2	731.8	35.2	2,027	10,890	0.0396	460	800
660	61/3.7	655.8	33.3	1,812	9,720	0.0441	412	1,300
590	61/3.5	586.9	31.5	1,621	8,730	0.0493	369	1,350
510	37/4.2	512.5	29.4	1,413	7,460	0.0563	322	1,300
500	61/3.2	490.6	28.8	1,355	7,300	0.0589	309	800
460	37/4.0	465.1	28.0	1,282	6,760	0.0612	292	1,000
400	37/3.7	397.8	25.9	1,097	5,890	0.0726	250	1,300
325	61/2.6	323.8	23.4	894.2	5,020	0.0892	204	1,200
300	37/3.2	297.6	22.4	820.1	4,430	0.0969	187	1,500
250	37/2.9	244.4	20.3	673.6	3,700	0.118	154	2,000
240	19/4.0	238.8	20.0	654.5	3,490	0.120	150	1,300
200	37/2.6	196.4	18.2	541.3	3,030	0.147	124	2,400
200	19/3.7	204.3	18.5	559.8	3,030	0.140	128	1,300
150	19/3.2	152.8	16.0	418.7	2,270	0.188	96	1,500
125	19/2.9	125.5	14.5	343.9	1,900	0.229	79	2,000
100	19/2.6	100.9	13.0	276.4	1,560	0.284	63	2,400
95	7/4.2	96.65	12.6	264.9	1,410	0.295	61	1,000
75	7/3.7	75.25	11.1	205.6	1,120	0.380	47	1,900
55	7/3.2	56.29	9.6	153.8	838	0.507	35	1,000
45	7/2.9	46.24	8.7	126.3	699	0.619	29	1,000
38	7/2.6	37.16	7.8	101.5	576	0.769	23	1,800
30	7/2.3	29.06	6.9	79.40	469	0.984	18	1,800
22	7/2.0	21.99	6.0	60.09	369	1.30	14	2,000

강심 알루미늄연선 | ACSR

공칭단면적 Nominal Sectional Area	소선수/소선지름 No. & Dia. of Wire		최소 인장하중 Min. Tensile load	완성외경 (AL) Overall Diameter	Current Carrying Capacity			중량 Weight	전기저항 Electric Resistance	표준길이 Standard Length
mm ²	Al	St	kgf	mm	40°C	30°C	20°C	kg/km	Ω/km	m
19	6/2.0	1/2.0	698	6.0	112	124	135	76.12	1.52	1,000
32	6/2.6	1/2.6	1,140	7.8	155	172	188	128.6	0.899	1,000
58	6/3.5	1/3.5	1,980	10.5	222	248	271	233.1	0.497	1,000
*65	12/2.6	7/2.6	5,415	13.0	-	-	-	465.0	0.4565	2,000
80	6/4.2	1/4.2	2,770	12.6	-	-	-	335.5	0.345	1,000
95	6/4.5	1/4.5	3,180	13.5	296	308	362	385.2	0.301	1,300
*97	12/3.2	7/3.2	10,600	16.0	310	348	381	708.9	0.301	1,000(2,000)
*120	12/3.5	7/3.5	9,590	17.5	365	398	436	845.9	0.25	2,000
120	30/2.3	7/2.3	5,550	16.1	355	398	436	573.9	0.233	1,300
160	30/2.6	7/2.6	6,990	18.2	410	461	505	732.8	0.182	1,300
200	30/2.9	7/2.9	8,620	20.3	473	532	583	911.7	0.147	1,400
240	30/3.2	7/3.2	10,210	22.4	536	603	662	1,110	0.12	1,400
330	26/4.0	7/3.1	10,930	25.3	643	825	796	1,320	0.0888	1,000
410	26/4.5	7/3.5	13,890	28.5	749	845	929	1,673	0.0702	1,000
*480	45/3.7	7/2.47	11,800	29.61	807	910	1001	1,599	0.05994	2,000
520	54/3.5	7/3.5	15,600	31.5	851	960	1057	1,969	0.0559	1,000
610	54/3.8	7/3.8	18,150	34.2	947	1070	1177	2,320	0.0474	1,000

* : 한국전력공사의 규격입니다.

* : Korea electric power Corporation's Specification.

종류 Kinds	Marking		표준 Spec.	구조/적용 Construction/Application
Aluminum stranded Conductor steel reinforced	ACSR, Cardinal		KSC 3113, PS121-410 ESA 121-113-160	Zincked steel/Aluminum higher power transmission Cable.
Aluminum stranded clad steel wire	ACSR/AW		PS 121-360-313*	Aluminum clad steel/Aluminum higher power transmission Cable.
Aluminum conductor steel reinforced outdoor XLPE insulated wire	고압	ACSR-OC	ESB 121-200-202* ESB 121-230-275*	Zincked steel/Aluminum XLPE insulated higher power transmission Cable.
	특고압			
Aluminum conductor steel reinforced aluminum clad steel wire outdoor crosslinked PE insulated wire	고압	ACSR/AW-OC	PS 49-121-000*	Aluminum clad steel/Aluminum XLPE insulated higher power transmission Cable.
	특고압			

강심 알루미늄 연선 | ACSR(Cardinal)

알루미늄 피복 강심 알루미늄 연선 | ACSR/AW(Cardinal)

공칭단면적 Nominal Sectional Area	Al	St	계산단면적 Calculated Section Area (mm ²)		최소 인장하중 Min Tensile Load	중량 Weight	최대 도체저항 Max Cuductor Resistance at 20°C	완성외경 Overall Diameter		길이 Length
mm ²	mm	mm	Al	St	kg	kg/km	Ω/km	Al	St	m
480 Cardinal	54/3.38	7/3.38	484.53	62.81	15,300	1,836	0.0599	30.42	10.14	1,000 2,000
ACSR/AW	54/3.38	7/3.38	484.53	62.81	15,300	1,760	0.0574	30.42	10.14	order length

알루미늄피복 강심 알루미늄연선 | ACSR/AW

공칭단면적 Nominal Sectional Area	소선수/소선지름 No. & Dia. of Wire mm		최소 인장하중 Min. Tensile load	완성외경 (AL) Overall Diameter	Current Carrying Capacity			중량 Weight	전기저항 Electric Resistance	표준길이 Standard Length
	mm ²	Al	St		kgf	mm	40°C	30°C	20°C	
32	6/2.6	1/2.6	1,140	7.8	159	177	193	120.6	0.852	1,000
58	6/3.5	1/3.5	1,980	10.5	228	255	278	299.7	0.471	1,000
65	12/2.6	7/2.6	5,415	13.0	242	271	296	401	0.380	1,000
95	6/4.5	1/4.5	3,180	13.5	304	340	372	362	0.285	1,000
97	12/3.2	7/3.2	10,600	16.0	313	351	385	608	0.295	1,000
120	12/3.5	7/3.5	9,590	17.5	382	429	470	737	0.210	1,000
160	30/2.6	7/2.6	6,990	18.2	426	478	524	676.4	0.169	1,000
240	30/3.2	7/3.2	10,210	22.4	558	627	689	1024	0.111	1,000
330	26/4.0	7/3.1	10,930	25.3	661	744	817	1239	0.0842	1,000
410	26/4.5	7/3.5	13,890	28.5	770	868	954	1578	0.0665	1,000
480	45/3.7	7/2.47	11,800	29.61	816	921	1012	1544	0.0586	1,000
520	54/3.5	7/3.5	15,600	31.5	869	981	1079	1848	0.0536	1,000

알루미늄피복 강심 가교폴리에틸렌 절연전선 | ACSR/AW-OC

전압 Voltage	공칭단면적 Nominal Sectional Area	도체 Conductor			절연두께 Insulation Thickness	완성외경 Overall Diameter	최대 도체저항 Max. Conductor Resistance at 20°C	시험전압 Test Voltage	최소 절연저항 Min. Insulation Resistance at 20°C	도체 인장하중 Conductor Min. Tensile load	계산중량 Calculated Weight	표준길이 Standard Length
		소선수 지름(Al) No. & Dia. of Wire Al	소선수 지름(St) No. & Dia. of Wire St	바깥지름 Outer Diameter								
	mm ²	mm	mm	mm	mm	mm	Ω/km	kV	MΩ-km	kgf	kg/km	m
6.6kV	32	6/SB	1/2.6	7.2	2.0	11.2	0.877	12	1,500	1,090	180	900
	58	6/SB	1/3.5	9.7	2.5	14.7	0.484	12	1,500	1,900	315	600
	95	6/SB	1/3.5	12.0	2.5	17.0	0.302	12	1,000	2360	445	300
22.9kV	32	6/SB	1/2.6	7.2	3.0	13.2	0.877	25	2,000	1,090	210	900
	58	6/SB	1/3.5	9.7	3.0	15.7	0.484	25	1,500	1,900	330	600
	95	6/SB	1/3.5	12.0	3.5	19.0	0.302	25	1,500	2,360	530	600
	160	18/SB	1/3.2	15.4	4.0	23.4	0.183	25	1,500	3,080	730	600

(특)고압 강심 알루미늄 도체 가교폴리에틸렌 절연전선 | ACSR-OC

전압 Voltage	공칭 단면적 Nominal Sectional Area	도체 Conductor			절연두께 Insulation Thickness	완성외경 Overall Diameter	최대 도체저항 Max. Conductor Resistance at 20°C	시험전압 Test Voltage	최소 절연저항 Min. Insulation Resistance at 20°C	도체 인장하중 Conductor Min. Tensile load	계산중량 Calculated Weight	표준길이 Standard Length
		소선수 지름 No. & Dia. of Wire Al	소선수 지름 No. & Dia. of Wire St	바깥지름 Outer Diameter								
	mm ²	mm	mm	mm	mm	mm	Ω/km	kV	MΩ-km	kgf	kg/km	m
6.6kV	32	6/SB	1/2.6	7.2	2.0	11.2	0.928	12	1,500	1,090	185	900
	58	6/SB	1/3.5	9.7	2.5	14.7	0.512	12	1,500	1,900	325	600
	95	6/SB	1/3.5	12.0	2.5	17.0	0.313	12	1,000	2,360	455	300
22.9kV	32	6/SB	1/2.6	7.2	3.0	13.2	0.928	25	2,000	1,090	215	900
	58	6/SB	1/3.5	9.7	3.0	15.7	0.512	25	1,500	1,900	340	600
	95	6/SB	1/3.5	12.0	3.5	19.0	0.313	25	1,500	2,360	540	600
	160	18/SB	1/3.2	15.4	4.0	23.4	0.186	25	1,500	3,080	740	600



코드

Cords

비닐 코드 | KSC IEC60227-5
PVC Cords

비닐 코드 | PVC Insulated Flexible Cord, KSC IEC60227-5 | 60227KS IEC41~57

주로 옥내에서 AC 450/750V 이하의 소형 전기 기구에 사용되는 전선으로 가요성 및 절연성이 좋으며 색깔이 선명하고 겉모양이 아름답다.

Widely used in electrical home apparatus under A.C.450/750V for its flexibility, insulation easy colouring and beautiful external appearance.

구조

- 도체 : 집합연동연선
- 절연체 : PVC
- 선심식별 : 시스가 있는것

- 단심 : 규정없음

2심 : 규정없음

3심 : 녹/황, 하늘, 갈색 또는 하늘, 흑, 갈색

4심 : 녹/황, 하늘, 흑, 갈색
또는 하늘, 흑, 갈, 흑 혹은 갈색

5심 : 녹/황, 하늘, 흑, 갈, 흑 혹은 갈색
또는 하늘, 흑, 갈, 흑갈, 흑 혹은 갈색

시스가 없는것 : 절연체 색, 돌기, 직선 또는 숫자.

- 피복체 : PVC

Construction

- Conductor : Bunch-stranded copper conductor
- Insulation : PVC
- Core Identification : Sheathed

- 1C : -

2C : -

3C : G/Y, Bl, Br or Bl, Bk, Br

4C : G/Y, Bl, Bk, Br
or Bl, Bk, Br, Bk or Br

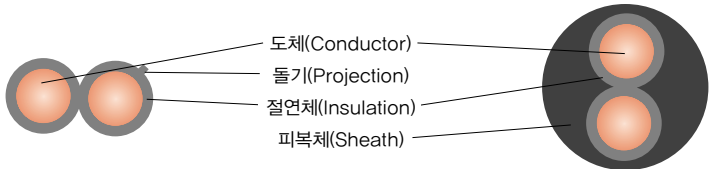
5C : G/Y, Bl, Bk, Br, Bk or Br
or Bl, Bk, Br, Bk, Br, Bk or Br

Non-sheathed : Colour of the insulation or projection or numbering method.

- Sheath : PVC

종류 및 기호

종 류	기 호
평형금사 코드	60227 KS IEC41
평형 비닐 코드	60227 KS IEC42
단심 기구용 코드	60227 KS IEC43
연질 비닐 시스 코드	60227 KS IEC52
범용 비닐 시스 코드	60227 KS IEC53
내열성 연질비닐 시스 코드	60227 KS IEC56
내열성 범용 비닐 시스 코드	60227 KS IEC57



60227 KS IEC41

절연두께 Insulation Thickness	표준완성외경 Standard Overall Diameter		절연저항 Insulation Resistance at 70°C	도체저항 Conductor Resistance at 20°C
	Min.	Max.		
mm	mm	mm	MΩ-km	Ω/km
0.8	2.2×4.4	3.5×7.0	0.019	270

60227 KS IEC42

공칭단면적 Nominal Sectional Area	절연두께 Insulation Thickness	표준완성외경 Standard Overall Diameter		최소절연저항 Min. Insulation Resistance at 70°C
		Min.	Max.	
mm²	mm	mm	mm	MΩ-km
0.5	0.8	2.4×4.9	3.0×5.9	0.016
0.75	0.8	2.4×4.9	3.1×6.3	0.014

60227 KS IEC43

공칭단면적 Nominal Sectional Area	각층의 절연두께 최소치	절연두께(최소) Standard Insulation Thickness (Min.)	절연두께(표준) Insulation Thickness (Standard)	표준완성외경 Standard Overall Diameter		최소절연저항 Min. Insulation Resistance at 70°C
				Min.	Max.	
mm²	mm	mm	mm	mm	mm	MΩ-km
0.5	0.2	0.6	0.7	2.3	2.7	0.014
0.75	0.2	0.6	0.7	2.4	2.9	0.012

60227 KS IEC52

도체/공칭단면적 Conductor & Nominal Sectional Area	절연두께 Insulation Thickness (Standard)	피복두께 Sheath Thickness (Standard)	표준완성외경 Standard Overall Diameter		최소절연저항 Min. Insulation Resistance at 70°C
			Min.	Max.	
mm²	mm	mm	mm	mm	MΩ-km
2×0.5	0.5	0.6	4.6 or 3.0×4.9	5.9 or 3.7×5.9	0.012
2×0.75	0.5	0.6	4.9 or 3.2×5.2	6.3 or 3.8×6.3	0.010
3×0.5	0.5	0.6	4.9	6.3	0.012
3×0.75	0.5	0.6	5.2	6.7	0.010

60227 KS IEC53 | VCTF

도체/공칭단면적 Conductor & Nominal Sectional Area	절연두께 Insulation Thickness (Standard)	표준완성외경 Standard Overall Diameter		최소절연저항 Min. Insulation Resistance at 70°C
		Min.	Max.	
mm ²	mm	mm	mm	MΩ-km
2×0.75	0.6	5.7 or 3.7×6.0	7.2 or 4.5×7.2	0.011
2×1	0.6	5.9	7.5	0.010
2×1.5	0.7	6.8	8.6	0.010
2×2.5	0.8	8.4	10.6	0.009
3×0.75	0.6	6.0	7.6	0.011
3×1	0.6	6.3	8.0	0.010
3×1.5	0.7	7.4	9.4	0.010
3×2.5	0.8	9.2	11.4	0.009
4×0.75	0.6	6.6	8.3	0.011
4×1	0.6	7.1	9.0	0.010
4×1.5	0.7	8.4	10.5	0.010
4×2.5	0.8	10.1	12.5	0.009
5×0.75	0.6	7.4	9.3	0.011
5×1	0.6	7.8	9.8	0.010
5×1.5	0.7	9.3	11.6	0.010
5×2.5	0.8	11.2	13.9	0.009

60227 KS IEC56

도체/공칭단면적 Conductor & Nominal Sectional Area	절연두께 Insulation Thickness (Standard)	피복두께 Sheath Thickness (Standard)	표준완성외경 Standard Overall Diameter		최소절연저항 Min. Insulation Resistance at 70°C
			Min.	Max.	
mm ²	mm	mm	mm	mm	MΩ-km
2×0.5	0.5	0.6	4.6 or 3.0×4.9	5.9 or 3.7×5.9	0.012
2×0.75	0.5	0.6	4.9 or 3.2×5.2	6.3 or 3.8×6.3	0.010
3×0.5	0.5	0.6	4.9	6.3	0.012
3×0.75	0.5	0.6	5.2	6.7	0.010

60227 KS IEC57

도체/공칭단면적 Conductor & Nominal Sectional Area	절연두께 Insulation Thickness (Standard)	피복두께 Sheath Thickness (Standard)	표준완성외경 Standard Overall Diameter		최소절연저항 Min. Insulation Resistance at 70°C
			Min.	Max.	
mm ²	mm	mm	mm	mm	MΩ-km
2×0.75	0.6	0.8	5.7 or 3.7×6.0	7.2 or 4.5×7.2	0.011
2×1	0.6	0.8	5.9	7.5	0.010
2×1.5	0.7	0.8	6.8	8.6	0.010
2×2.5	0.8	1.0	8.4	10.6	0.009
3×0.75	0.6	0.8	6.0	7.6	0.011
3×1	0.6	0.8	6.3	8.0	0.010
3×1.5	0.7	0.9	7.4	9.4	0.010
3×2.5	0.8	1.1	9.2	11.4	0.009
4×0.75	0.6	0.8	6.6	8.3	0.011
4×1	0.6	0.9	7.1	9.0	0.010
4×1.5	0.7	1.0	8.4	10.5	0.010
4×2.5	0.8	1.1	10.1	12.5	0.009
5×0.75	0.6	0.9	7.4	9.3	0.011
5×1	0.6	0.9	7.8	9.8	0.010
5×1.5	0.7	1.1	9.3	11.6	0.010
5×2.5	0.8	1.2	11.2	13.9	0.009

주) 평균 완성 외경은 KSC IEC60719에 따라 계산되어진다.

5등급 단심 및 다심 케이블용 가요 등 도체

도체/공칭단면적 Conductor & Nominal Sectional Area	최대 소선 직경	최대도체저항 Max. Conductor Resistance at 20°C	
		도금 없음	도금 있음
mm ²	mm	Ω/km	Ω/km
0.5	0.21	39.0	40.1
0.75	0.21	26.0	26.7
1	0.21	19.5	20.0
1.5	0.26	13.3	13.7
2.5	0.26	7.98	8.21
4	0.31	4.95	5.09
6	0.31	3.30	3.39
10	0.41	1.91	1.95
16	0.41	1.21	1.24
25	0.41	0.780	0.795
35	0.41	0.554	0.565
50	0.41	0.386	0.393
70	0.51	0.272	0.277
95	0.51	0.206	0.210
120	0.51	0.161	0.164
150	0.51	0.129	0.132
185	0.51	0.106	0.108
240	0.51	0.0801	0.0817
300	0.51	0.0641	0.0654
400	0.51	0.0486	0.0495
500	0.61	0.0384	0.0391
630	0.61	0.0287	0.0292

주) 60227 KS IEC43, 52, 53, 56, 57 규격 해당도체

6등급 단심 및 다심 케이블용 가요 등 도체

도체/공칭단면적 Conductor & Nominal Sectional Area	최대 소선 직경	최대도체저항 Max. Conductor Resistance at 20°C	
		도금 없음	도금 있음
mm ²	mm	Ω/km	Ω/km
0.5	0.16	39.0	40.1
0.75	0.16	26.0	26.7
1	0.16	19.5	20.0
1.5	0.16	13.3	13.7
2.5	0.16	7.98	8.21
4	0.21	4.95	5.09
6	0.21	3.30	3.39
10	0.21	1.91	1.95
16	0.21	1.21	1.24
25	0.21	0.780	0.795
35	0.21	0.554	0.565
50	0.31	0.386	0.393
70	0.31	0.272	0.277
95	0.31	0.206	0.210
120	0.31	0.161	0.164
150	0.21	0.129	0.132
185	0.41	0.106	0.108
240	0.41	0.0801	0.0817
300	0.41	0.0641	0.0654

주) 60227 KS IEC41.42 규격 해당도체



절연전선

Insulated Wire

450/750V 일반용 단심 비닐절연전선 | 60227 KS IEC01 KSC IEC60227-3
450/750V PVC insulated wire

옥외용 비닐절연전선 | OW KSC 3313
Outdoor weather-proof PVC insulated wire

300/500V 내열 비닐절연전선 | HIV KSC IEC60227-3
300/500V Heat resistant PVC insulated wire

450/750V 일반용 단심 비닐절연전선
60227 KS IEC01
KSC IEC60227-3

주로 AC 450/750V 이하의 옥내배선용으로 사용되며 내후성, 내구성이 양호한 절연전선이다.

It is chiefly used for indoor distribution line under A.C.450/750V grade and highly weather proofing and safe use over a long period is assured.

- 구 조

1. 도체 : 전기용 연동선(5.5mm2이하의 연선은 주석도금 연동선 사용가능)
전기용 경알루미늄선 또는 반경알루미늄선
 - 단선도체 : 1등급
 - 연선도체 : 2등급

2. 절연체 : PVC/C

3. 절연체색 : 흑색(특히, 색을 구별할 필요가 있을 때는 흑, 백, 적, 녹, 황, 청색으로 한다.)

