SUTRADO
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Product Catalogue

SUTRADO
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Quality
through excellence

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About Us

A well-established and reliable name in the manufacture and distribution of high-quality wires and cables.

PT. Sutrakabel Intimandiri (SUTRADO Kabel) is a premier cable manufacturer in Indonesia offering an extensive range of high quality products and superior after sales services. Supported by a dedicated team of professionals, SUTRADO Kabel is continuously improving its quality and services excellence for customer satisfaction.

We set high standards in everything we do and determine to bring the best quality and services in the cable industry. Building a strong relationship with our customer is our priority and we are committed to deliver the quality and convenience that our customer deserves.

Continuously growing since our establishment in 1991, we have gained recognition within the industry as a reliable and trusted cable manufacturer for a large number of customers from domestic market that includes reputable state owned enterprises, such as PT. PLN (Electricity) and PT. Pertamina (Oil and Gas), as well as international customers from countries, such as United States, Myanmar, Iraq, Mozambique, East Timor and many others.

Vision & Mission

To become an excellent company dedicated to our customer with mission to be a leader in high quality cable manufacturer in Indonesia, supported by talented, fast, effective and efficient human resources.

Quality

In achieving a standard of excellence in delivering products and services, SUTRADO Kabel continues implementing quality management system and obtaining certifications for domestic and international standards.

Our company is certified with ISO 9001 for quality excellence, ISO 14001 for our commitment in environmental management and ISO 45001 for controlling and improving health and safety performance.

All products are manufactured using the latest technology, designed according to the applicable standards and requirements, and developed by trained and professional people to ensure our customer satisfaction.

Our cables are manufactured in accordance to the SPLN LMK or SNI (Indonesian standards), as well as conforming to the standards as follow:

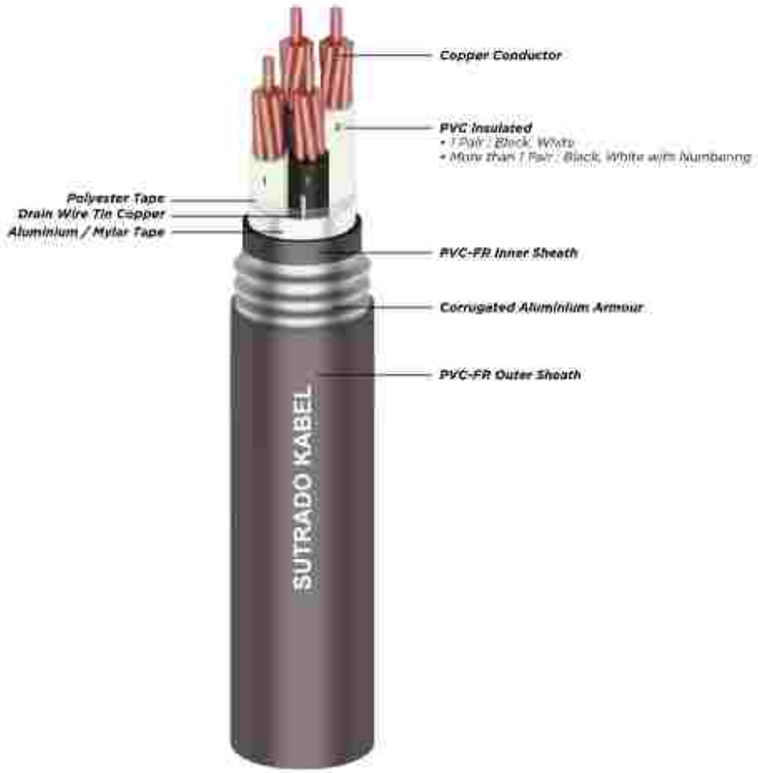
IEC	: International Electrotechnical Commission
ASTM	: American Society for Testing and Materials
BS	: British Standards
NEMA	: National Electrical Manufacturers Association
JIS	: Japanese Industrial Standards
DIN	: Deutsches Institut für Normung
ICEA	: Insulated Cable Engineers Association
VDE	: Verband der Elektrotechnik, Elektronik und Informationstechnik
SABS	: South African Bureau of Standards
NF	: Norme Française

SUTRADO
KABEL

METAL CORRUGATED ARMOURED CABLE

300/500 V
Cu/PVC/OSCR/CAA/PVC-FR

(Copper Conductor, PVC Insulated, Overall Screen, Corrugated Alluminium Armour and PVC-FR Sheath)
Standard Spesification : BS-EN 50288-7, ICEA S-73-532/NEMA WC 57, IEC 60332-3-24 Cat.C
*Other Specification are available on request