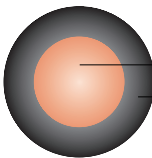
4. 최고허용온도 : 70℃

Construction

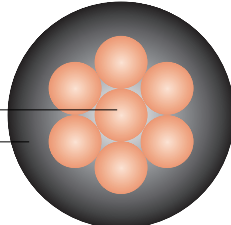
1. Conductor : Annealed copper copper wire (Tinned annealed stranded area and smaller are acceptable.)
Hard-drawn aluminium or half hard-drawn aluminium wire
 - Solid conductor : 1 class
 - Stranded conductor : 2 class

2. Insulation : PVC/C

3. Colour of the insulation : Black (If necessary, black, white, red, green, yellow, blue)

4. Maximum allowable temperature : 70℃
- 

도체(Conductor)
절연체(Insulation)



단선도체(Solid conductor)
연선도체(Stranded conductor)
-
- 20

60227 KS IEC 01

도체/공칭단면적 Conductor & Nominal Sectional Area	도체등급 Conductor Class (KSC IEC 60228)	절연두께 Insulation Thickness (Standard)	표준완성외경 Standard Overall Diameter		최소절연저항 Min. Insulation Resistance at 70°C
			Min.	Max.	
mm ²	mm	mm	mm	mm	MΩ·km
1.5	1	0.7	2.6	3.2	0.011
1.5	2	0.7	2.7	3.3	0.010
2.5	1	0.8	3.2	3.9	0.010
2.5	2	0.8	3.3	4.0	0.009
4	1	0.8	3.6	4.4	0.0085
4	2	0.8	3.8	4.6	0.0077
6	1	0.8	4.1	5.0	0.0070
6	2	0.8	4.3	5.2	0.0065
10	1	1.0	5.3	6.4	0.0070
10	2	1.0	5.6	6.7	0.0065
16	2	1.0	6.4	7.8	0.0050
25	2	1.2	8.1	9.7	0.0050
35	2	1.2	9.0	10.9	0.0040
50	2	1.4	10.6	12.8	0.0045
70	2	1.4	12.1	14.6	0.0035
95	2	1.6	14.1	17.1	0.0035
120	2	1.6	15.6	18.8	0.0032
150	2	1.8	17.3	20.9	0.0032
185	2	2.0	19.3	23.3	0.0032
240	2	2.0	22.0	26.6	0.0032
300	2	2.4	24.5	29.6	0.0030
400	2	2.6	27.5	33.2	0.0028

1등급 단심 및 다심 케이블용 단선도체

도체/공칭단면적 Conductor & Nominal Sectional Area	최대도체저항 Max. Conductor Resistance at 20°C		
	원형 동 도체		원형 또는 부채형 알루미늄 도체
	도금 없음	도금 있음	
mm ²	Ω/km	Ω/km	Ω/km
0.5	36.0	36.7	-
0.75	24.5	24.8	-
1	18.1	18.2	-
1.5	12.1	12.2	18.1*
2.5	7.41	7.56	12.1*
4	4.61	4.70	7.41*
6	3.08	3.11	4.61*
10	1.83	1.84	3.08*
16	1.15	1.16	1.91*
25	0.727	-	1.20
35	0.524	-	0.868
50	0.387	-	0.641
70	0.268	-	0.443
95	0.193	-	0.320
120	0.153	-	0.253
150	0.124	-	0.206
185	-	-	0.164
240	-	-	0.125
300	-	-	0.1000

* 알루미늄 도체 1.5mm²에서 16mm²까지는 원형에 한한다.

2등급 단심 및 다심 케이블용 연선투체

도체 공칭단면적 Conductor & Nominal Sectional Area	최소도체소선수 Min. Conductor Number of Wire						최대도체저항 Max. Conductor Resistance at 20°C		
	원형도체 Round Shape Conductor (uncompressed)		원형압축도체 Round Shape Conductor (compressed)		부채형 도체 Fan Shape Conductor		원형 동 도체		부채형 도체 Round or Fan Shape Al. Conductor
							도금없음	도금있음	
mm ²	Cu	Al	Cu	Al	Cu	Al	Ω/km	Ω/km	Ω/km
0.5	7	-	-	-	-	-	36.0	36.7	-
0.75	7	-	-	-	-	-	24.5	24.7	-
1	7	-	-	-	-	-	18.1	18.2	-
1.5	7	-	6	-	-	-	12.1	12.2	-
2.5	7	-	6	-	-	-	7.41	7.56	-
4	7	7	6	-	-	-	4.61	4.70	7.41
6	7	7	6	-	-	-	3.08	3.11	4.61
10	7	7	6	-	-	-	1.83	1.84	3.08
16	7	7	6	6	-	-	1.15	1.16	1.91
25	7	7	6	6	6	6	0.727	0.734	1.20
35	19	7	6	6	6	6	0.524	0.529	0.868
50	19	19	6	6	6	6	0.387	0.391	0.641
70	19	19	12	12	12	12	0.268	0.270	0.443
95	19	19	15	15	15	15	0.193	0.195	0.320
120	37	37	18	15	18	18	0.153	0.154	0.253
150	37	37	18	15	18	18	0.124	0.126	0.206
185	37	37	30	30	30	30	0.0991	0.100	0.164
240	61	61	34	30	34	34	0.0754	0.0762	0.125
300	61	61	34	30	34	34	0.0601	0.0762	0.100
400	61	61	53	53	53	53	0.0470	0.0475	0.0778
500	61	61	53	53	53	53	0.0366	0.0369	0.0605
630	91	91	53	53	-	-	0.0283	0.0286	0.0469
800	91	91	53	53	-	-	0.0221	0.0224	0.0367
1000	91	91	53	53	-	-	0.0176	0.0177	0.0291
1200	(1)		(1)		-		0.0151		0.0247
(1400)(2)	(1)		(1)		-		0.0129		0.0212
1600	(1)		(1)		-		0.0113		0.0186
(1800)(2)	(1)		(1)		-		0.0101		0.0165
2000	(1)		(1)		-		0.0090		0.0149

주) (1) 최소 소선수는 규정하지 않는다. (2) ()안의 사이즈는 권장하지 않는다.

옥외용 비닐절연전선

Outdoor weather proof PVC insulated wires

OW, KSC 3313

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

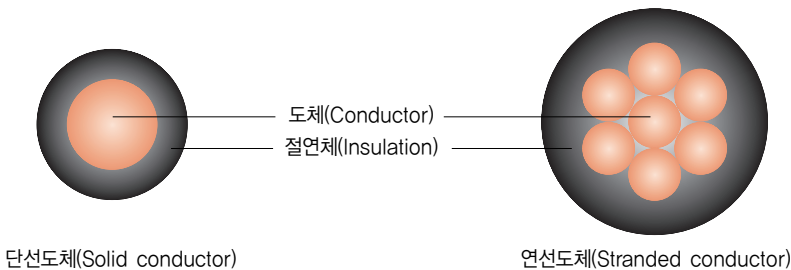
It is used for overhead low-voltage distribution line and composed of hard-drawn copper wire and PVC insulation. It is superior to conventional cotton insulated wire and highly weather proof and safe use over a long period is assured.

구 조

- 도체 : 전기용 경동선
- 절연체 : PVC
- 절연체색 : 흑색

Construction

- Conductor : Hard-drawn copper wire
- Insulation : PVC
- Colour of the insulation : Black



단선도체 | Solid Conductor

도체 Conductor		절연두께 PVC Insulation Thickness	완성외경 Approx. Overall Diameter	최대도체저항 Max. Conductor Resistance at 20°C	시험전압 Test Voltage	인장하중 Tensile Load	중량 Approx. Weight	표준길이 Standard Length
지름 Diameter	단면적 Sectional Area							
mm	mm ²	mm	mm	Ωkm	V/1min	kgf	kg/km	m
2.0	3.142	0.4	2.8	5.83	2,500	134.0	32	300
2.6	5.309	0.5	3.6	3.45	2,500	223.2	54	300
3.2	8.042	0.6	4.4	2.28	2,500	333.0	81	200
4.0	12.57	1.0	6.0	1.46	2,500	499.1	135	200
5.0	19.64	1.2	7.4	0.932	2,500	759.8	210	200

연선도체 | Stranded Conductor

도체 Conductor			절연두께 PVC Insulation Thickness	완성외경 Approx. Overall Diameter	최대도체저항 Max. Conductor Resistance at 20°C	시험전압 Test Voltage	인장하중 Tensile Load	중량 Approx. Weight	표준길이 Standard Length (D/M)
공칭단면적 Nominal Sectional Area	소선수/지름 Number & Diameter of Wire	바깥지름 Outer Diameter							
mm ²	No./mm	mm	mm	mm	Ω/km	V/1min	kgf	kg/km	m
14	7/1.6	4.8	1.0	6.8	1.35	2,500	574	160	300
22	7/2.0	6.0	1.2	8.4	0.849	2,500	889	250	300
30	7/2.3	6.9	1.2	9.3	0.642	2,500	1,160	320	300
38	7/2.6	7.8	1.4	11.0	0.502	2,500	1,480	410	300
50	19/1.8	9.0	1.4	12.0	0.394	2,500	1,960	520	300
60	19/2.0	10.0	1.4	13.0	0.313	2,500	2,410	630	300
80	19/2.3	11.5	1.5	14.5	0.237	2,500	3,160	820	300
100	19/2.6	13.0	1.5	16.0	0.185	2,500	4,010	1,030	300
*150	19/3.2	16.0	1.7	19.4	0.120	3,000	5,990	1,890	300

주) 한전 규격임.

300/500V 내열 비닐절연전선

| 300/500V Grade Heat-resistant PVC Insulated Wire | HIV, KSC IEC60227-3

주로 AC300/500V 이하의 일반 전기공작물이나 전기기기의 배선에 사용하는 비닐절연전선으로 내열성 가소제를 첨가한 수지로 절연한 전선이다.

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

- 구 조

1. 도체 : 전기용 연동선

2. 절연체 : 내열성 PVC(PVC/E)

3. 절연체색 : 흑색(특히, 색을 구별할 필요가 있을 때는 흑, 백, 적, 녹, 황, 청색으로 한다.)

4. 최고허용온도 : 90℃

Construction

1. Conductor : Annealed copper

2. Insulation : Heat-resistant PVC

3. Colour of the insulation : Black
(If necessary, annealed copper wire : black, white, red, green, yellow, blue)

4. Maximum allowable temperature : 90℃



300/500V 내열 비닐절연전선

도체 Conductor		절연두께 Insulation Thickness (Standard)	표준완성외경 Standard Overall Diameter		최대도체저항 Max. Conductor Resistance at 20°C	최소절연저항 Min. Insulation Resistance at 90°C	시험전압 Test Voltage	중량 Approx. Weight Copper	표준길이 Standard Length
공칭단면적 Nominal Sectional Area	등급 Class		Min.	Max.					
mm ²		mm	mm	mm	Ω/km	Ω/km	V/5min	kg/km	m
1.5	1	0.7	2.6	3.2	12.1	0.011	2,500	21	300
1.5	2	0.7	2.7	3.3	12.1	0.010	2,500	22	300
2.5	1	0.8	3.2	3.9	7.41	0.009	2,500	32	300
2.5	2	0.8	3.3	4.0	7.41	0.009	2,500	33	300
4	1	0.8	3.6	4.4	4.61	0.0085	2,500	46	300
4	2	0.8	3.8	4.6	4.61	0.0077	2,500	47	300
6	1	0.8	4.1	5.0	3.08	0.0070	2,500	70	300
6	2	0.8	4.3	5.2	3.08	0.0065	2,500	72	300
10	1	1.0	5.3	6.4	1.83	0.0070	2,500	110	300
10	2	1.0	5.6	6.7	1.83	0.0065	2,500	120	300
16	2	1.0	6.4	7.8	1.15	0.0050	2,500	170	300
25	2	1.2	8.1	9.7	0.727	0.0050	2,500	265	300
35	2	1.2	9.0	10.9	0.524	0.0043	2,500	360	300
50	2	1.4	10.6	12.8	0.387	0.0043	2,500	480	300
70	2	1.4	12.1	14.6	0.268	0.0035	2,500	690	300
95	2	1.6	14.1	17.1	0.193	0.0035	2,500	940	300
120	2	1.6	15.6	18.8	0.153	0.0032	2,500	1,210	300
150	2	1.8	17.3	20.9	0.124	0.0032	2,500	1,470	300
185	2	2.0	19.3	23.3	0.0991	0.0032	2,500	1,840	300
240	2	2.2	22.0	26.6	0.0754	0.0032	2,500	2,400	300
300	2	2.4	24.5	29.6	0.0601	0.0030	2,500	3,000	300
400	2	2.6	27.5	33.2	0.0470	0.0028	2,500	3,820	300

Note) Conductor class(도체등급) : 1Class(1등급) – Solid conductor(단선도체), 2Class(2등급) – Stranded conductor(연선도체)

0.6/1kV 접지용 절연전선

| 0.6/1kV PVC Insulated wire for Grounding | GV, HS-D-138

0.6/1kV 트레이용 접지절연전선

| 0.6/1kV Flame Retardant PVC Insulated Wire for Grounding in Tray | TFR-GV, HS-D-143

주로 AC 0.6/1kV 이하의 접지용 회로 및 트
레이에 쓰이는 난연성 특성을 가진 절연전선
이다.

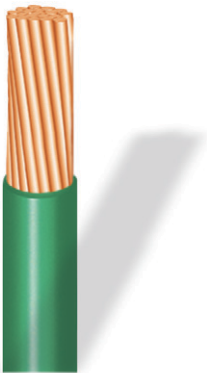
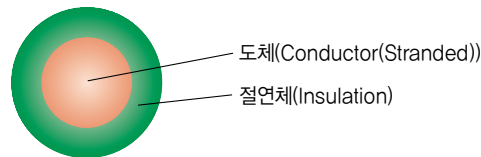
It is chiefly used in wiring of grounding under AC
0.6/1kV grade, and having flame retardant proper-
ties.

구 조

1. 도체 : 전기용 연동선
2. 절연체 : PVC/난연 PVC
3. 절연체색 : 녹색
4. 최고허용온도 : 70℃

Construction

1. Conductor : Annealed copper wire
2. Insulation : PVC/FR-PVC
3. Colour of the insulation : Green
4. Maximum allowable temperature : 70℃



0.6/1kV 접지용 절연전선
0.6/1kV 트레이용 접지절연전선

도체 Conductor			절연두께 Insulation Thickness	완성외경 Approx. Overall Diameter	최대도체저항 Max. Conductor Resistance at 20°C	시험전압 Test Voltage	중량 Approx. Weight Copper	표준길이 Standard Length	포장 Package Type
공칭단면적 Nominal Sectional Area	소선수/지름 Number & Diameter of Wire	바깥지름 Approx. Outer Diameter							
mm ²	No./mm	mm	mm	mm	Ω/km	V/5min	kg/km	m	
1.5	7 / 0.53	1.59	2.2	6.5	12.1	3,500	60	500	Bunch
2.5	7 / 0.67	2.01	2.2	7.0	7.41	3,500	70	500	
4	7 / 0.85	2.55	2.4	8.0	4.61	3,500	100	500	
6	7 / 1.04	3.12	2.4	8.5	3.08	3,500	121	500	
10	7 / 1.35	4.05	2.4	9.5	1.83	3,500	170	500	
16	C.C.	4.7	2.4	10.0	1.15	3,500	229	500	
25	C.C.	5.9	2.6	12.0	0.727	3,500	338	500	
35	C.C.	6.9	2.6	13.0	0.524	3,500	436	500	
50	C.C.	8.1	2.8	14.5	0.387	3,500	578	500	
70	C.C.	9.8	2.8	16.0	0.268	3,500	792	500	
95	C.C.	11.4	3.1	18.5	0.193	3,500	1,080	500	Drum
120	C.C.	12.9	3.1	20	0.153	3,500	1,330	500	
150	C.C.	14.4	3.4	22	0.124	3,500	1,600	500	
185	C.C.	15.9	3.7	25	0.0991	3,500	2,010	500	
240	C.C.	18.3	4.0	28	0.0754	3,500	2,620	500	
300	C.C.	20.5	4.3	30	0.0601	3,500	3,260	500	
400	C.C.	23.2	4.6	34	0.0470	3,500	3,900	500	
500	C.C.	26.4	4.9	38	0.0366	3,500	4,950	500	

Note) C.C. : Compact round stranded conductor.

전력케이블

Power Cable / Tray Flame Retardant Cable

0.6/1kV 가교폴리에틸렌절연 비닐시스케이블 | CV KSC IEC60502-1
0.6/1kV XLPE Insulated PVC sheathed cable

0.6/1kV 트레이용 난연전력케이블 | TFR-CV, HS-D-141
0.6/1kV XLPE Insulated FR-PVC sheathed cable in Tray

6/10kV 가교폴리에틸렌 전력케이블 | CV KSC IEC60502-2
XPPE Insulated PVC sheathed cable for 6/10kV

6/10kV 트레이용 가교폴리에틸렌 난연전력케이블 | TFR-CV
XPPE Insulated FR-PVC sheathed cable for 6/10kV in Tray

0.6/1kV 비닐절연 비닐시스 제어케이블 | CVV KSC IEC60502-1, FR-CVVS ES 124-921-994
0.6/1kV PVC Insulated & sheathed control cables / Flame Retardant PVC Sheathed

0.6/1kV 비닐절연 비닐시스케이블 | VV KSC IEC60502-1
0.6/1kV PVC Insulated & sheathed cables

22.9kV 동심 중성선 전력케이블 | CNCV-W 수밀형, FR CNCO-W 난연성
22.9kV Concentric neutral type XLPE Insulated Vinyl sheathed power cables(Including water proof type, flame retardant type)

22.9kV 트리억제형 전력케이블 | TR CNCV-W
22.9kV Concentric neutral type tree retardant XLPE Insulated PVC sheathed water proof power cable

트레이용 난연 내열케이블 | TFR-3, HS-D-131
Tray flame retardant heat-resistant cable

트레이용 난연 내화케이블 | TFR-8, HS-D-130
Tray flame retardant fire-resistant cable

저독성 난연케이블 | NFR, HS-D-133
Low smoke, Halogen free flame retardant polyolefin cable

0.6/1kV 저독성 난연 전력용 케이블 | HF-CO, KSC IEC60502-1
0.6/1kV XLPE Insulated Halogen Free Flame Retardant Poly-Olefin Sheathed Power Cables

0.6/1kV 저독성 난연 제어용 케이블 | HF-CCO, KSC IEC60502-1
0.6/1kV XLPE Insulated Halogen Free Flame Retardant Poly-Olefin Sheathed Control Cables

6/10kV 저독성 난연 전력용 케이블 | HF-CO, KSC IEC60502-2
6/10kV XLPE Insulated Halogen Free Flame Retardant Poly-Olefin Sheathed Power Cables

0.6/1kV 가교폴리에틸렌절연 비닐시스케이블

| 0.6/1kV XLPE Insulated PVC Sheathed Cable | CV, KSC IEC60502-1

0.6/1kV 트레이용 난연전력케이블

| 0.6/1kV XLPE Insulated FR-PVC Sheathed Cable in Tray | TFR-CV, HS-D-141

AC 0.6/1kV 이하의 전력용 또는 제어용 회로 및 트레이용에 사용하며 전기적, 물리적, 화학적, 난연성 특성이 우수한 케이블이다.

This cable is designed for the purpose of using in power distribution line or control system under AC 0.6/1kV, having excellent electrical, physical and chemical and flame retardant properties.

구 조

1. 도체 : 전기용 연동선
(원형, 원형 압축)
2. 절연체 : XLPE/난연-XLPE
3. 선심식별 : 착색에 의한 식별

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

*넘버링에 의한 식별

4. 피복체 : PVC/난연PVC

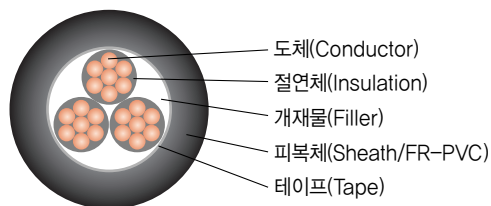
Construction

1. Conductor : Annealed copper wire
(Concentric circular, Compact circular)
2. Insulation : XLPE/FR-XLPE
3. Core Identification : Colouring method

No.of cores	Colour
2 cores	black, white
3 cores	black, white, red
4 cores	black, white, red, green

*Numbering method

4. Sheath : PVC/FR-PVC



0.6/1kV 가교폴리에틸렌절연 비닐시스케이블 | CV, KSC IEC60502-1

0.6/1kV 트레이용 난연전력케이블 | TFR-CV, HS-D-141

단심 (Single Core)

도체 Conductor			절연두께 Insulation Thickness	피복두께 Sheath Thickness	완성외경 Approx. Overall Diameter	최대도체저항 Max. Conductor Resistance at 20°C	시험전압 Test Voltage	중량 Approx. Weight	표준길이 Standard Length
공칭단면적 Nominal Sectional Area	소선수/지름 Number & Diameter of Wire	바깥지름 Outer Diameter							
mm ²	No./mm	mm	mm	mm	mm	Ω/km	V/5min	kg/km	m
1.5	7 / 0.53	1.59	0.7	1.4	6.3	12.1	3,500	60	300
2.5	7 / 0.67	2.01	0.7	1.4	6.7	7.41	3,500	70	300
4	7 / 0.85	2.55	0.7	1.4	7.2	4.61	3,500	80	300
6	7 / 1.04	3.12	0.7	1.4	7.8	3.08	3,500	110	300
10	7 / 1.35	4.05	0.7	1.4	9.4	1.83	3,500	150	300
16	C.C.	4.7	0.7	1.4	10.0	1.15	3,500	215	300
25	C.C.	5.9	0.9	1.4	12.0	0.727	3,500	315	300
35	C.C.	6.9	0.9	1.4	13.0	0.524	3,500	415	300
50	C.C.	8.1	1.0	1.4	14.5	0.387	3,500	555	300
70	C.C.	9.8	1.1	1.4	16.0	0.268	3,500	780	300
95	C.C.	11.4	1.1	1.5	18.5	0.193	3,500	1,025	300
120	C.C.	12.9	1.2	1.5	20	0.153	3,500	1,270	300
150	C.C.	14.4	1.4	1.6	22	0.124	3,500	1,575	300
185	C.C.	15.9	1.6	1.6	24	0.0991	3,500	1,930	200
240	C.C.	18.3	1.7	1.7	27	0.0754	3,500	2,470	200
300	C.C.	20.5	1.8	1.8	30	0.0601	3,500	3,100	200
400	C.C.	23.2	2.0	1.9	34	0.0470	3,500	4,090	150
500	C.C.	26.4	2.2	2.0	37	0.0366	3,500	5,100	150
630	C.C.	30.2	2.4	2.2	42	0.0283	3,500	6,410	150

Note) C.C. : Compact round stranded conductor.

2심 (Two Cores)

도체 Conductor			절연두께 Insulation Thickness	피복두께 Sheath Thickness	완성외경 Approx. Overall Diameter	최대도체저항 Max. Conductor Resistance at 20°C	시험전압 Test Voltage	중량 Approx. Weight	표준길이 Standard Length
공칭단면적 Nominal Sectional Area	소선수/지름 Number & Diameter of Wire	바깥지름 Outer Diameter							
mm ²	No./mm	mm	mm	mm	mm	Ω/km	V/5min	kg/km	m
1.5	7 / 0.53	1.59	0.7	1.8	11.0	12.1	3,500	130	300
2.5	7 / 0.67	2.01	0.7	1.8	12.0	7.41	3,500	155	300
4	7 / 0.85	2.55	0.7	1.8	13.0	4.61	3,500	195	300
6	7 / 1.04	3.12	0.7	1.8	14.0	3.08	3,500	255	300
10	7 / 1.35	4.05	0.7	1.8	17.0	1.83	3,500	360	300
16	C.C.	4.7	0.7	1.8	18.5	1.15	3,500	490	300
25	C.C.	5.9	0.9	1.8	22	0.727	3,500	720	300
35	C.C.	6.9	0.9	1.8	24	0.524	3,500	960	300
50	C.C.	8.1	1.0	1.8	27	0.387	3,500	1,290	300
70	C.C.	9.8	1.1	1.8	31	0.268	3,500	1,750	300
95	C.C.	11.4	1.1	1.9	35	0.193	3,500	2,310	300
120	C.C.	12.9	1.2	2.0	38	0.153	3,500	2,880	300
150	C.C.	14.4	1.4	2.2	43	0.124	3,500	3,610	300
185	C.C.	15.9	1.6	2.3	47	0.0991	3,500	4,410	200
240	C.C.	18.3	1.7	2.5	53	0.0754	3,500	5,690	200
300	C.C.	20.5	1.8	2.6	58	0.0601	3,500	7,070	200

3심 (Three cores)

도체 Conductor			절연두께 Insulation Thickness	피복두께 Sheath Thickness	완성외경 Approx. Overall Diameter	최대도체저항 Max. Conductor Resistance at 20°C	시험전압 Test Voltage	중량 Approx. Weight	표준길이 Standard Length
공칭단면적 Nominal Sectional Area	소선수/지름 Number & Diameter of Wire	바깥지름 Outer Diameter							
mm ²	No./mm	mm	mm	mm	mm	Ω/km	V/5min	kg/km	m
1.5	7 / 0.53	1.59	0.7	1.8	11.5	12.1	3,500	150	300
2.5	7 / 0.67	2.01	0.7	1.8	12.5	7.41	3,500	190	300
4	7 / 0.85	2.55	0.7	1.8	13.5	4.61	3,500	240	300
6	7 / 1.04	3.12	0.7	1.8	14.5	3.08	3,500	320	300
10	7 / 1.35	4.05	0.7	1.8	18.0	1.83	3,500	465	300
16	C.C.	4.7	0.7	1.8	19.5	1.15	3,500	650	300
25	C.C.	5.9	0.9	1.8	23	0.727	3,500	965	300
35	C.C.	6.9	0.9	1.8	25	0.524	3,500	1,290	300
50	C.C.	8.1	1.0	1.8	29	0.387	3,500	1,770	300
70	C.C.	9.8	1.1	1.9	33	0.268	3,500	2,440	300
95	C.C.	11.4	1.1	2.0	37	0.193	3,500	3,240	300
120	C.C.	12.9	1.2	2.1	41	0.153	3,500	4,050	300
150	C.C.	14.4	1.4	2.3	46	0.124	3,500	5,050	300
185	C.C.	15.9	1.6	2.4	50	0.0991	3,500	6,200	200
240	C.C.	18.3	1.7	2.6	57	0.0754	3,500	7,900	200
300	C.C.	20.5	1.8	2.7	62	0.0601	3,500	9,980	200

4심 (Four cores)

도체 Conductor			절연두께 Insulation Thickness	피복두께 Sheath Thickness	완성외경 Approx. Overall Diameter	최대도체저항 Max. Conductor Resistance at 20°C	시험전압 Test Voltage	중량 Approx. Weight	표준길이 Standard Length
공칭단면적 Nominal Sectional Area	소선수/지름 Number & Diameter of Wire	바깥지름 Outer Diameter							
mm ²	No./mm	mm	mm	mm	mm	Ω/km	V/5min	kg/km	m
1.5	7 / 0.53	1.59	0.7	1.8	12.5	12.1	3,500	180	300
2.5	7 / 0.67	2.01	0.7	1.8	13.5	7.41	3,500	230	300
4	7 / 0.85	2.55	0.7	1.8	14.5	4.61	3,500	310	300
6	7 / 1.04	3.12	0.7	1.8	16.0	3.08	3,500	400	300
10	7 / 1.35	4.05	0.7	1.8	20	1.83	3,500	585	300
16	C.C.	4.7	0.7	1.8	22	1.15	3,500	820	300
25	C.C.	5.9	0.9	1.8	26	0.727	3,500	1,245	300
35	C.C.	6.9	0.9	1.8	28	0.524	3,500	1,660	300
50	C.C.	8.1	1.0	1.9	32	0.387	3,500	2,220	300
70	C.C.	9.8	1.1	2.0	36	0.268	3,500	3,110	300
95	C.C.	11.4	1.1	2.1	42	0.193	3,500	4,210	300
120	C.C.	12.9	1.2	2.3	46	0.153	3,500	5,310	300
150	C.C.	14.4	1.4	2.4	51	0.124	3,500	6,330	300
185	C.C.	15.9	1.6	2.6	56	0.0991	3,500	7,850	200
240	C.C.	18.3	1.7	2.8	63	0.0754	3,500	10,040	200
300	C.C.	20.5	1.8	3.0	70	0.0601	3,500	12,620	200



6/10kV 가교폴리에틸렌 전력케이블

| XPLE Insulated PVC Sheathed Cable for 6/10kV | CV, KSC IEC60502-2

6/10kV 트레이용 가교폴리에틸렌 난연전력케이블

| XPLE Insulated FR-PVC Sheathed Cable for 6/10kV in Tray | TFR-CV

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

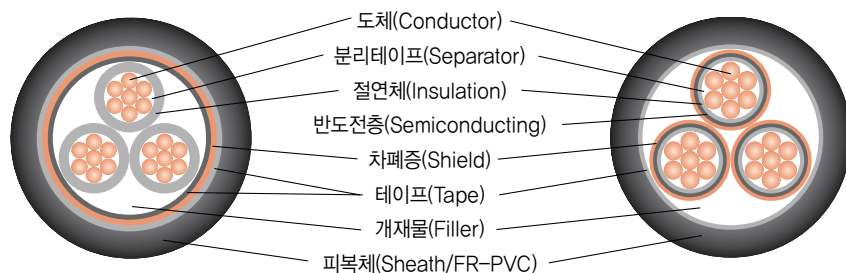
This cable is designed for the purpose of using in power distribution line, having excellent electrical, physical and chemical properties.

구 조

1. 도체 : 전기용 연동선
(원형, 원형압축)
2. 절연체 : XLPE
3. 선심식별 : 흑색, 백색, 적색
4. 차폐 : 동테이프
5. 피복체 : PVC, 난연PVC

Construction

1. Conductor : Annealed copper wire
(Concentric circular, compact)
2. Insulation : XLPE
3. Core identification : Black, White, Red
4. Shield : Copper tape.
5. Sheath : PVC, FR-PVC



6/10kV 가교폴리에틸렌 전력케이블 | KSC IEC60502-2

6/10kV 트레이용 가교폴리에틸렌 난연전력케이블 | TFR-CV, HS-D-126

단심 (Single Core)

도체 Conductor			절연두께 Insulation Thickness	피복두께 Sheath Thickness	완성외경 Approx. Overall Diameter	최대도체저항 Max. Conductor Resistance at 20°C	시험전압 Test Voltage	중량 Approx. Weight	표준길이 Standard Length
공칭단면적 Nominal Sectional Area	소선수/지름 Number & Diameter of Wire	바깥지름 Approx. Outer Diameter							
mm ²	No./mm	mm	mm	mm	mm	Ω/km	V/5min	kg/km	m
16	C.C.	4.7	3.4	1.5	20	1.15	21	440	300
25	C.C.	5.9	3.4	1.5	21	0.727	21	550	300
35	C.C.	6.9	3.4	1.6	22	0.524	21	670	300
50	C.C.	8.1	3.4	1.6	23	0.387	21	820	300
70	C.C.	9.8	3.4	1.7	25	0.268	21	1,060	300
95	C.C.	11.4	3.4	1.7	27	0.193	21	1,340	300
120	C.C.	12.9	3.4	1.8	28	0.153	21	1,620	300
150	C.C.	14.4	3.4	1.8	30	0.124	21	1,860	300
185	C.C.	15.9	3.4	1.9	32	0.0991	21	2,230	300
240	C.C.	18.3	3.4	2.0	35	0.0754	21	2,780	300
300	C.C.	20.5	3.4	2.0	37	0.0601	21	3,420	300
400	C.C.	23.2	3.4	2.2	40	0.0470	21	4,410	300
500	C.C.	26.4	3.4	2.2	43	0.0366	21	5,330	300
630	C.C.	30.2	3.4	2.3	48	0.0283	21	6,680	300

Note) C.C. : Compact round stranded conductor.

3심 (Three Cores)

도체 Conductor			절연두께 Insulation Thickness	피복두께 Sheath Thickness	완성외경 Approx. Overall Diameter	최대도체저항 Max. Conductor Resistance at 20°C	시험전압 Test Voltage	중량 Approx. Weight	표준길이 Standard Length
공칭단면적 Nominal Sectional Area	소선수/지름 Number & Diameter of Wire	바깥지름 Approx. Outer Diameter							
mm ²	No./mm	mm	mm	mm	mm	Ω/km	V/5min	kg/km	m
16	C.C.	4.7	3.4	2.1	39	1.15	21	1,440	300
25	C.C.	5.9	3.4	2.2	41	0.727	21	1,840	300
35	C.C.	6.9	3.4	2.3	43	0.524	21	2,220	300
50	C.C.	8.1	3.4	2.4	46	0.387	21	2,700	300
70	C.C.	9.8	3.4	2.5	50	0.268	21	3,480	300
95	C.C.	11.4	3.4	2.6	53	0.193	21	4,390	300
120	C.C.	12.9	3.4	2.7	57	0.153	21	5,270	300
150	C.C.	14.4	3.4	2.8	60	0.124	21	6,070	300
185	C.C.	15.9	3.4	2.9	64	0.0991	21	7,230	300
240	C.C.	18.3	3.4	3.1	69	0.0754	21	9,010	300
300	C.C.	20.5	3.4	3.3	74	0.0601	21	11,100	300



Maximum Conductor Resistance

Stranded conductor for single core and multi core cables.(in accordance with IEC 60228)

공칭단면적 Nominal Cross-sectional Area(mm ²)	최대도체저항 Maximum Resistance of Conductor at 20°C	
	일반 Plain Copper (ohm/km)	알루미늄 Aluminum Conductor (ohm/km)
1.5	12.1	—
2.5	7.41	—
4	4.61	7.41
6	3.08	4.61
10	1.83	3.08
16	1.15	1.91
25	0.727	1.20
35	0.524	0.868
50	0.387	0.641
70	0.268	0.443
95	0.193	0.320
120	0.153	0.253
150	0.124	0.206
185	0.0991	0.164
240	0.0754	0.125
300	0.0601	0.100
400	0.0470	0.0778
500	0.0366	0.0605
630	0.0283	0.0469
800	0.0221	0.0367
1,000	0.0176	0.0291

주) 16mm² to 630mm² are normally compact round for single and multi-core cable.
800mm² and above are compact round segment for single core cable.

Insulation shall be XLPE compound complying with IEC 60502

Test Voltage 시험전압

(Duration : 5 minutes)

전압 Rated Voltage (U ₀ /U)(kV)	0.6/1	1.8/3	3.6/6	6/10	8.7/15	12/20	18/30
Test Voltage r.m.s (kV)	3.5	6.5	11	15	22	30	45

Insulation Resistance 절연전압

공칭단면적 Norminal Corss- sectional Area(mm²)	전압 Rated Voltage (Uo/U)(kV)	최소절연저항 Min. Insulation Resistance at 20℃ MΩ·km						
		0.6/1	1.8/3	3.6/6	6/10	8.7/15	12/20	18/30
2.5		2,100						
4		1,800						
6		1,500						
10		1,200	2,700	3,100				
16		1,100	2,400	2,800	3,000			
25		1,100	2,100	2,400	2,700	3,200		
35		1,000	1,800	2,100	2,400	2,900		
50		900	1,600	1,900	2,200	2,700	3,100	4,000
70		900	1,400	1,700	1,900	2,400	2,800	3,600
95		800	1,200	1,500	1,700	2,200	2,500	3,300
120		700	1,100	1,300	1,600	2,000	2,300	3,000
150		800	1,100	1,200	1,500	1,800	2,200	2,800
185		800	900	1,100	1,400	1,700	2,000	2,700
240		700	800	1,000	1,200	1,500	1,800	2,400
300		700	700	1,000	1,100	1,400	1,600	2,200
400		700	700	900	1,000	1,300	1,500	2,000
500		700	700	900	900	1,100	1,300	1,800
630		600	600	800	800	1,000	1,200	1,600
800		600	600	700	700	1,100	900	1,500
1,000		600	600	600	600	1,000	800	1,300

0.6/1kV, Single or Multi Conductor Unarmoured Cable[XLPE/PVC]

Single core XLPE cable

도체 Conductor			절연두께 Thickness of Insulation	피복두께 Thickness of Sheath	완성외경 Approx. Overall Diameter	중량 Approx. Weight
공칭단면적 Normal Cross- sectional Area	소선수/지름 No. & Dia. of Wire or Shape	지름 Diameter				
mm ²	mm	mm	mm	mm	mm	kg/km
2.5	7/0.67	2.01	0.7	1.4	6.5	70
4	7/0.85	2.55	0.7	1.4	7.0	80
6	7/1.04	3.12	0.7	1.4	8.0	110
10	7/1.35	4.05	0.7	1.4	8.5	150
16	Compact round stranded	4.7	0.7	1.4	9.5	215
25		5.9	0.9	1.4	11.5	315
35		7.0	0.9	1.4	12.0	415
50		8.0	1.0	1.4	13.0	555
70		9.7	1.1	1.4	15.0	780
95		11.4	1.1	1.5	17.0	1,025
120		12.8	1.2	1.5	18.5	1,270
150		14.3	1.4	1.6	21.5	1,575
185		15.8	1.6	1.6	23	1,930
240		18.4	1.7	1.7	26	2,470
300		20.5	1.8	1.8	28	3,100
400		23.2	2.0	1.9	32	4,090
500		26.4	2.2	2.0	36	5,100
630		30.2	2.4	2.2	40	6,410

Multi core XLPE cable

도체 Conductor			절연두께 Thickness of Insulation	2심 Twin Core			3심 Three Core		
공칭단면적 Normal Cross- sectional Area	소선수/지름 No. & Dia. of Wire or Shape	지름 Diameter		피복두께 Thickness of Sheath	완성외경 Approx. Overall Diameter	중량 Approx. Weight	피복두께 Thickness of Sheath	완성외경 Approx. Overall Diameter	중량 Approx. Weight
mm ²	mm	mm	mm	mm	mm	kg/km	mm	mm	kg/km
2.5	7/0.67	2.01	0.7	1.8	11.5	155	1.8	12.0	190
4	7/0.85	2.55	0.7	1.8	12.5	195	1.8	13.5	240
6	7/1.04	3.12	0.7	1.8	13.5	255	1.8	15.0	320
10	7/1.35	4.05	0.7	1.8	15.5	360	1.8	16.5	465
16	Compact round stranded	4.7	0.7	1.8	17	490	1.8	18.5	650
25		5.9	0.9	1.8	20	720	1.8	22	965
35		7.0	0.9	1.8	22	960	1.8	24	1,290
50		8.0	1.0	1.8	25	1,290	1.8	27	1,770
70		9.7	1.1	1.8	29	1,750	1.9	31	2,440
95		11.4	1.1	1.9	32	2,310	2.0	35	3,240
120		12.8	1.2	2.0	36	2,880	2.1	39	4,050
150		14.3	1.4	2.2	40	3,610	2.3	43	5,050
185		15.8	1.6	2.3	44	4,410	2.4	48	6,200
240		18.4	1.7	2.5	50	5,690	2.6	53	7,990
300		20.5	1.8	2.6	55	7,070	2.7	59	9,980
400		23.2	2.0				3.0	66	13,220

0.6/1kV, Multi Conductor Tape Armoured Cable [XLPE/PVC/DSTA/PVC]

Twin Core XLPE, Steel Tape Armoured Cable

도체 Conductor			절연두께 Thickness of Insulation	피복두께 Thickness of Separation Sheath	지름 Approx. Diameter of Separation	소선수 외장두께 No. and Thickness of Armour Tape	바깥 피복두께 Thickness of Outer Sheath	완성외경 Approx. Overall Diameter	중량 Approx. Weight
공칭단면적 Normal Cross- sectional Area	소선수/지름 No. & Dia. of Wire or Shape	지름 Diameter							
mm ²	mm	mm	mm	mm	mm	mm	mm	mm	kg/km
2.5	7/0.67	2.01	0.7	1.2	10.0	2×0.2	1.8	14.5	290
4	7/0.85	2.55	0.7	1.2	11.0	2×0.2	1.8	15.5	340
6	7/1.04	3.12	0.7	1.2	12.0	2×0.2	1.8	16.5	415
10	7/1.35	4.05	0.7	1.2	14.0	2×0.2	1.8	19	540
16	Compact round stranded	4.7	0.7	1.2	15.0	2×0.2	1.8	20	655
25		5.9	0.9	1.2	18.5	2×0.2	1.8	22	930
35		7.0	0.9	1.2	21	2×0.2	1.8	25	1,190
50		8.0	1.0	1.2	23	2×0.2	1.8	27	1,530
70		9.7	1.1	1.2	27	2×0.2	1.8	31	2,060
95		11.4	1.1	1.2	31	2×0.2	2.0	35	2,660
120		12.8	1.2	1.2	34	2×0.2	2.2	40	2,640
150		14.3	1.4	1.3	38	2×0.5	2.3	44	4,420
185		15.8	1.6	1.3	41	2×0.5	2.5	49	5,330
240		18.4	1.7	1.4	47	2×0.5	2.6	54	6,730
300		20.5	1.8	1.5	52	2×0.5	2.8	60	8,260

3 Core XLPE, Steel Tape Armoured Cable

도체 Conductor			절연두께 Thickness of Insulation	피복두께 Thickness of Separation Sheath	완성외경 Approx. Diameter of Separation	소선수 외장두께 No. and Thickness of Armour Tape	바깥 피복두께 Thickness of Outer Sheath	완성외경 Approx. Overall Diameter	중량 Approx. Weight
공칭단면적 Normal Cross- sectional Area	소선수/지름 No. & Dia. of Wire or Shape	지름 Diameter							
mm ²	mm	mm	mm	mm	mm	mm	mm	mm	kg/km
2.5	7/0.67	2.01	0.7	1.2	10.0	2×0.2	1.8	15.0	330
4	7/0.85	2.55	0.7	1.2	11.5	2×0.2	1.8	16.0	400
6	7/1.04	3.12	0.7	1.2	13.0	2×0.2	1.8	17.5	490
10	7/1.35	4.05	0.7	1.2	15.0	2×0.2	1.8	19.5	665
16	Compact round stranded	4.7	0.7	1.2	16.0	2×0.2	1.8	21	830
25		5.9	0.9	1.2	19.5	2×0.2	1.8	24	1,200
35		7.0	0.9	1.2	22	2×0.2	1.8	26	1,550
50		8.0	1.0	1.2	25	2×0.2	1.9	29	2,060
70		9.7	1.1	1.2	29	2×0.2	2.0	33	2,780
95		11.4	1.1	1.2	33	2×0.5	2.2	39	3,980
120		12.8	1.2	1.3	36	2×0.5	2.3	43	4,840
150		14.3	1.4	1.3	40	2×0.5	2.4	47	5,930
185		15.8	1.6	1.4	45	2×0.5	2.6	52	7,200
240		18.4	1.7	1.5	51	2×0.5	2.8	58	9,150
300		20.5	1.8	1.6	56	2×0.5	2.9	63	11,280
400		23.2	2.0	1.6	63	2×0.5	3.2	71	14,710

1.8/3(3.6)kV Single and Three Conductor

Single or Three Core XLPE Cable

도체 Conductor			절연두께 Thickness of Insulation	전선 Unarmoured Cable						테이프외장전선 Tape Armoured Cable				
공칭 단면적 Nominal Cross- sectional Area	소선수 지름 No. & Dia. or Wire or Shape	지름 Diameter		바깥피복두께 Thickness of Outer Sheath		완성외경 Approx. Overall Diameter		전선중량 Approx. Weight of Cable		피복두께 Thickness of Separation Sheath	테이프두께 Thickness of Armour Tape	바깥피복 두께 Thickness of Outer Sheath	완성외경 Approx. Overall Diameter	중량 Approx. Weight of Cable 동도체 Copper Conductor
								동도체 Copper Conductor						
					1C	3C	1C	3C	1C	3C	3C	3C	3C	3C
mm²	mm	mm	mm	mm		mm		kg/km		mm	mm	mm	mm	kg/km
10	7/1.35	4.05	2.0	1.4	1.8	12	23	210	670	1.2	0.2	1.8	26	950
16		4.7	2.0	1.4	1.8	13	25	370	860	1.2	0.2	1.8	28	1,150
25		5.9	2.0	1.4	1.8	14	27	370	1,180	1.2	0.2	1.8	31	1,490
35		7.0	2.0	1.4	1.8	15	29	470	1,530	1.2	0.2	1.9	33	1,920
50		8.0	2.0	1.4	1.9	16	32	600	1,930	1.2	0.2	2.0	36	2,430
70	Compact round stranded	9.7	2.0	1.5	2.0	18	36	820	2,620	1.2	0.5	2.1	42	3,570
95		11.4	2.0	1.5	2.2	20	40	1,080	3,490	1.2	0.5	2.3	46	4,520
120		12.8	2.0	1.6	2.3	21	44	1,340	4,330	1.4	0.5	2.4	50	5,490
150		14.2	2.0	1.6	2.4	23	47	1,610	5,220	1.4	0.5	2.5	53	6,450
185		15.8	2.0	1.7	2.5	25	51	1,990	6,390	1.4	0.5	2.6	57	7,710
240		18.4	2.0	1.8	2.7	28	57	2,590	8,320	1.6	0.5	2.8	63	9,840
300		20.5	2.0	1.8	2.8	30	62	3,180	10,250	1.6	0.5	2.9	68	11,880
400		23.2	2.0	1.9	3.0	33	68	4,020	12,930	1.6	0.5	3.2	75	14,820
500		26.4	2.2	2.0	—	36	—	5,120						

3.6/6(7.2)kV Single and Three Conductor

Single or Three Core XLPE Unarmoured Cable

도체 Conductor			절연두께 Thickness of Insulation	전선 Unarmoured Cable						테잎외장전선 Tape Armoured Cable				
공칭 단면적 Nominal Cross- sectional Area	소선수 지름 No. & Dia. or Wire or Shape	지름 Diameter		바깥피복두께 Thickness of Outer Sheath		완성외경 Approx. Overall Diameter		전선중량 Approx. Weight of Cable		피복두께 Thickness of Separation Sheath	테잎두께 Thickness of Armour Tape	바깥피복 두께 Thickness of Outer Sheath	완성외경 Approx. Overall Diameter	중량 Approx. Weight of Cable 동도체 Copper Conductor
								동도체 Copper Conductor						
				1C	3C	1C	3C	1C	3C	3C	3C	3C	3C	3C
mm ²	mm	mm	mm	mm		mm		kg/km		mm	mm	mm	mm	kg/km
10	7/1.35 Compact round stranded	4.05	2.5	1.4	1.9	14	27	320	1,040	1.2	0.2	2.0	33	1,420
16		4.7	2.5	1.4	2.0	15	29	390	1,270	1.2	0.5	2.1	36	2,040
25		5.9	2.5	1.5	2.0	16	32	500	1,610	1.2	0.5	2.2	38	2,470
35		7.0	2.5	1.5	2.1	18	34	610	1,990	1.2	0.5	2.3	41	2,900
50		8.0	2.5	1.5	2.2	20	39	760	2,460	1.3	0.5	2.4	44	3,460
70		9.7	2.5	1.6	2.3	22	41	990	3,200	1.4	0.5	2.5	48	4,320
95		11.4	2.5	1.7	2.5	24	46	1,280	4,140	1.4	0.5	2.6	52	5,330
120		12.8	2.5	1.7	2.6	25	50	1,540	5,030	1.5	0.5	2.8	56	6,350
150		14.2	2.5	1.8	2.7	27	52	1,840	5,960	1.6	0.5	2.9	59	7,400
185		15.8	2.5	1.8	2.8	28	56	2,220	7,190	1.6	0.5	3.0	63	8,720
240		18.4	2.6	1.9	3.0	32	62	2,780	9,310	1.7	0.5	3.2	70	11,050
300		20.5	2.8	2.0	3.2	35	68	3,530	11,460	1.8	0.5	3.4	76	13,390
400		23.2	3.0	2.1	3.4	38	76	4,420	14,330	2.0	0.8	3.7	85	17,510
500		26.4	3.2	2.2	—	42	—	5,560	—					

6/10(12)kV Single and Three Conductor

Single or Three Core XLPE Cable

도체 Conductor			절연두께 Thickness of Insulation	전선 Unarmoured Cable						테이프외장전선 Tape Armoured Cable				
공칭 단면적 Nominal Cross- sectional Area	소선수 지름 No. & Dia. or Wire or Shape	지름 Diameter		바깥피복두께 Thickness of Outer Sheath		완성외경 Approx. Overall Diameter		전선중량 Approx. Weight of Cable		피복두께 Thickness of Separation Sheath	테이프두께 Thickness of Armour Tape	바깥피복 두께 Thickness of Outer Sheath	완성외경 Approx. Overall Diameter	중량 Approx. Weight of Cable 동도체 Copper Conductor
								동도체 Copper Conductor						
				1C	3C	1C	3C	1C	3C					
mm ²	mm	mm	mm	mm		mm		kg/km		mm	mm	mm	mm	kg/km
16	Compact round stranded	4.7	3.4	1.5	2.1	19	36	460	1,520	1.2	0.2	2.3	41	2,440
25		5.9	3.4	1.5	2.2	20	39	570	1,920	1.3	0.5	2.3	44	2,900
35		7.0	3.4	1.6	2.3	21	42	700	2,310	1.3	0.5	2.4	46	3,350
50		8.0	3.4	1.6	2.4	22	44	840	2,800	1.4	0.5	2.5	49	3,920
70		9.7	3.4	1.7	2.5	24	48	1,090	3,580	1.4	0.5	2.7	53	4,820
95		11.4	3.4	1.7	2.6	26	52	1,370	4,510	1.5	0.5	2.8	57	5,090
120		12.8	3.4	1.8	2.7	27	56	1,650	5,430	1.6	0.5	2.9	61	6,910
150		14.2	3.4	1.8	2.8	29	59	1,940	6,370	1.6	0.5	3.0	64	7,930
185		15.8	3.4	1.9	2.9	31	63	2,340	7,640	1.7	0.5	3.1	68	9,340
240		18.4	3.4	2.0	3.1	34	70	2,990	9,840	1.8	0.5	3.3	75	11,660
300		20.5	3.4	2.0	3.3	36	74	3,620	11,830	1.9	0.5	3.5	80	13,890
400		23.2	3.4	2.1	3.5	39	81	4,490	14,650	2.0	0.8	3.7	88	17,880
500		26.4	3.4	2.2	—	42	—	5,610	18,260					

고압 가교폴리에틸렌절연(강대외장) 비닐시스케이블

| 8.7/15(17.5)kV Single and Three Conductor | IEC 60502-2

Single or Three Core XLPE Cable

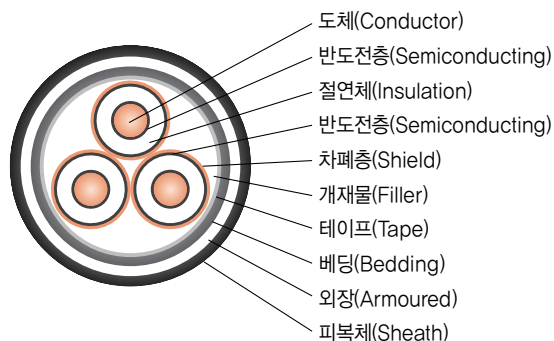
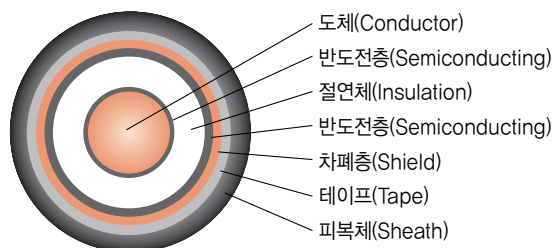
도체 Conductor			절연두께 Thickness of Insulation	전선 Unarmoured Cable						테이프외장전선 Tape Armoured Cable				
공칭 단면적 Normal Corss- sectional Area	소선수 지름 No. & Dia. or Wire or Shape	지름 Diameter		바깥피복두께 Thickness of Outer Sheath		완성외경 Approx. Overall Diameter		전선중량 Approx. Weight of Cable		피복두께 Thickness of Separation Sheath	테이프두께 Thickness of Armour Tape	바깥피복 두께 Thickness of Outer Sheath	완성외경 Approx. Overall Diameter	중량 Approx. Weight of Cable 동도체 Copper Conuctor
								동도체 Copper Conductor						
				1C	3C	1C	3C	1C	3C					
mm ²	mm	mm	mm	mm		mm		kg/km		mm	mm	mm	mm	kg/km
25	Compact round stranded	5.9	4.5	1.6	2.4	22	45	70	2,280	1.4	0.5	2.5	49	3,420
35		7.0	4.5	1.7	2.4	24	47	800	2,680	1.4	0.5	2.6	53	3,700
50		8.0	4.5	1.7	2.5	25	50	950	3,190	1.5	0.5	2.7	55	4,200
70		9.7	4.5	1.7	2.7	27	54	1,190	4,030	1.5	0.5	2.8	59	5,100
95		11.4	4.5	1.8	2.8	28	58	1,490	5,000	1.6	0.5	2.9	63	6,020
120		12.8	4.5	1.9	2.9	30	61	1,790	5,930	1.7	0.5	3.0	66	7,050
150		14.2	4.5	1.9	3.0	32	64	2,080	6,920	1.7	0.5	3.2	70	8,650
185		15.8	4.5	2.0	3.1	33	68	2,490	8,190	1.8	0.5	3.3	74	10,060
240		18.4	4.5	2.0	3.3	36	76	3,130	9,880	1.9	0.5	3.5	80	11,800
300		20.5	4.5	2.1	3.4	39	80	3,790	12,470	2.0	0.8	3.7	87	15,720
400		23.2	4.5	2.2	3.7	43	88	4,670	14,930	2.1	0.8	3.9	94	18,200
500		26.4	4.5	2.3	—	45	—	5,800	—					

고압 가교폴리에틸렌절연(강대외장) 비닐시스케이בל

12/20(24)kV Single and Three Conductor | IEC60502-2

Single or Three Core XLPE Cable

도체 Conductor			절연두께 Thickness of Insulation	전선 Unarmoured Cable						테이프외장전선 Tape Armoured Cable				
공칭 단면적 Nominal Corss- sectional Area	소선수 지름 No. & Dia. or Wire or Shape	지름 Diameter		바깥피복두께 Thickness of Outer Sheath		완성외경 Approx. Overall Diameter		전선중량 Approx. Weight of Cable		피복두께 Thickness of Separation Sheath	테이프두께 Thickness of Armour Tape	바깥피복 두께 Thickness of Outer Sheath	완성외경 Approx. Overall Diameter	중량 Approx. Weight of Cable 동도체 Copper Conductor
								동도체 Copper Conductor						
mm ²	mm	mm		mm	1C	3C	1C	3C	1C	3C	3C	3C	3C	3C
50	Compact round stranded	8.0	5.5	1.8	2.7	28	55	1,050	3,550	1.6	0.5	2.9	61	5,180
70		9.7	5.5	1.8	2.8	29	59	1,300	4,350	1.6	0.5	3.0	65	6,110
95		11.4	5.5	1.9	3.0	30	63	1,600	5,360	1.7	0.5	3.1	69	7,230
120		12.8	5.5	1.9	3.1	33	66	1,880	6,270	1.8	0.5	3.2	72	8,310
150		14.2	5.5	2.0	3.2	34	69	2,200	7,730	1.8	0.5	3.3	76	9,430
185		15.8	5.5	2.1	3.3	36	73	2,600	8,590	1.9	0.5	3.4	80	10,870
240		18.4	5.5	2.1	3.4	39	78	3,180	10,600	2.1	0.8	3.7	88	14,370
300		20.5	5.5	2.2	3.6	41	87	3,860	13,300	2.1	0.8	3.8	93	16,690
400		23.2	5.5	2.3	3.9	45	92	4,910	16,300	2.3	0.8	4.1	100	20,000
500	26.4	5.5	2.4	—	48	—	5,950	—	—	—	—	—	—	



0.6/1kV 비닐절연 비닐시스 제어케이블 : 난연성

| Flame Retardant PVC Insulated PVC Sheathed Control Cable | CVV, KSC IEC60502-1

발전소, 변전소 등의 0.6/1kV 이하의 원격제어용으로 적합한 케이블로서 특히, 종전의 연피 고무 제어용 케이블에 비해서 매우 가벼우며 가요성, 난연성, 내마모성 등이 우수하여 심선 색별이 선명한 케이블이다.

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

구 조

1. 도체 : 전기용 연동선
2. 절연체 : PVC(난연)
3. 선심식별 : 착색에 의한 식별 - 7심 이하의 케이블

심선수	색
2심	흑, 백
3심	흑, 백, 적
4심	흑, 백, 적, 녹
5심	흑, 백, 적, 녹, 황
6심	흑, 백, 적, 녹, 황, 갈
7심	흑, 백, 적, 녹, 황, 갈, 청

*넘버링에 의한 식별

4. 차폐 : 동테이프(CVVS)
5. 시스 : PVC(난연)

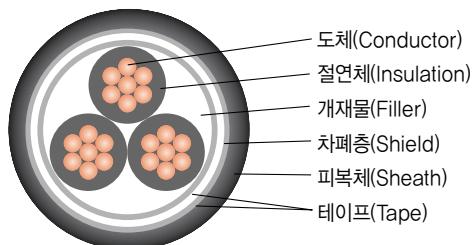
Construction

1. Conductor : Annealed copper wire
2. Insulation : PVC(Flame retardance)
3. Core identification : Colouring method - below 7cores

No. of cores	Colour
2 cores	black, white
3 cores	black, white, red
4 cores	black, white, red, green
5 cores	black, white, red, green, yellow
6 cores	black, white, red, green, yellow, brown
7 cores	black, white, red, green, yellow, brown, blue

*Numbering method

4. Shield : Copper tape(CVVS)
5. Sheath : PVC(Flame retardance)



0.6/1kV 비닐절연 비닐시스 제어케이블

CVV, FR-CVV, TFR-CVV

심선수 No. of Cores	도체 Conductor			절연두께 Insulation Thickness	피복두께 Sheath Thickness	완성외경 Approx. Overall Diameter	최대도체저항 Max. Conductor Resistance at 20°C	시험전압 Test Voltage	중량 Approx. Weight	표준길이 Standard Length
	공칭단면적 Nominal Sectional Area	소선수/지름 Number & Diameter of Wire	바깥지름 Approx. Outer Diameter							
	mm ²	No./mm	mm							
2	1.5	7/0.53	1.59	0.8	1.8	11.0	12.1	3,500	130	300
	2.5	7/0.67	2.01	0.8	1.8	12.0	7.41	3,500	160	300
	4	7/0.85	2.55	1.0	1.8	14.0	4.61	3,500	230	300
	6	7/1.04	3.12	1.0	1.8	15.0	3.08	3,500	280	300
	10	7/1.35	4.05	1.0	1.8	17.0	1.83	3,500	390	300
3	1.5	7/0.53	1.59	0.8	1.8	11.5	12.1	3,500	160	300
	2.5	7/0.67	2.01	0.8	1.8	12.5	7.41	3,500	200	300
	4	7/0.85	2.55	1.0	1.8	14.5	4.61	3,500	280	300
	6	7/1.04	3.12	1.0	1.8	16.0	3.08	3,500	360	300
	10	7/1.35	4.05	1.0	1.8	18.0	1.83	3,500	510	300
4	1.5	7/0.53	1.59	0.8	1.8	12.5	12.1	3,500	190	300
	2.5	7/0.67	2.01	0.8	1.8	13.5	7.41	3,500	240	300
	4	7/0.85	2.55	1.0	1.8	16.0	4.61	3,500	350	300
	6	7/1.04	3.12	1.0	1.8	17.0	3.08	3,500	450	300
	10	7/1.35	4.05	1.0	1.8	19.5	1.83	3,500	650	300
5	1.5	7/0.53	1.59	0.8	1.8	13.5	12.1	3,500	220	300
	2.5	7/0.67	2.01	0.8	1.8	14.5	7.41	3,500	290	300
	4	7/0.85	2.55	1.0	1.8	17.0	4.61	3,500	420	300
	6	7/1.04	3.12	1.0	1.8	18.5	3.08	3,500	540	300
	10	7/1.35	4.05	1.0	1.8	21.0	1.83	3,500	790	300
6	1.5	7/0.53	1.59	0.8	1.8	14.5	12.1	3,500	260	300
	2.5	7/0.67	2.01	0.8	1.8	15.5	7.41	3,500	330	300
	4	7/0.85	2.55	1.0	1.8	18.5	4.61	3,500	490	300
	6	7/1.04	3.12	1.0	1.8	21.0	3.08	3,500	640	300
	10	7/1.35	4.05	1.0	1.8	23.0	1.83	3,500	930	300
7	1.5	7/0.53	1.59	0.8	1.8	14.5	12.1	3,500	280	300
	2.5	7/0.67	2.01	0.8	1.8	15.5	7.41	3,500	360	300
	4	7/0.85	2.55	1.0	1.8	18.5	4.61	3,500	540	300
	6	7/1.04	3.12	1.0	1.8	21.0	3.08	3,500	700	300
	10	7/1.35	4.05	1.0	1.8	23.0	1.83	3,500	1,030	300

심선수 No. of Cores	도체 Conductor			절연두께 Insulation Thickness	피복두께 Sheath Thickness	완성외경 Approx. Overall Diameter	최대도체저항 Max. Conductor Resistance at 20°C	시험전압 Test Voltage	중량 Approx. Weight	표준길이 Standard Length
	공칭단면적 Nominal Sectional Area	소선수/지름 Number & Diameter of Wire	바깥지름 Approx. Outer Diameter							
	mm ²	No./mm	mm							
8	1.5	7/0.53	1.59	0.8	1.8	15.5	12.1	3,500	310	300
	2.5	7/0.67	2.01	0.8	1.8	16.5	7.41	3,500	410	300
	4	7/0.85	2.55	1.0	1.8	20.0	4.61	3,500	610	300
	6	7/1.04	3.12	1.0	1.8	22.0	3.08	3,500	800	300
	10	7/1.35	4.05	1.0	1.8	25.0	1.83	3,500	1,180	300
10	1.5	7/0.53	1.59	0.8	1.8	18.0	12.1	3,500	390	300
	2.5	7/0.67	2.01	0.8	1.8	19.5	7.41	3,500	520	300
	4	7/0.85	2.55	1.0	1.8	23.0	4.61	3,500	770	300
	6	7/1.04	3.12	1.0	1.8	26.0	3.08	3,500	1,020	300
	10	7/1.35	4.05	1.0	1.8	29.0	1.83	3,500	1,520	300
12	1.5	7/0.53	1.59	0.8	1.8	18.5	12.1	3,500	440	300
	2.5	7/0.67	2.01	0.8	1.8	20.0	7.41	3,500	590	300
	4	7/0.85	2.55	1.0	1.8	24.0	4.61	3,500	890	300
	6	7/1.04	3.12	1.0	1.8	27.0	3.08	3,500	1,170	300
	10	7/1.35	4.05	1.0	1.8	30.0	1.83	3,500	1,760	300
15	1.5	7/0.53	1.59	0.8	1.8	19.5	12.1	3,500	530	300
	2.5	7/0.67	2.01	0.8	1.8	22.0	7.41	3,500	710	300
	4	7/0.85	2.55	1.0	1.8	26.0	4.61	3,500	1,070	300
	6	7/1.04	3.12	1.0	1.8	29.0	3.08	3,500	1,420	300
20	1.5	7/0.53	1.59	0.8	1.8	22.0	12.1	3,500	680	300
	2.5	7/0.67	2.01	0.8	1.8	24.0	7.41	3,500	910	300
	4	7/0.85	2.55	1.0	1.8	29.0	4.61	3,500	1,410	300
	6	7/1.04	3.12	1.0	1.8	32.0	3.08	3,500	1,900	300
30	1.5	7/0.53	1.59	0.8	1.8	26.0	12.1	3,500	960	300
	2.5	7/0.67	2.01	0.8	1.8	28.0	7.41	3,500	1,310	300
	4	7/0.85	2.55	1.0	1.9	35.0	4.61	3,500	2,060	300



0.6/1kV 비닐절연 비닐시스 동테이프차폐 제어케이블

CVVS, FR-CVVS, TFR-CVVS

심선수 No. of Cores	도체 Conductor			절연두께 Insulation Thickness	동테이프두께 Copper tape Thickness	피복두께 Sheath Thickness	완성외경 Approx. Overall Diameter	최대 도체저항 Max. Conductor Resistance at 20°C	시험전압 Test Voltage	중량 Approx. Weight	표준길이 Standard Length
	공칭단면적 Nominal Sectional Area	소선수/지름 Number & Diameter of Wire	바깥지름 Approx. Outer Diameter								
	mm ²	mm	mm	mm	mm	mm	mm	Ω/km	V/5min	kg/km	m
1	150	37/2.25	15.75	1.8	0.1	1.7	24.5	0.124	3,500	1730	300
	120	37/2.03	14.21	1.6	0.1	1.6	22.5	0.153	3,500	1430	300
	95	19/2.52	12.6	1.6	0.1	1.6	20.5	0.193	3,500	1150	300
2	70	19/2.14	10.7	1.4	0.1	2.0	32.5	0.268	3,500	1970	300
	50	19/1.78	8.9	1.4	0.1	1.9	29.5	0.387	3,500	1450	300
	35	7/2.52	7.56	1.2	0.1	1.8	26.0	0.524	3,500	1100	300
	25	7/2.14	6.42	1.2	0.1	1.8	23.5	0.727	3,500	870	300
	16	7/1.7	5.1	1.0	0.1	1.8	20.0	1.15	3,500	600	300
	10	7/1.35	4.05	1.0	0.1	1.8	18.0	1.83	3,500	450	300
	6	7/1.04	3.12	1.0	0.1	1.8	16.0	3.08	3,500	330	300
	4	7/0.85	2.55	1.0	0.1	1.8	15.0	4.61	3,500	270	300
	2.5	7/0.67	2.01	0.8	0.1	1.8	13.0	7.41	3,500	200	300
	1.5	7/0.53	1.59	0.8	0.1	1.8	12.0	12.1	3,500	170	300
3	70	19/2.14	10.7	1.4	0.1	2.1	35.5	0.268	3,500	2,700	300
	50	19/1.78	8.9	1.4	0.1	1.9	31.5	0.387	3,500	1,970	300
	35	7/2.52	7.56	1.2	0.1	1.8	27.0	0.524	3,500	1,490	300
	25	7/2.14	6.42	1.2	0.1	1.8	24.5	0.727	3,500	1,140	300
	16	7/1.7	5.1	1.0	0.1	1.8	21.0	1.15	3,500	780	300
	10	7/1.35	4.05	1.0	0.1	1.8	19.0	1.83	3,500	570	300
	6	7/1.04	3.12	1.0	0.1	1.8	17.0	3.08	3,500	415	300
	4	7/0.85	2.55	1.0	0.1	1.8	15.5	4.61	3,500	330	300
	2.5	7/0.67	2.01	0.8	0.1	1.8	13.5	7.41	3,500	240	300
	1.5	7/0.53	1.59	0.8	0.1	1.8	12.5	12.1	3,500	200	300
4	70	19/2.14	10.7	1.4	0.1	2.2	39.5	0.268	3,500	3,500	300
	50	19/1.78	8.9	1.4	0.1	2.0	34.5	0.387	3,500	2,550	300
	35	7/2.52	7.56	1.2	0.1	1.9	30.0	0.524	3,500	1,910	300
	25	7/2.14	6.42	1.2	0.1	1.8	27.0	0.727	3,500	1,460	300
	16	7/1.7	5.1	1.0	0.1	1.8	23.0	1.15	3,500	980	300
	10	7/1.35	4.05	1.0	0.1	1.8	20.5	1.83	3,500	710	300
	6	7/1.04	3.12	1.0	0.1	1.8	18.0	3.08	3,500	500	300
	4	7/0.85	2.55	1.0	0.1	1.8	17.0	4.61	3,500	405	300
	2.5	7/0.67	2.01	0.8	0.1	1.8	14.5	7.41	3,500	290	300
	1.5	7/0.53	1.59	0.8	0.1	1.8	13.5	12.1	3,500	240	300
5	10	7/1.35	4.05	1.0	0.1	1.8	22.0	1.83	3,500	860	300
	6	7/1.04	3.12	1.0	0.1	1.8	19.5	3.08	3,500	600	300
	4	7/0.85	2.55	1.0	0.1	1.8	18.0	4.61	3,500	480	300
	2.5	7/0.67	2.01	0.8	0.1	1.8	15.5	7.41	3,500	340	300
	1.5	7/0.53	1.59	0.8	0.1	1.8	14.5	12.1	3,500	280	300

심선수 No. of Cores	도체 Conductor			절연두께 Insulation Thickness	동테이프두께 Copper tape Thickness	피복두께 Sheath Thickness	완성외경 Approx. Overall Diameter	최대 도체저항 Max. Conductor Resistance at 20°C	시험전압 Test Voltage	중량 Approx. Weight	표준길이 Standard Length
	공칭단면적 Nominal Sectional Area	소선수/지름 Number & Diameter of Wire	바깥지름 Approx. Outer Diameter								
	mm ²	mm	mm								
6	10	7/1.35	4.05	1.0	0.1	1.8	24.0	1.83	3,500	1,000	300
	6	7/1.04	3.12	1.0	0.1	1.8	21.5	3.08	3,500	710	300
	4	7/0.85	2.55	1.0	0.1	1.8	19.5	4.61	3,500	550	300
	2.5	7/0.67	2.01	0.8	0.1	1.8	16.5	7.41	3,500	390	300
	1.5	7/0.53	1.59	0.8	0.1	1.8	15.5	12.1	3,500	325	300
7	10	7/1.35	4.05	1.0	0.1	1.8	24.0	1.83	3,500	1100	300
	6	7/1.04	3.12	1.0	0.1	1.8	21.5	3.08	3,500	870	300
	4	7/0.85	2.55	1.0	0.1	1.8	19.5	4.61	3,500	600	300
	2.5	7/0.67	2.01	0.8	0.1	1.8	16.5	7.41	3,500	420	300
	1.5	7/0.53	1.59	0.8	0.1	1.8	15.5	12.1	3,500	345	300
8	10	7/1.35	4.05	1.0	0.1	1.8	26.0	1.83	3,500	1,260	300
	6	7/1.04	3.12	1.0	0.1	1.8	23.0	3.08	3,500	880	300
	4	7/0.85	2.55	1.0	0.1	1.8	21.0	4.61	3,500	680	300
	2.5	7/0.67	2.01	0.8	0.1	1.8	17.5	7.41	3,500	475	300
	1.5	7/0.53	1.59	0.8	0.1	1.8	16.5	12.1	3,500	390	300
10	10	7/1.35	4.05	1.0	0.1	1.9	30.5	1.83	3,500	1,620	300
	6	7/1.04	3.12	1.0	0.1	1.8	26.5	3.08	3,500	1,110	300
	4	7/0.85	2.55	1.0	0.1	1.8	24.0	4.61	3,500	860	300
	2.5	7/0.67	2.01	0.8	0.1	1.8	20.5	7.41	3,500	590	300
	1.5	7/0.53	1.59	0.8	0.1	1.8	19.0	12.1	3,500	480	300
12	10	7/1.35	4.05	1.0	0.1	1.9	31.5	1.83	3,500	1,720	300
	6	7/1.04	3.12	1.0	0.1	1.8	27.5	3.08	3,500	1,260	300
	4	7/0.85	2.55	1.0	0.1	1.8	25.0	4.61	3,500	970	300
	2.5	7/0.67	2.01	0.8	0.1	1.8	21.0	7.41	3,500	660	300
	1.5	7/0.53	1.59	1.0	0.1	1.8	19.5	12.1	3,500	530	300
15	6	7/1.04	3.12	1.0	0.1	1.9	29.5	3.08	3,500	1,530	300
	4	7/0.85	2.55	1.0	0.1	1.8	27.0	4.61	3,500	1,160	300
	2.5	7/0.67	2.01	0.8	0.1	1.8	22.5	7.41	3,500	790	300
	1.5	7/0.53	1.59	0.8	0.1	1.8	20.5	12.1	3,500	620	300
20	6	7/1.04	3.12	1.0	0.1	2.0	33.0	3.08	3,500	1,990	300
	4	7/0.85	2.55	1.0	0.1	1.9	30.0	4.61	3,500	1,500	300
	2.5	7/0.67	2.01	0.8	0.1	1.8	25.0	7.41	3,500	990	300
	1.5	7/0.53	1.59	0.8	0.1	1.8	22.5	12.1	3,500	780	300
30	4	7/0.85	2.55	1.0	0.1	2.1	36.0	4.61	3,500	2,200	300
	2.5	7/0.67	2.01	0.8	0.1	1.9	29.5	7.41	3,500	1,430	300
	1.5	7/0.53	1.5	0.8	0.1	1.8	27.0	12.1	3,500	1,090	300

0.6/1kV 비닐절연 비닐시스케이블

0.6/1kV Grade PVC Insulated PVC sheathed Cable | VV, KSC IEC60502-1

장기간 사용하여도 내마모성 및 내후성이 우수하여 AC 0.6/1kV 이하의 저압 회로에 널리 사용한다.

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 AC 0.6/1kV grade.

구 조

1. 도체 : 전기용 연동선
2. 절연체 : PVC
3. 선심식별 :

심선수	색
1심	흑
2심	흑, 백
3심	흑, 백, 적
4심	흑, 백, 적, 녹

4. 피복체 : PVC

Construction

1. Conductor : Annealed copper wire.
2. Insulation : PVC
3. Core identification :

No. of cores	Colour
1 core	black
2 cores	black, white
3 cores	black, white, red
4 cores	black, white, red, green

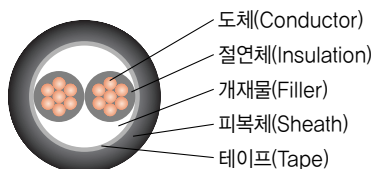
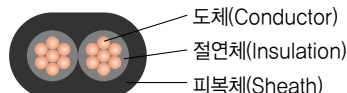
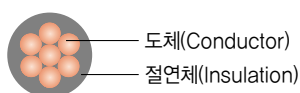
4. Sheath : PVC

종류 및 기호

종 류	기호
0.6/1kV 비닐절연비닐시스 케이블	VV

Classes and Symbols

Class	Symbol
0.6/1kV	VV



단심 (Single Core)

도체 Conductor			절연두께 Insulation Thickness	피복두께 Sheath Thickness	완성외경 Approx. Overall Diameter	최대도체저항 Max. Conductor Resistance at 20°C	시험전압 Test Voltage	중량 Approx. Weight	표준길이 Standard Length
공칭단면적 Nominal Sectional Area	소선수/지름 Number & Diameter of Wire	바깥지름 Approx. Outer Diameter							
mm ²	No./mm	mm	mm	mm	mm	Ω/km	V/5min	kg/km	m
1.5	7 / 0.53	1.59	0.8	1.4	6.5	12.1	3,500	65	300
2.5	7 / 0.67	2.01	0.8	1.4	7.0	7.41	3,500	75	300
4	7 / 0.85	2.55	1.0	1.4	8.0	4.61	3,500	105	300
6	7 / 1.04	3.12	1.0	1.4	8.5	3.08	3,500	130	300
10	7 / 1.35	4.05	1.0	1.4	9.5	1.83	3,500	180	300
16	C.C.	4.7	1.0	1.4	10.0	1.15	3,500	235	300
25	C.C.	5.9	1.2	1.4	12.0	0.727	3,500	345	300
35	C.C.	6.9	1.2	1.4	13.0	0.524	3,500	435	300
50	C.C.	8.1	1.4	1.4	14.5	0.387	3,500	605	300
70	C.C.	9.8	1.4	1.4	16.0	0.268	3,500	790	300
95	C.C.	11.4	1.6	1.5	18.5	0.193	3,500	1,065	300
120	C.C.	12.9	1.6	1.5	20	0.153	3,500	1,310	300
150	C.C.	14.4	1.8	1.6	22	0.124	3,500	1,620	300
185	C.C.	15.9	2.0	1.7	25	0.0991	3,500	2,015	200
240	C.C.	18.3	2.2	1.8	28	0.0754	3,500	2,560	200
300	C.C.	20.5	2.4	1.9	30	0.0601	3,500	3,200	200
400	C.C.	23.2	2.6	2.0	34	0.0470	3,500	4,150	150
500	C.C.	26.4	2.8	2.1	38	0.0366	3,500	5,000	150
630	C.C.	30.2	2.8	2.2	42	0.0283	3,500	6,650	150

Note) C.C. : Compact round stranded conductor.

2심 (Two Cores)

도체 Conductor			절연두께 Insulation Thickness	피복두께 Sheath Thickness	완성외경 Approx. Overall Diameter	최대도체저항 Max. Conductor Resistance at 20°C	시험전압 Test Voltage	중량 Approx. Weight	표준길이 Standard Length
공칭단면적 Nominal Sectional Area	소선수/지름 Number & Diameter of Wire	바깥지름 Approx. Outer Diameter							
mm ²	No./mm	mm	mm	mm	mm	Ω/km	V/5min	kg/km	m
1.5	7 / 0.53	1.59	0.8	1.8	11.5	12.1	3,500	140	300
2.5	7 / 0.67	2.01	0.8	1.8	12.0	7.41	3,500	170	300
4	7 / 0.85	2.55	1.0	1.8	14.0	4.61	3,500	235	300
6	7 / 1.04	3.12	1.0	1.8	15.5	3.08	3,500	290	300
10	7 / 1.35	4.05	1.0	1.8	17.0	1.83	3,500	400	300
16	C.C.	4.7	1.0	1.8	18.5	1.15	3,500	530	300
25	C.C.	5.9	1.2	1.8	22	0.727	3,500	775	300
35	C.C.	6.9	1.2	1.8	24	0.524	3,500	1,000	300
50	C.C.	8.1	1.4	1.8	27	0.387	3,500	1,360	300
70	C.C.	9.8	1.4	1.9	31	0.268	3,500	1,775	300
95	C.C.	11.4	1.6	2.0	35	0.193	3,500	2,390	300
120	C.C.	12.9	1.6	2.1	38	0.153	3,500	2,940	300
150	C.C.	14.4	1.8	2.2	43	0.124	3,500	3,630	300
185	C.C.	15.9	2.0	2.3	47	0.0991	3,500	4,500	200
240	C.C.	18.3	2.2	2.5	53	0.0754	3,500	5,705	200
300	C.C.	20.5	2.4	2.7	58	0.0601	3,500	7,140	200

3심 (Three Cores)

도체 Conductor			절연두께 Insulation Thickness	피복두께 Sheath Thickness	완성외경 Approx. Overall Diameter	최대도체저항 Max. Conductor Resistance at 20°C	시험전압 Test Voltage	중량 Approx. Weight	표준길이 Standard Length
공칭단면적 Nominal Sectional Area	소선수/지름 Number & Diameter of Wire	바깥지름 Approx. Outer Diameter							
mm²	No./mm	mm	mm	mm	mm	Ω/km	V/5min	kg/km	m
1.5	7 / 0.53	1.59	0.8	1.8	12.0	12.1	3,500	164	300
2.5	7 / 0.67	2.01	0.8	1.8	13.0	7.41	3,500	210	300
4	7 / 0.85	2.55	1.0	1.8	15.0	4.61	3,500	295	300
6	7 / 1.04	3.12	1.0	1.8	16.0	3.08	3,500	370	300
10	7 / 1.35	4.05	1.0	1.8	18.0	1.83	3,500	525	300
16	C.C.	4.7	1.0	1.8	19.0	1.15	3,500	705	300
25	C.C.	5.9	1.2	1.8	23	0.727	3,500	1,040	300
35	C.C.	6.9	1.2	1.8	26	0.524	3,500	1,360	300
50	C.C.	8.1	1.4	1.8	29	0.387	3,500	1,850	300
70	C.C.	9.8	1.4	1.9	33	0.268	3,500	2,455	300
95	C.C.	11.4	1.6	2.1	38	0.193	3,500	3,325	300
120	C.C.	12.9	1.6	2.2	41	0.153	3,500	4,115	300
150	C.C.	14.4	1.8	2.3	46	0.124	3,500	5,085	300
185	C.C.	15.9	2.0	2.5	50	0.0991	3,500	6,340	200
240	C.C.	18.3	2.2	2.7	57	0.0754	3,500	8,065	200
300	C.C.	20.5	2.4	2.8	63	0.0601	3,500	10,065	200

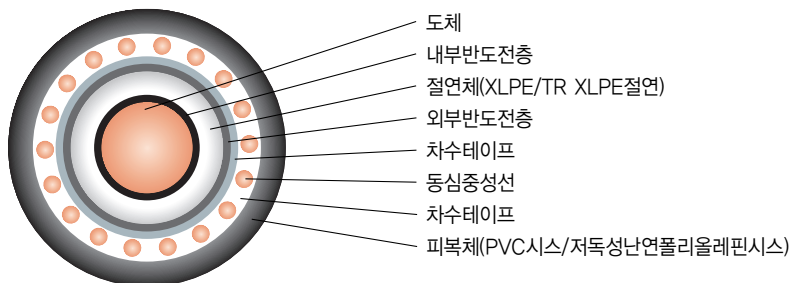
4심 (Four Cores)

도체 Conductor			절연두께 Insulation Thickness	피복두께 Sheath Thickness	완성외경 Approx. Overall Diameter	최대도체저항 Max. Conductor Resistance at 20°C	시험전압 Test Voltage	중량 Approx. Weight	표준길이 Standard Length
공칭단면적 Nominal Sectional Area	소선수/지름 Number & Diameter of Wire	바깥지름 Approx. Outer Diameter							
mm²	No./mm	mm	mm	mm	mm	Ω/km	V/5min	kg/km	m
1.5	7 / 0.53	1.59	0.8	1.8	13.0	12.1	3,500	200	300
2.5	7 / 0.67	2.01	0.8	1.8	14.0	7.41	3,500	250	300
4	7 / 0.85	2.55	1.0	1.8	16.0	4.61	3,500	360	300
6	7 / 1.04	3.12	1.0	1.8	17.5	3.08	3,500	460	300
10	7 / 1.35	4.05	1.0	1.8	20	1.83	3,500	655	300
16	C.C.	4.7	1.0	1.8	22	1.15	3,500	895	300
25	C.C.	5.9	1.2	1.8	26	0.727	3,500	1,335	300
35	C.C.	6.9	1.2	1.8	28	0.524	3,500	1,755	300
50	C.C.	8.1	1.4	1.9	32	0.387	3,500	2,425	300
70	C.C.	9.8	1.4	2.0	36	0.268	3,500	3,200	300
95	C.C.	11.4	1.6	2.2	42	0.193	3,500	4,360	300
120	C.C.	12.9	1.6	2.3	46	0.153	3,500	5,380	300
150	C.C.	14.4	1.8	2.5	51	0.124	3,500	6,660	300
185	C.C.	15.9	2.0	2.6	56	0.0991	3,500	8,270	200
240	C.C.	18.3	2.2	2.9	63	0.0754	3,500	10,590	200
300	C.C.	20.5	2.4	3.1	70	0.0601	3,500	13,260	200

22.9kV 동심중성선 전력케이블 | CNCV-W 수밀형, FR CNCO-W 난연성
22.9kV 트리억제형 전력케이블 | TR CNCV-W

도체 Conductor			절연두께 Insulation Thickness	소선수/지름 Concentric Type Diameter of wire & Number	피복두께 Sheath Thickness	완성외경 Approx. Overall Diameter	최대 완성외경 Approx. Max. Overall Diameter	최대 도체저항 Max. Conductor Resistance at 20°C	시험전압 (절연체) Test Voltage (Insulation)	시험전압 (피복) Test Voltage (Sheath)	최소 절연저항 Min. Insulation Resistance at 20°C	전기용량 Capacitance	표준길이 Standard Length	포장 Package Type
공칭단면적 Nominal Sectional Area	형태 Form	바깥지름 Outer Diameter												
mm ²		mm	mm	mm	mm	mm	mm	Ω/km	kV/5min	kV/10min	MΩ-km	μF/km	m	-
38	Compact round	7.3	6.6	1.0×17	3.0	34	37	0.481	52	4	3,500	0.16	150	Drum
60		9.3	6.6	1.2×18	3.0	36	39	0.305	52	4	3,000	0.21	150	Drum
100		12.0	6.6	1.6×17	3.0	40	43	0.183	52	4	3,000	0.23	150	Drum
150		14.7	6.6	1.8×20	3.0	43	46	0.122	52	4	2,500	0.26	150	Drum
200		17.0	6.6	2.0×21	3.0	45	48	0.0915	52	4	2,000	0.32	150	Drum
250		19.0	6.6	2.3×20	3.0	48	52	0.0739	52	4	2,000	0.32	150	Drum
325		21.7	6.6	2.3×26	3.0	51	54	0.0568	52	4	2,000	0.36	150	Drum
400		24.1	6.6	2.9×20	3.0	54	57	0.0462	52	4	2,000	0.38	150	Drum
500		26.9	6.6	2.6×31	3.0	57	60	0.0369	52	4	1,500	0.41	150	Drum
600		29.5	6.6	2.6×38	4.0	61	64	0.0308	52	4	1,500	0.47	150	Drum

주) CNCV-W, FR CNCO-W, TR CNCV-W의 구조는 동일함.



트레이용 난연 내열케이블 | Tray flame retardant heat-resistant cable | TFR-3, HS-D-131
트레이용 난연 내화케이블 | Tray flame retardant fire-resistant cable | TFR-8, HS-D-130
저독성 난연케이블 | Low smoke, Halogen free flame retardant polyolefin cable | NFR, HS-D-133

0.6/1kV 이하의 비상경보설비의 신호 및 통신용으로 사용하거나 0.6/1kV 옥내소화전설비의 회로및 트레이에 사용하는 케이블이다.

구 조

1. 도체 : 전기용 연동선
2. 내화층 : 내화테이프(TFR-8)
3. 절연체 : XLPE 또는 PE
4. 선심식별 : 트레이사에 의한 식별

심선수	색
1심	백
2심	흑, 백
3심	흑, 백, 적
4심	흑, 백, 적, 녹

5. 내열보강층 : 내열테이프
6. 피복체 : PVC/난연PVC
7. 최고허용온도 및 내열시간 :
TFR-3 : 380℃, 15분
TFR-8 : 750℃, 3시간

종류 및 기호

종 류	기호
트레이용(화재경보용) 내열 케이블	TFR-3
트레이용(소방용) 내화 케이블	TFR-8
저독성 난연(내열, 내화) 케이블	NFR-3, 8

TFR-3 is used in signaling or telecommunication system under AC 0.6/1kV fire fighting equipments, and TFR-8 is used mainly in wiring of fireplug equipments under AC 0.6/1kV grade and Tray.

Construction

1. Conductor : Annealed copper wire
2. Fire resistant layer : Mica tape
3. Insulation : XLPE or PE
4. Core identification : Tracer method

No. of cores	Colour
1 cores	white
2 cores	black, white
3 cores	black, white, red
4 cores	black, white, red, green

5. Heat resistant layer : Glass tape
6. Sheath : PVC/FR-PVC
7. Maximum allowable temperature and heating resistant time :
TFR-3 : 380℃, 15minutes
TFR-8 : 750℃, 3hours

Classes and Symbols

Class	Symbol
Tray heat resistant cable	TFR-3
Tray fire proof cable	TFR-8
LSHF cable	NFR-3, 8



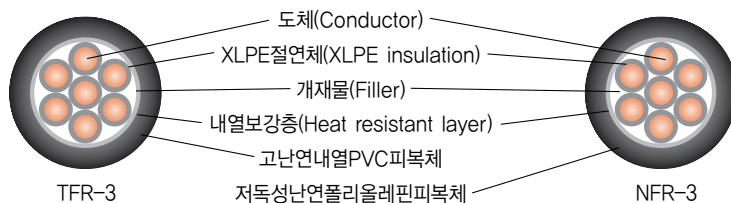
트레이용 난연내열케이블 | TFR-3

저독성 난연내열케이블 | NFR-3

단선 (Solid)

심선수 No. of Cores	도체 Conductor			절연두께 Insulation Thickness	피복두께 Sheath Thickness	완성외경 Approx. Overall Diameter	최대도체저항 Max. Conductor Resistance at 20°C	시험전압 Test Voltage	중량 Approx. Weight	표준길이 Standard Length
	공칭단면적 Nominal Sectional Area	소선수/지름 Number & Diameter of Wire	바깥지름 Outer Diameter							
	mm ²	No./mm	mm							
2	1.5	1/1.38	1.38	0.7	1.8	11	12.1	3,500	124	300
	2.5	1/1.78	1.78	0.7	1.8	11.5	7.41	3,500	154	300
	4	1/2.25	2.25	0.7	1.8	12.5	4.61	3,500	195	300
3	1.5	1/1.38	1.38	0.7	1.8	11	12.1	3,500	144	300
	2.5	1/1.78	1.78	0.7	1.8	12	7.41	3,500	183	300
	4	1/2.25	2.25	0.7	1.8	13	4.61	3,500	240	300
4	1.5	1/1.38	1.38	0.7	1.8	12	12.1	3,500	172	300
	2.5	1/1.78	1.78	0.7	1.8	13	7.41	3,500	221	300
	4	1/2.25	2.25	0.7	1.8	14	4.61	3,500	291	300
5	1.5	1/1.38	1.38	0.7	1.8	13	12.1	3,500	201	300
	2.5	1/1.78	1.78	0.7	1.8	14	7.41	3,500	262	300
	4	1/2.25	2.25	0.7	1.8	15	4.61	3,500	347	300
6	1.5	1/1.38	1.38	0.7	1.8	13.5	12.1	3,500	222	300
	2.5	1/1.78	1.78	0.7	1.8	15	7.41	3,500	303	300
	4	1/2.25	2.25	0.7	1.8	16	4.61	3,500	405	300
7	1.5	1/1.38	1.38	0.7	1.8	13.5	12.1	3,500	236	300
	2.5	1/1.78	1.78	0.7	1.8	15	7.41	3,500	325	300
	4	1/2.25	2.25	0.7	1.8	16	4.61	3,500	440	300
8	1.5	1/1.38	1.38	0.7	1.8	14.5	12.1	3,500	266	300
	2.5	1/1.78	1.78	0.7	1.8	16	7.41	3,500	358	300
	4	1/2.25	2.25	0.7	1.8	17.5	4.61	3,500	501	300
10	1.5	1/1.38	1.38	0.7	1.8	16.5	12.1	3,500	325	300
	2.5	1/1.78	1.78	0.7	1.8	18	7.41	3,500	442	300
	4	1/2.25	2.25	0.7	1.8	20	4.61	3,500	607	300
12	1.5	1/1.38	1.38	0.7	1.8	17	12.1	3,500	364	300
	2.5	1/1.78	1.78	0.7	1.8	18.5	7.41	3,500	498	300
	4	1/2.25	2.25	0.7	1.8	21	4.61	3,500	693	300
15	1.5	1/1.38	1.38	0.7	1.8	18	12.1	3,500	431	300
	2.5	1/1.78	1.78	0.7	1.8	20	7.41	3,500	603	300
	4	1/2.25	2.25	0.7	1.8	22	4.61	3,500	839	300
20	1.5	1/1.38	1.38	0.7	1.8	20	12.1	3,500	542	300
	2.5	1/1.78	1.78	0.7	1.8	22	7.41	3,500	757	300
	4	1/2.25	2.25	0.7	1.8	25	4.61	3,500	1,078	300
25	1.5	1/1.38	1.38	0.7	1.8	22	12.1	3,500	652	300
	2.5	1/1.78	1.78	0.7	1.8	25	7.41	3,500	923	300
	4	1/2.25	2.25	0.7	1.8	28	4.61	3,500	1,312	300
30	1.5	1/1.38	1.38	0.7	1.8	24	12.1	3,500	754	300
	2.5	1/1.78	1.78	0.7	1.8	26	7.41	3,500	1,074	300
	4	1/2.25	2.25	0.7	1.8	29	4.61	3,500	1,534	300

주) 무게는 약간의 차이가 있을 수 있습니다. TFR-3, NFR-3의 구조는 동일합니다.

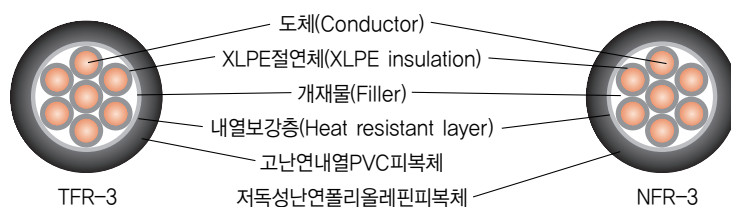


트레이용 난연내열케이블 | TFR-3
저독성 난연내열케이블 | NFR-3

연선 (Stranded)

심선수 No. of Cores	도체 Conductor			절연두께 Insulation Thickness	피복두께 Sheath Thickness	완성외경 Approx. Overall Diameter	최대도체저항 Max. Conductor Resistance at 20°C	시험전압 Test Voltage	중량 Approx. Weight	표준길이 Standard Length
	공칭단면적 Nominal Sectional Area	소선수/지름 Number & Diameter of Wire	바깥지름 Outer Diameter							
	mm²	No./mm	mm							
2	1.5	7/0.53	1.59	0.7	1.8	11	12.1	3,500	131	300
	2.5	7/0.67	2.01	0.7	1.8	12	7.41	3,500	160	300
	4	7/0.85	2.55	0.7	1.8	13	4.61	3,500	204	300
3	1.5	7/0.53	1.59	0.7	1.8	11.5	12.1	3,500	154	300
	2.5	7/0.67	2.01	0.7	1.8	12.5	7.41	3,500	195	300
	4	7/0.85	2.55	0.7	1.8	13.5	4.61	3,500	251	300
4	1.5	7/0.53	1.59	0.7	1.8	12.5	12.1	3,500	184	300
	2.5	7/0.67	2.01	0.7	1.8	13.5	7.41	3,500	231	300
	4	7/0.85	2.55	0.7	1.8	15	4.61	3,500	305	300
5	1.5	7/0.53	1.59	0.7	1.8	13.5	12.1	3,500	215	300
	2.5	7/0.67	2.01	0.7	1.8	14.5	7.41	3,500	268	300
	4	7/0.85	2.55	0.7	1.8	16	4.61	3,500	364	300
6	1.5	7/0.53	1.59	0.7	1.8	14.5	12.1	3,500	247	300
	2.5	7/0.67	2.01	0.7	1.8	15.5	7.41	3,500	316	300
	4	7/0.85	2.55	0.7	1.8	17	4.61	3,500	426	300
7	1.5	7/0.53		0.7	1.8	14.5	12.1	3,500	262	300
	2.5	7/0.67	1.59	0.7	1.8	15.5	7.41	3,500	339	300
	4	7/0.85	2.01	0.7	1.8	17	4.61	3,500	460	300
8	1.5	7/0.53	2.55	0.7	1.8	15	12.1	3,500	286	300
	2.5	7/0.67	1.59	0.7	1.8	16.5	7.41	3,500	376	300
	4	7/0.85	2.01	0.7	1.8	18.5	4.61	3,500	526	300
10	1.5	7/0.53	2.55	0.7	1.8	17.5	12.1	3,500	347	300
	2.5	7/0.67	1.59	0.7	1.8	19	7.41	3,500	460	300
	4	7/0.85	2.01	0.7	1.8	21	4.61	3,500	620	300
12	1.5	7/0.53	2.55	0.7	1.8	18	12.1	3,500	403	300
	2.5	7/0.67	1.59	0.7	1.8	19.5	7.41	3,500	524	300
	4	7/0.85	2.01	0.7	1.8	22	4.61	3,500	726	300
15	1.5	7/0.53	2.55	0.7	1.8	19	12.1	3,500	463	300
	2.5	7/0.67	1.59	0.7	1.8	21	7.41	3,500	627	300
	4	7/0.85	2.01	0.7	1.8	24	4.61	3,500	878	300
20	1.5	7/0.53	2.55	0.7	1.8	21	12.1	3,500	581	300
	2.5	7/0.67	1.59	0.7	1.8	23	7.41	3,500	788	300
	4	7/0.85	2.01	0.7	1.8	26	4.61	3,500	1,126	300
25	1.5	7/0.53	2.55	0.7	1.8	24	12.1	3,500	703	300
	2.5	7/0.67	1.59	0.7	1.8	26	7.41	3,500	961	300
	4	7/0.85	2.01	0.7	1.8	29	4.61	3,500	1,372	300
30	1.5	7/0.53	2.55	0.7	1.8	25	12.1	3,500	811	300
	2.5	7/0.67	1.59	0.7	1.8	28	7.41	3,500	1,117	300
	4	7/0.85	2.01	0.7	1.8	31	4.61	3,500	1,603	300

주) 무게는 약간의 차이가 있을 수 있습니다. TFR-3, NFR-3의 구조는 동일합니다.



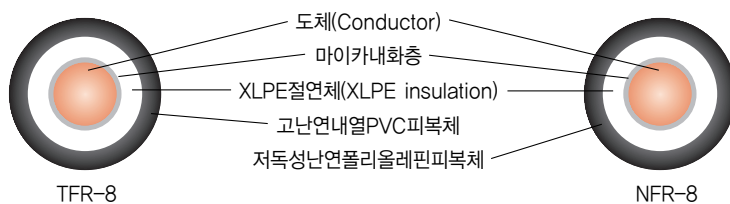
트레이용 난연내화케이블 | TFR-8 저독성 난연내화케이블 | NFR-8

단심 (Single Core)

도체 Conductor			절연두께 Insulation Thickness	피복두께 Sheath Thickness	완성외경 Approx. Overall Diameter	최대도체저항 Max. Conductor Resistance at 20°C	시험전압 Test Voltage	중량 Approx. Weight	표준길이 Standard Length
공칭단면적 Nominal Sectional Area	소선수/지름 Number & Diameter of Wire	바깥지름 Approx. Outer Diameter							
mm ²	No./mm	mm	mm	mm	mm	Ω/km	V/5min	kg/km	m
2.5	7 / 0.67	2.01	0.7	1.4	8	7.41	3,500	81	300
4	7 / 0.85	2.55	0.7	1.4	8.5	4.61	3,500	101	300
6	7 / 1.04	3.12	0.7	1.4	9	3.08	3,500	125	300
10	7 / 1.35	4.05	0.7	1.4	10	1.83	3,500	174	300
16	C.C.	4.7	0.7	1.4	10.5	1.15	3,500	230	300
25	C.C.	5.9	0.8	1.4	12	0.727	3,500	335	300
35	C.C.	6.9	0.9	1.4	13	0.524	3,500	437	300
50	C.C.	8.1	1.0	1.4	14.5	0.387	3,500	569	300
70	C.C.	9.8	1.1	1.4	16.5	0.268	3,500	785	300
95	C.C.	11.4	1.1	1.5	18.5	0.193	3,500	1,053	300
120	C.C.	12.9	1.2	1.5	21	0.153	3,500	1,307	300
150	C.C.	14.4	1.4	1.6	23	0.124	3,500	1,555	300
185	C.C.	15.9	1.6	1.6	25	0.0991	3,500	1,904	200
240	C.C.	18.3	1.7	1.7	27	0.0754	3,500	2,427	200
300	C.C.	20.5	1.8	1.8	30	0.0601	3,500	3,062	200
400	C.C.	23.2	2.0	1.9	33	0.047	3,500	4,028	150
500	C.C.	26.4	2.2	2.0	37	0.0366	3,500	4,953	150
630	C.C.	30.2	2.4	2.2	42	0.0283	3,500	6,311	150

주) 무게는 약간의 차이가 있을 수 있습니다. TFR-8, NFR-8의 구조는 동일합니다.

Note) C.C. : Compact round stranded conductor





트레이용 난연내화케이블 | TFR-8 저독성 난연내화케이블 | NFR-8

2심 (Two Cores)

도체 Conductor			절연두께 Insulation Thickness	피복두께 Sheath Thickness	완성외경 Approx. Overall Diameter	최대도체저항 Max. Conductor Resistance at 20°C	시험전압 Test Voltage	중량 Approx. Weight	표준길이 Standard Length
공칭단면적 Nominal Sectional Area	소선수/지름 Number & Diameter of Wire	바깥지름 Approx. Outer Diameter							
mm ²	No./mm	mm	mm	mm	mm	Ω/km	V/5min	kg/km	m
2.5	7 / 0.67	2.01	0.7	1.8	14	7.41	3,500	203	300
4	7 / 0.85	2.55	0.7	1.8	15	4.61	3,500	249	300
6	7 / 1.04	3.12	0.7	1.8	16	3.08	3,500	308	300
10	7 / 1.35	4.05	0.7	1.8	18	1.83	3,500	418	300
16	C.C.	4.7	0.7	1.8	19	1.15	3,500	548	300
25	C.C.	5.9	0.9	1.8	22	0.727	3,500	789	300
35	C.C.	6.9	0.9	1.8	25	0.524	3,500	1,019	300
50	C.C.	8.1	1.0	1.8	27	0.387	3,500	1,315	300
70	C.C.	9.8	1.1	1.8	31	0.268	3,500	1,803	300
95	C.C.	11.4	1.1	1.9	35	0.193	3,500	2,390	300
120	C.C.	12.9	1.2	2.0	38	0.153	3,500	2,992	300
150	C.C.	14.4	1.4	2.2	42	0.124	3,500	3,585	300
185	C.C.	15.9	1.6	2.3	47	0.0991	3,500	4,407	200
240	C.C.	18.3	1.7	2.5	52	0.0754	3,500	5,596	200
300	C.C.	20.5	1.8	2.6	57	0.0601	3,500	7,018	200

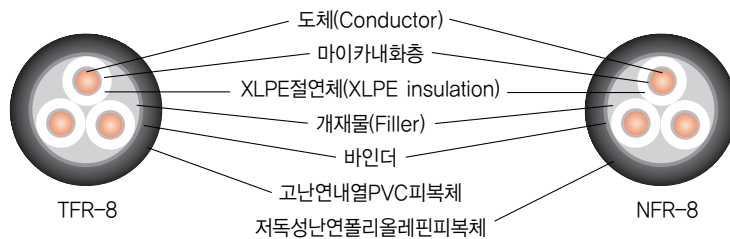
주) 무게는 약간의 차이가 있을 수 있습니다. TFR-8, NFR-8의 구조는 동일합니다.

트레이용 난연내화케이블 | TFR-8 저독성 난연내화케이블 | NFR-8

3심 (Three Cores)

도체 Conductor			절연두께 Insulation Thickness	피복두께 Sheath Thickness	완성외경 Approx. Overall Diameter	최대도체저항 Max. Conductor Resistance at 20°C	시험전압 Test Voltage	중량 Approx. Weight	표준길이 Standard Length
공칭단면적 Nominal Sectional Area	소선수/지름 Number & Diameter of Wire	바깥지름 Approx. Outer Diameter							
mm ²	No./mm	mm	mm	mm	mm	Ω/km	V/5min	kg/km	m
2.5	7 / 0.67	2.01	0.7	1.8	14.5	7.41	3,500	243	300
4	7 / 0.85	2.55	0.7	1.8	15.5	4.61	3,500	307	300
6	7 / 1.04	3.12	0.7	1.8	17	3.08	3,500	387	300
10	7 / 1.35	4.05	0.7	1.8	19	1.83	3,500	535	300
16	C.C.	4.7	0.7	1.8	20	1.15	3,500	707	300
25	C.C.	5.9	0.9	1.8	24	0.727	3,500	1,056	300
35	C.C.	6.9	0.9	1.8	26	0.524	3,500	1,377	300
50	C.C.	8.1	1.0	1.8	29	0.387	3,500	1,781	300
70	C.C.	9.8	1.1	1.9	33	0.268	3,500	2,482	300
95	C.C.	11.4	1.1	2.0	37	0.193	3,500	3,328	300
120	C.C.	12.9	1.2	2.1	41	0.153	3,500	4,150	300
150	C.C.	14.4	1.4	2.3	45	0.124	3,500	4,975	300
185	C.C.	15.9	1.6	2.4	50	0.0991	3,500	6,121	200
240	C.C.	18.3	1.7	2.6	56	0.0754	3,500	7,800	200
300	C.C.	20.5	1.8	2.7	61	0.0601	3,500	9,806	200

주) 무게는 약간의 차이가 있을 수 있습니다. TFR-8, NFR-8의 구조는 동일합니다.





트레이용 난연내화케이블 | TFR-8 저독성 난연내화케이블 | NFR-8

4심 (Four Cores)

도체 Conductor			절연두께 Insulation Thickness	피복두께 Sheath Thickness	완성외경 Approx. Overall Diameter	최대도체저항 Max. Conductor Resistance at 20°C	시험전압 Test Voltage	중량 Approx. Weight	표준길이 Standard Length
공칭단면적 Nominal Sectional Area	소선수/지름 Number & Diameter of Wire	바깥지름 Approx. Outer Diameter							
mm ²	No./mm	mm	mm	mm	mm	Ω/km	V/5min	kg/km	m
2.5	7 / 0.67	2.01	0.7	1.8	16	7.41	3,500	292	300
4	7 / 0.85	2.55	0.7	1.8	17	4.61	3,500	377	300
6	7 / 1.04	3.12	0.7	1.8	18.5	3.08	3,500	475	300
10	7 / 1.35	4.05	0.7	1.8	21	1.83	3,500	676	300
16	C.C.	4.7	0.7	1.8	22	1.15	3,500	919	300
25	C.C.	5.9	0.9	1.8	26	0.727	3,500	1,353	300
35	C.C.	6.9	0.9	1.8	29	0.524	3,500	1,755	300
50	C.C.	8.1	1.0	1.9	32	0.387	3,500	2,313	300
70	C.C.	9.8	1.1	2.0	37	0.268	3,500	3,237	300
95	C.C.	11.4	1.1	2.1	41	0.193	3,500	4,345	300
120	C.C.	12.9	1.2	2.3	46	0.153	3,500	5,357	300
150	C.C.	14.4	1.4	2.4	50	0.124	3,500	6,489	300
185	C.C.	15.9	1.6	2.6	56	0.0991	3,500	8,018	200
240	C.C.	18.3	1.7	2.8	62	0.0754	3,500	10,228	200
300	C.C.	20.5	1.8	3.0	69	0.0601	3,500	12,895	200

주) 무게는 약간의 차이가 있을 수 있습니다. TFR-8, NFR-8의 구조는 동일합니다.

0.6/1kV 저독성 난연 전력용 케이블

| 0.6/1kV XLPE Insulated Halogen Free Flame Retardant Polyolefin Sheathed Power Cables | HF-CO, KSC IEC60502-1

0.6/1kV의 전력회로에 사용하며 전기적, 물리적, 화학적 특성이 우수하며, PVC 피복 전력 케이블에 비하여 난연 특수성이 우수하고 저독성으로 독소가스가 발생치 않는다.

구 조

1. 도체 : 전기용 연동선(원형, 원형 압축 연선)
2. 절연체 : XLPE
3. 선심식별 : 착색 또는 색 테이프

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

4. 피복체 : 저독성 난연 폴리올레핀

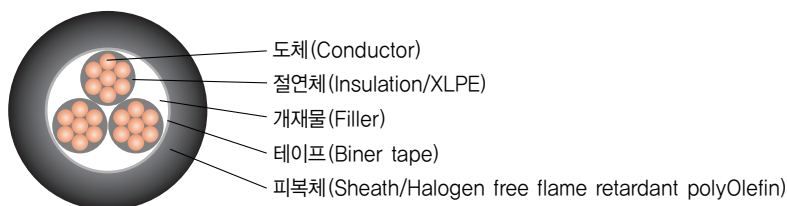
This cable is designed for the purpose of using in power distribution line, having excellent low smoking nontoxic and flame retardant.

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	black, white
3 cores	black, white, red
4 cores	black, white, red, green

4. Sheath : Halogen free flame retardant polyolefin



0.6/1kV 저독성 난연 전력용 케이블 | 0.6/1kV HF-CO, KSC IEC60502-1

단심 (Single Core)

도체 Conductor			절연두께 Insulation Thickness	피복두께 Sheath Thickness	완성외경 Approx. Overall Diameter	최대도체저항 Max. Conductor Resistance at 20°C	시험전압 Test Voltage	중량 Approx. Weight	표준길이 Standard Length
공칭단면적 Nominal Sectional Area	소선수/지름 Number & Diameter of Wire	바깥지름 Outer Diameter							
mm ²	No./mm	mm	mm	mm	mm	Ω/km	V/5min	kg/km	m
1.5	7 / 0.53	1.59	0.7	1.4	6.3	12.1	3,500	55	300
2.5	7 / 0.67	2.01	0.7	1.4	6.7	7.41	3,500	65	300
4	7 / 0.85	2.55	0.7	1.4	7.2	4.61	3,500	85	300
6	7 / 1.04	3.12	0.7	1.4	7.8	3.08	3,500	105	300
10	7 / 1.35	4.05	0.7	1.4	9.4	1.83	3,500	155	300
16	C.C.	4.7	0.7	1.4	10	1.15	3,500	210	300
25	C.C.	5.9	0.9	1.4	12	0.727	3,500	310	300
35	C.C.	6.9	0.9	1.4	13	0.524	3,500	410	300
50	C.C.	8.1	1.0	1.4	14.5	0.387	3,500	550	300
70	C.C.	9.8	1.1	1.4	16	0.268	3,500	740	300
95	C.C.	11.4	1.1	1.5	18.5	0.193	3,500	990	300
120	C.C.	12.9	1.2	1.5	20	0.153	3,500	1,240	300
150	C.C.	14.4	1.4	1.6	22	0.124	3,500	1,530	300
185	C.C.	15.9	1.6	1.6	24	0.0991	3,500	1,900	200
240	C.C.	18.3	1.7	1.7	27	0.0754	3,500	2,415	200
300	C.C.	20.5	1.8	1.8	30	0.0601	3,500	3,020	200
400	C.C.	23.2	2.0	1.9	34	0.0470	3,500	3,940	150
500	C.C.	26.4	2.2	2.0	37	0.0366	3,500	4,770	150
630	C.C.	30.2	2.4	2.2	42	0.0283	3,500	6,490	150

2심 (Two Cores)

도체 Conductor			절연두께 Insulation Thickness	피복두께 Sheath Thickness	완성외경 Approx. Overall Diameter	최대도체저항 Max. Conductor Resistance at 20°C	시험전압 Test Voltage	중량 Approx. Weight	표준길이 Standard Length
공칭단면적 Nominal Sectional Area	소선수/지름 Number & Diameter of Wire	바깥지름 Outer Diameter							
mm²	No./mm	mm	mm	mm	mm	Ω/km	V/5min	kg/km	m
1.5	7 / 0.53	1.59	0.7	1.8	11	12.1	3,500	120	300
2.5	7 / 0.67	2.01	0.7	1.8	12	7.41	3,500	145	300
4	7 / 0.85	2.55	0.7	1.8	13	4.61	3,500	195	300
6	7 / 1.04	3.12	0.7	1.8	14	3.08	3,500	245	300
10	7 / 1.35	4.05	0.7	1.8	17	1.83	3,500	350	300
16	C.C.	4.7	0.7	1.8	18.5	1.15	3,500	475	300
25	C.C.	5.9	0.9	1.8	22	0.727	3,500	710	300
35	C.C.	6.9	0.9	1.8	24	0.524	3,500	930	300
50	C.C.	8.1	1.0	1.8	27	0.387	3,500	1,255	300
70	C.C.	9.8	1.1	1.8	31	0.268	3,500	1,665	300
95	C.C.	11.4	1.1	1.9	35	0.193	3,500	2,230	300
120	C.C.	12.9	1.2	2.0	38	0.153	3,500	2,760	300
150	C.C.	14.4	1.4	2.2	43	0.124	3,500	3,440	300
185	C.C.	15.9	1.6	2.3	47	0.0991	3,500	4,290	200
240	C.C.	18.3	1.7	2.5	53	0.0754	3,500	5,470	200
300	C.C.	20.5	1.8	2.6	58	0.0601	3,500	6,790	200

3심 (Three Cores)

도체 Conductor			절연두께 Insulation Thickness	피복두께 Sheath Thickness	완성외경 Approx. Overall Diameter	최대도체저항 Max. Conductor Resistance at 20°C	시험전압 Test Voltage	중량 Approx. Weight	표준길이 Standard Length
공칭단면적 Nominal Sectional Area	소선수/지름 Number & Diameter of Wire	바깥지름 Outer Diameter							
mm ²	No./mm	mm	mm	mm	mm	Ω/km	V/5min	kg/km	m
1.5	7 / 0.53	1.59	0.7	1.8	11.5	12.1	3,500	135	300
2.5	7 / 0.67	2.01	0.7	1.8	12.5	7.41	3,500	180	300
4	7 / 0.85	2.55	0.7	1.8	13.5	4.61	3,500	245	300
6	7 / 1.04	3.12	0.7	1.8	14.5	3.08	3,500	315	300
10	7 / 1.35	4.05	0.7	1.8	18	1.83	3,500	455	300
16	C.C.	4.7	0.7	1.8	19.5	1.15	3,500	630	300
25	C.C.	5.9	0.9	1.8	23	0.727	3,500	955	300
35	C.C.	6.9	0.9	1.8	25	0.524	3,500	1,265	300
50	C.C.	8.1	1.0	1.8	29	0.387	3,500	1,715	300
70	C.C.	9.8	1.1	1.9	33	0.268	3,500	2,330	300
95	C.C.	11.4	1.1	2.0	37	0.193	3,500	3,105	300
120	C.C.	12.9	1.2	2.1	41	0.153	3,500	3,890	300
150	C.C.	14.4	1.4	2.3	46	0.124	3,500	4,835	300
185	C.C.	15.9	1.6	2.4	50	0.0991	3,500	6,015	200
240	C.C.	18.3	1.7	2.6	57	0.0754	3,500	7,670	200
300	C.C.	20.5	1.8	2.7	62	0.0601	3,500	9,550	200

4심 (Four Cores)

도체 Conductor			절연두께 Insulation Thickness	피복두께 Sheath Thickness	완성외경 Approx. Overall Diameter	최대도체저항 Max. Conductor Resistance at 20°C	시험전압 Test Voltage	중량 Approx. Weight	표준길이 Standard Length
공칭단면적 Nominal Sectional Area	소선수/지름 Number & Diameter of Wire	바깥지름 Outer Diameter							
mm ²	No./mm	mm	mm	mm	mm	Ω/km	V/5min	kg/km	m
1.5	7 / 0.53	1.59	0.7	1.8	12.5	12.1	3,500	170	300
2.5	7 / 0.67	2.01	0.7	1.8	13.5	7.41	3,500	220	300
4	7 / 0.85	2.55	0.7	1.8	14.5	4.61	3,500	295	300
6	7 / 1.04	3.12	0.7	1.8	16	3.08	3,500	385	300
10	7 / 1.35	4.05	0.7	1.8	20	1.83	3,500	570	300
16	C.C.	4.7	0.7	1.8	22	1.15	3,500	805	300
25	C.C.	5.9	0.9	1.8	26	0.727	3,500	1,220	300
35	C.C.	6.9	0.9	1.8	28	0.524	3,500	1,630	300
50	C.C.	8.1	1.0	1.9	32	0.387	3,500	2,230	300
70	C.C.	9.8	1.1	2.0	36	0.268	3,500	3,020	300
95	C.C.	11.4	1.1	2.1	42	0.193	3,500	4,060	300
120	C.C.	12.9	1.2	2.3	46	0.153	3,500	5,105	300
150	C.C.	14.4	1.4	2.4	51	0.124	3,500	6,300	300
185	C.C.	15.9	1.6	2.6	56	0.0991	3,500	7,890	200
240	C.C.	18.3	1.7	2.8	63	0.0754	3,500	10,075	200
300	C.C.	20.5	1.8	3.0	70	0.0601	3,500	12,580	200

주) C.C. : 원형 압축 (Compact circular)

0.6/1kV 저독성 난연 제어용 케이블

| 0.6/1kV XLPE Insulated Halogen Free Flame Retardant Poly-Olefin Sheathed Control Cables | HF-CCO, KSC IEC60502-1

발전소, 변전소 등의 정격전압 0.6/1kV 이하의 원격 제어용 회로에 적합한 케이블로서 PVC 피복 제어 케이블에 비하여 난연 특수성이 우수하고 저독성으로 독소가스가 발생치 않는다.

구 조

1. 도체 : 전기용 연동선(단선, 원형 연선)
2. 절연체 : XLPE
3. 선심식별 : 착색 또는 색 테이프

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

4. 피복체 : 저독성 난연 폴리올레핀

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

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

Construction

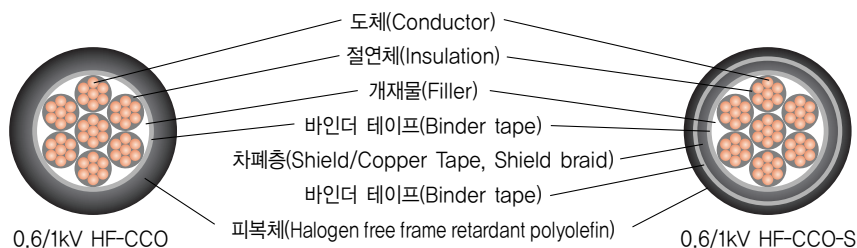
1. Conductor : Annealed copper wire (Solid, Concentric circular)
2. Insulation : XLPE
3. Core identification : Colouring method or Color tape

No. of cores	Colour
2 cores	black, white
3 cores	black, white, red
4 cores	black, white, red, green

4. Sheath : Halogen free flame retardant poly-olefin

Classes and Symbols

Class	Symbol
0.6/1kV XLPE insulated halogen free flame retardant poly-olefin sheathed control cable-Copper tape shield	0.6/1kV HF-CCO 0.6/1kV HF-CCO-S



0.6/1kV 저독성 난연 제어용 케이블 | 0.6/1kV HF-CCO, KSC IEC60502-1

0.6/1kV HF-CCO

심선수 No. of Cores	도체 Conductor			절연두께 Insulation Thickness	피복두께 Sheath Thickness	완성외경 Approx. Overall Diameter	최대도체저항 Max. Conductor Resistance at 20°C	시험전압 Test Voltage	중량 Approx. Weight	표준길이 Standard Length
	공칭단면적 Nominal Sectional Area	소선수/지름 Number & Diameter of Wire	바깥지름 Outer Diameter							
	mm ²	No./mm	mm	mm	mm	mm	Ω/km	V/5min	kg/km	m
2	1.5	7/0.53	1.59	0.7	1.8	10.5	12.1	3,500	145	300
	2.5	7/0.67	2.01	0.7	1.8	11.5	7.41	3,500	175	300
	4	7/0.85	2.55	0.7	1.8	12.5	4.61	3,500	240	300
	6	7/1.04	3.12	0.7	1.8	13.5	3.08	3,500	295	300
	10	7/1.35	4.05	0.7	1.8	15.5	1.83	3,500	410	300
3	1.5	7/0.53	1.59	0.7	1.8	11	12.1	3,500	170	300
	2.5	7/0.67	2.01	0.7	1.8	12	7.41	3,500	215	300
	4	7/0.85	2.55	0.7	1.8	13	4.61	3,500	300	300
	6	7/1.04	3.12	0.7	1.8	14.5	3.08	3,500	375	300
	10	7/1.35	4.05	0.7	1.8	16.4	1.83	3,500	530	300
4	1.5	7/0.53	1.59	0.7	1.8	11.4	12.1	3,500	205	300
	2.5	7/0.67	2.01	0.7	1.8	13	7.41	3,500	255	300
	4	7/0.85	2.55	0.7	1.8	14.5	4.61	3,500	365	300
	6	7/1.04	3.12	0.7	1.8	15.5	3.08	3,500	465	300
	10	7/1.35	4.05	0.7	1.8	18	1.83	3,500	665	300
5	1.5	7/0.53	1.59	0.7	1.8	13	12.1	3,500	240	300
	2.5	7/0.67	2.01	0.7	1.8	14	7.41	3,500	305	300
	4	7/0.85	2.55	0.7	1.8	15.5	4.61	3,500	430	300
	6	7/1.04	3.12	0.7	1.8	17	3.08	3,500	560	300
	10	7/1.35	4.05	0.7	1.8	19.5	1.83	3,500	810	300
6	1.5	7/0.53	1.59	0.7	1.8	13.5	12.1	3,500	275	300
	2.5	7/0.67	2.01	0.7	1.8	15	7.41	3,500	350	300
	4	7/0.85	2.55	0.7	1.8	16.5	4.61	3,500	505	300
	6	7/1.04	3.12	0.7	1.8	18.5	3.08	3,500	660	300
	10	7/1.35	4.05	0.7	1.8	21	1.83	3,500	950	300
7	1.5	7/0.53	1.59	0.7	1.8	13.5	12.1	3,500	295	300
	2.5	7/0.67	2.01	0.7	1.8	15	7.41	3,500	380	300
	4	7/0.85	2.55	0.7	1.8	16.5	4.61	3,500	550	300
	6	7/1.04	3.12	0.7	1.8	18.5	3.08	3,500	720	300
	10	7/1.35	4.05	0.7	1.8	21	1.83	3,500	1,045	300
8	1.5	7/0.53	1.59	0.7	1.8	14.5	12.1	3,500	325	300
	2.5	7/0.67	2.01	0.7	1.8	16	7.41	3,500	430	300
	4	7/0.85	2.55	0.7	1.8	18	4.61	3,500	625	300
	6	7/1.04	3.12	0.7	1.8	20	3.08	3,500	815	300
	10	7/1.35	4.05	0.7	1.8	23	1.83	3,500	1,200	300
10	1.5	7/0.53	1.59	0.7	1.8	16.5	12.1	3,500	410	300
	2.5	7/0.67	2.01	0.7	1.8	18.5	7.41	3,500	535	300
	4	7/0.85	2.55	0.7	1.8	21	4.61	3,500	795	300
	6	7/1.04	3.12	0.7	1.8	23	3.08	3,500	1,035	300
	10	7/1.35	4.05	0.7	1.8	27	1.83	3,500	1,520	300
12	1.5	7/0.53	1.59	0.7	1.8	17	12.1	3,500	460	300
	2.5	7/0.67	2.01	0.7	1.8	19	7.41	3,500	605	300
	4	7/0.85	2.55	0.7	1.8	22	4.61	3,500	895	300
	6	7/1.04	3.12	0.7	1.8	24	3.08	3,500	1,195	300
	10	7/1.35	4.05	0.7	1.8	28	1.83	3,500	1,765	300
15	1.5	7/0.53	1.59	0.7	1.8	18.5	12.1	3,500	535	300
	2.5	7/0.67	2.01	0.7	1.8	21	7.41	3,500	705	300
	4	7/0.85	2.55	0.7	1.8	23	4.61	3,500	1,085	300
	6	7/1.04	3.12	0.7	1.8	26	3.08	3,500	1,435	300
20	1.5	7/0.53	1.59	0.7	1.8	21	12.1	3,500	675	300
	2.5	7/0.67	2.01	0.7	1.8	23	7.41	3,500	905	300
	4	7/0.85	2.55	0.7	1.8	26	4.61	3,500	1,385	300
	6	7/1.04	3.12	0.7	1.8	29	3.08	3,500	1,850	300
25	1.5	7/0.53	1.59	0.7	1.8	22.5	12.1	3,500	815	300
	2.5	7/0.67	2.01	0.7	1.8	25.5	7.41	3,500	1,120	300
	4	7/0.85	2.55	0.7	1.9	28	4.61	3,500	1,710	300
30	1.5	7/0.53	1.59	0.7	1.8	24	12.1	3,500	945	300
	2.5	7/0.67	2.01	0.7	1.8	27	7.41	3,500	1,305	300
	4	7/0.85	2.55	0.7	1.9	31	4.61	3,500	1,995	300
40	1.5	7/0.53	1.59	0.7	1.8	28.5	12.1	3,500	1,200	300
	2.5	7/0.67	2.01	0.7	1.8	32	7.41	3,500	1,655	300
50	1.5	7/0.53	1.59	0.7	1.8	31.5	12.1	3,500	1,485	300
	2.5	7/0.67	2.01	0.7	1.9	35.5	7.41	3,500	2,055	300



0.6/1kV 저독성 난연 제어용 케이블 | 0.6/1kV HF-CCO, KSC IEC60502-1

0.6/1kV HF-CCO-S

심선수 No. of Cores	도체 Conductor			절연두께 Insulation Thickness	피복두께 Sheath Thickness	완성외경 Approx. Overall Diameter	최대도체저항 Max. Conductor Resistance at 20°C	시험전압 Test Voltage	중량 Approx. Weight	표준길이 Standard Length
	공칭단면적 Nominal Sectional Area	소선수/지름 Number & Diameter of Wire	바깥지름 Outer Diameter							
	mm ²	No./mm	mm	mm	mm	mm	Ω/km	V/5min	kg/km	m
2	1.5	7/0.53	1.59	0.7	1.8	11.5	12.1	3,500	175	300
	2.5	7/0.67	2.01	0.7	1.8	12.5	7.41	3,500	210	300
	4	7/0.85	2.55	0.7	1.8	14.5	4.61	3,500	280	300
	6	7/1.04	3.12	0.7	1.8	15.5	3.08	3,500	350	300
	10	7/1.35	4.05	0.7	1.8	17.5	1.83	3,500	470	300
3	1.5	7/0.53	1.59	0.7	1.8	12	12.1	3,500	205	300
	2.5	7/0.67	2.01	0.7	1.8	13	7.41	3,500	250	300
	4	7/0.85	2.55	0.7	1.8	15.5	4.61	3,500	350	300
	6	7/1.04	3.12	0.7	1.8	16.5	3.08	3,500	430	300
	10	7/1.35	4.05	0.7	1.8	18.5	1.83	3,500	595	300
4	1.5	7/0.53	1.59	0.7	1.8	13	12.1	3,500	240	300
	2.5	7/0.67	2.01	0.7	1.8	14	7.41	3,500	595	300
	4	7/0.85	2.55	0.7	1.8	16.5	4.61	3,500	425	300
	6	7/1.04	3.12	0.7	1.8	18	3.08	3,500	525	300
	10	7/1.35	4.05	0.7	1.8	20	1.83	3,500	735	300
5	1.5	7/0.53	1.59	0.7	1.8	14	12.1	3,500	280	300
	2.5	7/0.67	2.01	0.7	1.8	15.5	7.41	3,500	355	300
	4	7/0.85	2.55	0.7	1.8	18	4.61	3,500	490	300
	6	7/1.04	3.12	0.7	1.8	19.5	3.08	3,500	630	300
	10	7/1.35	4.05	0.7	1.8	22	1.83	3,500	885	300
6	1.5	7/0.53	1.59	0.7	1.8	15	12.1	3,500	320	300
	2.5	7/0.67	2.01	0.7	1.8	16.5	7.41	3,500	405	300
	4	7/0.85	2.55	0.7	1.8	19	4.61	3,500	575	300
	6	7/1.04	3.12	0.7	1.8	21	3.08	3,500	735	300
	10	7/1.35	4.05	0.7	1.8	24	1.83	3,500	1,045	300
7	1.5	7/0.53	1.59	0.7	1.8	15	12.1	3,500	340	300
	2.5	7/0.67	2.01	0.7	1.8	16.5	7.41	3,500	435	300
	4	7/0.85	2.55	0.7	1.8	19	4.61	3,500	620	300
	6	7/1.04	3.12	0.7	1.8	21	3.08	3,500	795	300
	10	7/1.35	4.05	0.7	1.8	24	1.83	3,500	1,145	300
8	1.5	7/0.53	1.59	0.7	1.8	16	12.1	3,500	375	300
	2.5	7/0.67	2.01	0.7	1.8	17.5	7.41	3,500	490	300
	4	7/0.85	2.55	0.7	1.8	20.5	4.61	3,500	705	300
	6	7/1.04	3.12	0.7	1.8	22.5	3.08	3,500	910	300
	10	7/1.35	4.05	0.7	1.8	25.5	1.83	3,500	1,305	300
10	1.5	7/0.53	1.59	0.7	1.8	18.5	12.1	3,500	475	300
	2.5	7/0.67	2.01	0.7	1.8	20	7.41	3,500	605	300
	4	7/0.85	2.55	0.7	1.8	24	4.61	3,500	895	300
	6	7/1.04	3.12	0.7	1.8	26.5	3.08	3,500	1,145	300
	10	7/1.35	4.05	0.7	1.8	30	1.83	3,500	1,665	300
12	1.5	7/0.53	1.59	0.7	1.8	19	12.1	3,500	530	300
	2.5	7/0.67	2.01	0.7	1.8	20.5	7.41	3,500	680	300
	4	7/0.85	2.55	0.7	1.8	25	4.61	3,500	995	300
	6	7/1.04	3.12	0.7	1.8	27	3.08	3,500	1,320	300
	10	7/1.35	4.05	0.7	1.8	31.5	1.83	3,500	1,955	300
15	1.5	7/0.53	1.59	0.7	1.8	20.5	12.1	3,500	610	300
	2.5	7/0.67	2.01	0.7	1.8	22	7.41	3,500	790	300
	4	7/0.85	2.55	0.7	1.8	26.5	4.61	3,500	1,210	300
	6	7/1.04	3.12	0.7	1.8	29.5	3.08	3,500	1,570	300
20	1.5	7/0.53	1.59	0.7	1.8	22.5	12.1	3,500	770	300
	2.5	7/0.67	2.01	0.7	1.8	24.5	7.41	3,500	1,005	300
	4	7/0.85	2.55	0.7	1.8	29.5	4.61	3,500	1,525	300
	6	7/1.04	3.12	0.7	1.8	33	3.08	3,500	2,050	300
25	1.5	7/0.53	1.59	0.7	1.8	25	12.1	3,500	920	300
	2.5	7/0.67	2.01	0.7	1.8	27.5	7.41	3,500	1,250	300
	4	7/0.85	2.55	0.7	1.9	34	4.61	3,500	1,920	300
30	1.5	7/0.53	1.59	0.7	1.8	26.5	12.1	3,500	1,070	300
	2.5	7/0.67	2.01	0.7	1.8	29	7.41	3,500	1,440	300
	4	7/0.85	2.55	0.7	1.9	36	4.61	3,500	2,220	300
40	1.5	7/0.53	1.59	0.7	1.8	29.5	12.1	3,500	1,335	300
	2.5	7/0.67	2.01	0.7	1.8	33	7.41	3,500	1,855	300
50	1.5	7/0.53	1.59	0.7	1.8	32.5	12.1	3,500	1,685	300
	2.5	7/0.67	2.01	0.7	1.9	36.5	7.41	3,500	2,295	300

6/10kV 저독성 난연 전력용 케이블

| 6/10kV XLPE Insulated Halogen Free Flame Retardant Polyolefin Sheathed Power Cables | HF-CO, KSC IEC60502-2

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

구 조

1. 도체 : 전기용 연동선(원형 압축)
2. 절연체 : XLPE
3. 선심식별 : 흑색, 백색, 적색
4. 차폐 : 연동 테이프
5. 피복체 : 저독성 난연 폴리올레핀

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 low smoking nontoxic and flame retardant.

Construction

1. Conductor : Annealed copper wire (Compact circular)
2. Insulation : XLPE
3. Core identification : Black, White, Red
4. Shield : Copper tape
5. Sheath : Halogen free flame retardant polyolefin

Classes and Symbols

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



6/10kV 저독성 난연 전력용 케이블 | 6/10kV HF-CO, KSC IEC60502-2

단심 (Single Core)

도체 Conductor			절연두께 Insulation Thickness	피복두께 Sheath Thickness	완성외경 Approx. Overall Diameter	최대도체저항 Max. Conductor Resistance at 20°C	시험전압 Test Voltage	중량 Approx. Weight	표준길이 Standard Length
공칭단면적 Nominal Sectional Area	소선수/지름 Number & Diameter of Wire	바깥지름 Approx. Outer Diameter							
mm ²	No./mm	mm	mm	mm	mm	Ω/km	V/5min	kg/km	m
16	C.C.	4.7	3.4	1.5	20	1.150	21	440	300
25	C.C.	5.9	3.4	1.5	21	0.727	21	550	300
35	C.C.	6.9	3.4	1.6	22	0.524	21	680	300
50	C.C.	8.1	3.4	1.6	23	0.387	21	810	300
70	C.C.	9.8	3.4	1.7	25	0.268	21	1,050	300
95	C.C.	11.4	3.4	1.7	27	0.193	21	1,320	300
120	C.C.	12.9	3.4	1.8	28	0.153	21	1,600	300
150	C.C.	14.4	3.4	1.8	30	0.124	21	1,900	300
185	C.C.	15.9	3.4	1.9	32	0.0991	21	2,290	300
240	C.C.	18.3	3.4	2.0	35	0.0754	21	2,850	300
300	C.C.	20.5	3.4	2.0	37	0.0601	21	3,460	300
400	C.C.	23.2	3.4	2.2	40	0.0470	21	4,430	300
500	C.C.	26.4	3.4	2.2	43	0.0366	21	5,260	300
630	C.C.	30.2	3.4	2.3	48	0.0283	21	6,980	300

Note) C.C. : Compact round stranded conductor.

3심 (Three Cores)

도체 Conductor			절연두께 Insulation Thickness	피복두께 Sheath Thickness	완성외경 Approx. Overall Diameter	최대도체저항 Max. Conductor Resistance at 20°C	시험전압 Test Voltage	중량 Approx. Weight	표준길이 Standard Length
공칭단면적 Nominal Sectional Area	소선수/지름 Number & Diameter of Wire	바깥지름 Approx. Outer Diameter							
mm ²	No./mm	mm	mm	mm	mm	Ω/km	V/5min	kg/km	m
16	C.C.	4.7	3.4	2.1	39	1.150	21	1,440	300
25	C.C.	5.9	3.4	2.2	41	0.727	21	1,820	300
35	C.C.	6.9	3.4	2.3	43	0.524	21	2,220	300
50	C.C.	8.1	3.4	2.4	46	0.387	21	2,750	300
70	C.C.	9.8	3.4	2.5	50	0.268	21	3,400	300
95	C.C.	11.4	3.4	2.6	53	0.193	21	4,280	300
120	C.C.	12.9	3.4	2.7	57	0.153	21	5,150	300
150	C.C.	14.4	3.4	2.8	60	0.124	21	5,360	300
185	C.C.	15.9	3.4	2.9	64	0.0991	21	7,330	300
240	C.C.	18.3	3.4	3.1	69	0.0754	21	8,350	300
300	C.C.	20.5	3.4	3.3	74	0.0601	21	10,900	300



참고자료

허용전류

기중 포설시 허용전류

직매 포설시 허용전류

포설방법

단락 허용전류

드럼 및 케이블 취급시 주의사항

허용전류(적용사양 : KS C IEC60364-5-52, 건축전기설비-허용전류)

기준 포설시 허용전류(주위온도 : 30℃)

70℃ 케이블 : CVV(S, SB), TFR-CVV(S, SB)

90℃ 케이블 : HIV, CV, TFR-CV, TFR-8, TFR-3

단위 : A

시공방법	절연체의 종류와 부하도체의 수											
A1		70℃ 3본	70℃ 2본		90℃ 3본	90℃ 2본						
A2	70℃ 3본	70℃ 2본		90℃ 2본	90℃ 2본							
B1				70℃ 3본	70℃ 2본		90℃ 3본		90℃ 2본			
B2			70℃ 3본	70℃ 2본		90℃ 3본	90℃ 2본					
C					70℃ 3본		70℃ 2본	90℃ 3본		90℃ 2본		
E						70℃ 3본		70℃ 2본	90℃ 3본		90℃ 2본	
F							70℃ 3본		70℃ 2본	90℃ 3본		90℃ 2본
단면적(mm ²)												
1.5	13	13.5	14.5	15.5	17	18.5	195	22	23	24	26	-
2.5	17.5	18	19.5	21	23	26	27	30	31	33	36	-
4	23	24	26	28	31	34	36	40	42	45	49	-
6	29	31	34	36	40	43	46	51	54	58	63	-
10	39	42	46	50	54	60	63	70	75	80	86	-
16	52	56	61	68	73	80	85	94	100	107	115	-
2	68	73	80	89	95	101	110	119	127	135	149	161
35	-	-	-	110	117	126	137	147	158	169	185	200
50	-	-	-	134	141	153	167	179	192	207	225	242
70	-	-	-	171	179	196	213	229	246	268	289	310
95	-	-	-	207	216	238	258	278	298	328	352	377
120	-	-	-	239	249	276	299	322	346	382	410	437
150	-	-	-	-	285	318	344	371	395	441	473	504
185	-	-	-	-	324	362	392	424	450	506	542	575
240	-	-	-	-	380	424	461	500	538	599	641	697

기준 케이블의 허용전류에 적용하는 30℃ 이외의 주위 온도에 대한 보정 계수

주위온도 ℃	절연체	
	70℃	90℃
10	1.22	1.15
15	1.17	1.12
20	1.12	1.08
25	1.06	1.04
35	0.94	0.96
40	0.87	0.91
45	0.79	0.87
50	0.71	0.82
55	0.61	0.76
60	0.5	0.71
65	-	0.65
70	-	0.58
75	-	0.5
80	-	0.41

복수 회로 또는 복수의 다심 케이블의 집합체의 보정 계수

배 치	회로수 또는 다심 케이블 수								
	1	2	3	4	6	9	12	16	20
매입 또는 밀폐	1	0.8	0.7	0.7	0.55	0.5	0.45	0.5	0.4
벽, 바닥 또는 밀폐형 트레이 위 1층	1	0.85	0.8	0.75	0.7	0.7	-	-	-
천장 아래 직접적으로 고정된 1층	0.95	0.8	0.7	0.7	0.55	0.6	-	-	-
수평 또는 수직 통풍형 트레이 위 1층	1	0.9	0.8	0.75	0.75	0.7	-	-	-
사다리형, 빔 클램프 기타 위 1층	1	0.85	0.8	0.8	0.8	0.8	-	-	-

직매포설(토양온도 : 20℃)

70℃ 케이블 : CVV(S, SB), TFR-CVV(S, SB)

90℃ 케이블 : HIV, CV, TFR-CV, TFR-8, TFR-3

단위 : A

시공방법 D	절연체의 종류와 부하 도체의 수			
	70℃ 2본	70℃ 3본	90℃ 2본	90℃ 3본
단면적(mm ²) 1.5	22	18	26	22
2.5	29	24	34	29
4	38	31	44	37
6	47	39	56	46
10	63	52	73	61
16	81	67	95	79
25	104	86	121	101
35	125	103	146	122
50	148	122	173	144
70	183	151	213	178
95	216	179	252	211
120	246	203	287	240
150	278	230	324	271
185	312	258	363	304
240	361	297	419	351
300	408	336	474	396

직매매설의 덕트내 케이블의 허용전류에 적용하는 20℃ 이외의 주위 온도에 대한 보정 계수

주위온도 ℃	절연체	
	PVC	PVC(90℃)
10	1.1	1.07
15	1.05	1.04
20	0.95	0.96
25	0.89	0.93
35	0.84	0.89
40	0.77	0.85
45	0.71	0.8
50	0.63	0.76
55	0.55	0.71
60	0.45	0.65
65	—	0.6
70	—	0.53
75	—	0.46
80	—	0.38

직매매설의 토양 열저항율에 대한 매설 덕트내 케이블의 보정 계수

열저항율 Km/W	1.0	1.5	2.0	2.5	3.00
보정계수	1.8	1.1	1.05	1.0	0.96

직매매설의 덕트내에 시설한 복수의 케이블에 대한 보정 계수 원웨이 덕트 내의 다심 케이블

케이블수	덕트의 간격			
	덕트 밀착	0.25m	0.5m	1.0m
2	0.85	0.9	0.95	0.95
3	0.75	0.85	0.9	0.95
4	0.7	0.8	0.85	0.9
5	0.65	0.8	0.85	0.9
6	0.6	0.8	0.8	0.9

원웨이 덕트 내의 단심 케이블

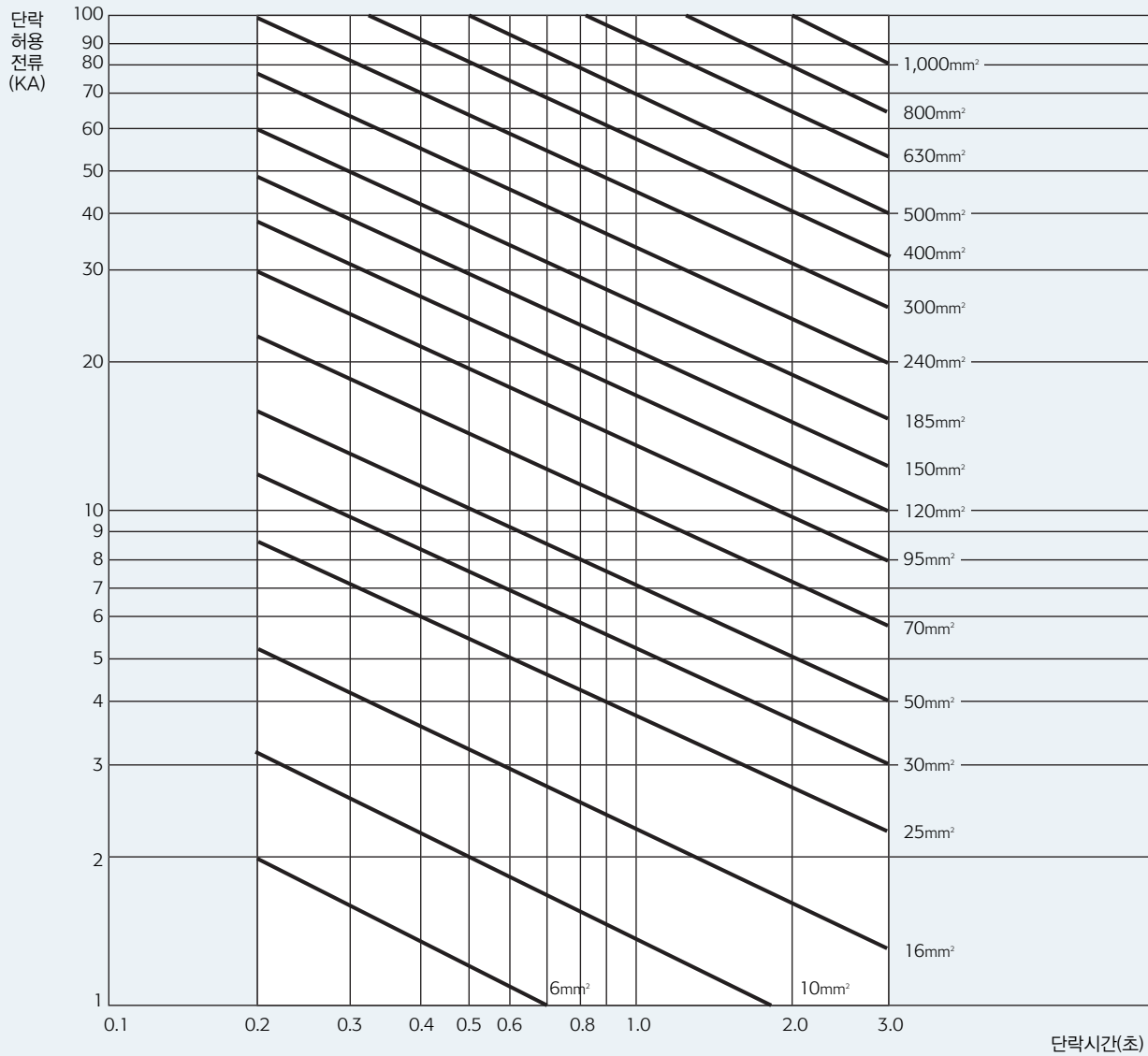
단심 케이블 2개 또는 3개로 구성된 회로의 수	덕트의 간격			
	덕트 밀착	0.25m	0.5m	1.0m
2	0.85	0.9	0.95	0.95
3	0.75	0.85	0.9	0.95
4	0.7	0.8	0.85	0.9
5	0.65	0.8	0.85	0.9
6	0.6	0.8	0.8	0.9

포설방법에 따른 포설 조건

기호	시공방법	
A1	<ul style="list-style-type: none"> ❖ 단열이 된 벽의 내의 전선관에 시공한 절연도체 ❖ 단열벽내에 직접 매설한 다심 케이블 	
A2	<ul style="list-style-type: none"> ❖ 단열이 된 벽 내의 전선관에 시공한 다심케이블 	
B1	<ul style="list-style-type: none"> ❖ 목재 또는 석재 벽면의 전선관에 시공한 절연도체 ❖ 목재 벽면의 케이블 트렁킹에 시공한 절연도체 또는 다심케이블 ❖ 빌딩 빈틈에 시공한 단심 또는 다심 케이블 (틈새의 치수와 케이블 외경에 따라 B2로도 계산됨) ❖ 석조벽 내 전선관의 절연 도체 또는 단심 케이블 	
B2	<ul style="list-style-type: none"> ❖ 목재 또는 석재 벽면의 전선과나에 시공한 다심케이블 ❖ 빌딩 빈틈에 시공한 단심 또는 다심 케이블 (틈새의 치수와 케이블 외경에 따라 B1로도 계산됨) ❖ 석조벽 내 전선관의 다심 케이블 	
C	<ul style="list-style-type: none"> ❖ 목재 벽면의 단심 또는 다심 케이블 (고정 또는 목재 벽면으로부터 케이블 지름의 0.3배 이하로 이격) ❖ 막힘형 트레이에 포설 ❖ 석조벽에 직접 시공한 단심 또는 다심 케이블 	
D	<ul style="list-style-type: none"> ❖ 지중 내 전선관이나 덕트 내에 시공한 단심 또는 다심 케이블 ❖ 지중 내 직접 시공한 단심 또는 다심 케이블 	
E	<ul style="list-style-type: none"> ❖ 기중의 다심 케이블 (벽과의 이격 거리는 케이블 지름의 0.3배 이상) ❖ 환기형 트레이, 브래킷, 금속망에 포설 	
F	<ul style="list-style-type: none"> ❖ 단심 케이블로 자유 공기와 접촉 (벽과의 이격 거리는 케이블 지름의 0.3배 이상) ❖ 환기형 트레이, 브래킷, 금속망에 포설 ❖ 사다리에 포설 	

단락 허용 전류

CV케이블(동도체)



$$I_s = \sqrt{\frac{0.115 \log \frac{234.5 + T_1}{234.5 + T_2}}{t}} A = \frac{0.141}{\sqrt{t}} A$$

- I : 단락허용전류(KA)
- A : 케이블의 도체 단면적(mm²)
- T1 : 도체 최고 허용 온도(90℃)
- T2 : 단락시 도체 허용 온도(250℃)
- t : 단락시간(초)

드럼 및 케이블 취급시 주의사항

❖ 케이블을 절단하여 별도의 드럼이나 코일로 감았을시 다음 곡률반경을 준수해야 함.

케이블외경의 12배 이상	케이블외경의 15배 이상	케이블외경의 20배 이상
<ul style="list-style-type: none"> 다심일반 동선편조차폐 	<ul style="list-style-type: none"> 단심(500mm² 이하) 동테이프차폐 	<ul style="list-style-type: none"> 단심(500mm² 초과) 분할도체 연피 외장

❖ 드럼을 움직이는 것은 운반차로 사용하여야 하고, 드럼을 굴릴 경우는 필히 드럼 외측에 표시된 회전방향으로 움직여야 함.

❖ 포설시에는 Roller 등을 사용해서 전선에 무리한 장력을 가하지 말아야 하고 최대허용장력은 다음 표를 참조하십시오.

포설 기구	도체 재료	최대 허용 장력(kg)
Pulling Eye	동	7×(선심수)×(도체 단면적)
	알루미늄	4×(선심수)×(도체 단면적)
Cable Grip	동 및 알루미늄	1×쉬스단면적 (mm ²) 최대 : 2톤 이하

주) Cable Grip을 사용할 때는 케이블 끝에서 최소한 500mm 이상을 끼우고 쉬스와 견고하게 접속되어야 함.

❖ 포설시에는 돌맹이, 돌기, 콘크리트, 드럼판, 기타 장애물은 완전하게 제거 하십시오. 또한, 공사현장의 이물질낙하 충격, 포장목판의 못에 의해 이상이 발생되므로 주의 하십시오.

❖ 케이블 바닥위에 떨어뜨리는 것처럼 과격한 충격을 가하지 마십시오.

❖ 케이블은 극도로 굴곡시 전기적 성능 및 절연체 이상이 발생할 수 있으므로 다음 수치 이하로 구부려 포설하지 마십시오.

케이블종류	선심수	단 심		다 심
		원형 도체	4분할 도체	
600V 케이블		8 D	12 D	6 D
3.3kV 이상 케이블		10 D	12 D	8 D
트리플렉스 케이블		-	-	8 D
웰만텔 외장 케이블		10 D	12 D	8 D
금속 테프 외장 케이블		10 D	12 D	8 D
철선 외장 케이블		10 D	12 D	8 D
연피 케이블		10 D	12 D	10 D

❖ 포설중 굴곡 부분에서의 케이블 축압은 500kgf/m 이하로 작업하십시오.

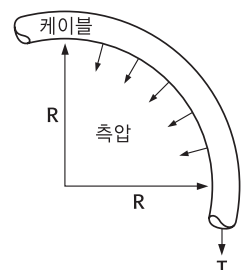
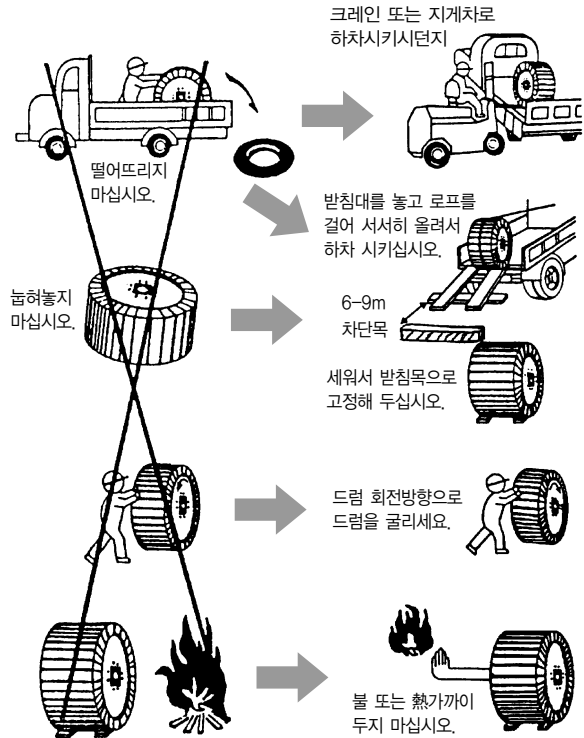
$$\text{케이블의 축압} = \frac{T : \text{포설장력(kg)}}{R : \text{곡률반경(m)}}$$

❖ 칼등으로 쉬스 및 테이프 등을 제거할 때 절연체에 손상이 가지 않도록 하십시오. 케이블의 절연 파괴의 원인이 됩니다.

❖ 케이블 중간 접속이나 종단 접속시 절연체 표면을 깨끗하게 유지하십시오.

❖ 옥외에서의 케이블의 종단 접속 작업시 수분 침투 방지를 위하여 방수 처리를 하십시오. 침투된 수분으로 절연 파괴 및 케이블 수명 단축의 원인이 됩니다.

드럼 취급주의





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