PHYSICAL PROPERTIES					ELECTRICAL PROPERTIES				
Size			Approx. Overall Diameter	Approx. Cable Weight	Max. DC Resistance at 20 °C	Min. Insul Resistance at 20 °C	Max. Capacitance at 1 Khz	Max. Inductance Resistance	AC Voltage Test
AWG			mm	kg/km	ohm/km	Mohm/km	pF/m	µH/Ohm	kV
1P	x	16	20.9	530	13.400	25	250	60	2/1
1P	x	14	20.4	512	8.460	25	250	60	2/1
1P	x	12	21.1	542	5.350	25	250	60	2/1
1P	x	16	21.1	519	13.400	25	250	60	2/1
2P	x	14	22.6	589	8.460	25	250	60	2/1
2P	x	12	25.3	738	5.350	25	250	60	2/1
3P	x	16	22.1	587	13.400	25	250	40	2/1
3P	x	14	23.3	675	8.460	25	250	60	2/1
3P	x	12	26.3	860	5.350	25	250	60	2/1
4P	x	16	23.3	670	13.400	25	250	40	2/1
4P	x	14	24.8	775	8.460	25	250	60	2/1
4P	x	12	29.5	1038	5.350	25	250	60	2/1
6P	x	16	25.8	821	13.400	25	250	40	2/1
6P	x	14	27.3	961	8.460	25	250	60	2/1
6P	x	12	32.9	1360	5.350	25	250	60	2/1
8P	x	16	28.0	979	13.400	25	250	40	2/1
8P	x	14	31.0	1182	8.460	25	250	60	2/1
8P	x	12	35.9	1638	5.350	25	250	60	2/1
10P	x	16	32.9	1226	13.400	25	250	40	2/1
10P	x	14	35.4	1462	8.460	25	250	60	2/1
10P	x	12	41.3	2007	5.350	25	250	60	2/1

*Further information about derating factors for arrangement can be found on supplementary technical information.

Application

Cables are designed for use as instrumentation cables, process control and computer cables in ITC non-classified or labeled circuits up to 150 volts and 5 amps (750VA).

Special Features on Request

- Oil Resistance
- UV Resistance
- Heat Resistance
- Anti Termite
- Flame Retardant Cat. A, B, C
- Flame Retardant Non Category

0.6/1 (1.2) kV
XHHW MC-HL

(Copper Conductor, XLPE Insulation, Continuous Welded Aluminium Armoured, PVC Sheath-Flame Retardant)
Standard Spesification : IEC 60502-1, ICEA S-95-658/NEMA WC 70, UL 44, UL 1569

**Other Specification are available on request*

Copper Conductor

XLPE Insulated

Polyvinyl Chloride (PVC) - Flame Retardant Filler

Aluminium Corrugated Armoured

Polyvinyl Chloride (PVC) - Flame Retardant Outersheath

Application

XHHW MC-HL cables may be installed indoors or outdoors, in wet or dry locations, as open runs of cable secured to supports spaced not more than six feet apart, in cable tray, as aerial cable on a messenger, in any approved raceway, direct burial, or encased in concrete.

XHHW MC-HL cables are also approved for use in Class I & II, Division 2, Class III, Divisions 1 and 2, and Class I, Zone 2 hazardous locations per NEC articles 501, 502, 503 and 505; in Zone 2, Class II Div 2, Class III Div 1 and Class III Div 2 per CEC.

Special Features on Request

- Oil Resistance
- UV Resistance
- Flame Retardant Cat. A, B, C
- Flame Retardant Non Category
- Heat Resistance
- Anti Termite
- Anti Rodent
- Low Smoke Zero Halogen

Hazardous Location

According to NEC 501, 502, 503 & 505

PHYSICAL PROPERTIES					ELECTRICAL PROPERTIES		
No. Of Core	Size		Approx. Overall Diameter	Approx. Cable Weight	Max. DC Resistance at 20 °C	Max. Current - Carrying Capacity at 75 °C	Max. Short Circuit Current at 1 Second
	AWG	MCM	mm	kg/mm	ohm/km	A	kA
3	14 (2.08 mm²)	-	18.70	590.40	8.463	15	0.30
4			19.70	651.91	8.463	15	0.30
3	12 (3.31 mm²)	-	19.70	671.24	5.342	20	0.47
4			21.70	755.24	5.342	20	0.47
3	10 (5.26 mm²)	-	21.70	786.82	3.346	30	0.75
4			23.70	891.26	3.346	28	0.75
3	8 (5.25 mm²)	-	23.70	946.62	2.011	50	1.20
4			24.70	1075.32	2.011	40	1.20
3	6 (13.30 mm²)	-	25.70	1173.25	1.323	65	1.90
4			27.70	1360.62	1.323	52	1.90
3	4 (21.20 mm²)	-	29.70	1584.51	0.830	85	3.00
4			31.70	1856.91	0.830	68	3.00
3	2 (33.60 mm²)	-	33.90	2115.02	0.521	115	4.80
4			35.90	2511.69	0.521	92	4.80
3	1 (42.40 mm²)	-	35.90	2446.45	0.415	130	6.00
4			39.30	2988.54	0.415	104	6.00
3	1/0 (53.50 mm²)	-	39.30	2996.70	0.328	150	7.60
4			43.50	3651.72	0.328	120	7.60
3	2/0 (67.40 mm²)	-	42.30	3516.80	0.261	175	9.50
4			46.70	4396.82	0.261	140	9.50
3	4/0 (107 mm²)	-	48.70	5038.14	0.164	230	15.10
4			52.90	6232.46	0.164	184	15.10
3	-	250 (127 mm²)	54.10	5981.32	0.139	255	17.90
4			59.30	7462.64	0.139	185	17.90
3	-	350 (177 mm²)	60.30	7842.65	0.099	310	25.00
4			66.70	9873.51	0.099	248	25.00
3	-	500 (253 mm²)	69.90	10913.19	0.070	308	35.70
4			78.30	13860.02	0.070	304	35.70
3	-	750 (380 mm²)	79.70	15197.87	0.046	475	53.50
4			88.30	19234.57	0.046	380	53.50

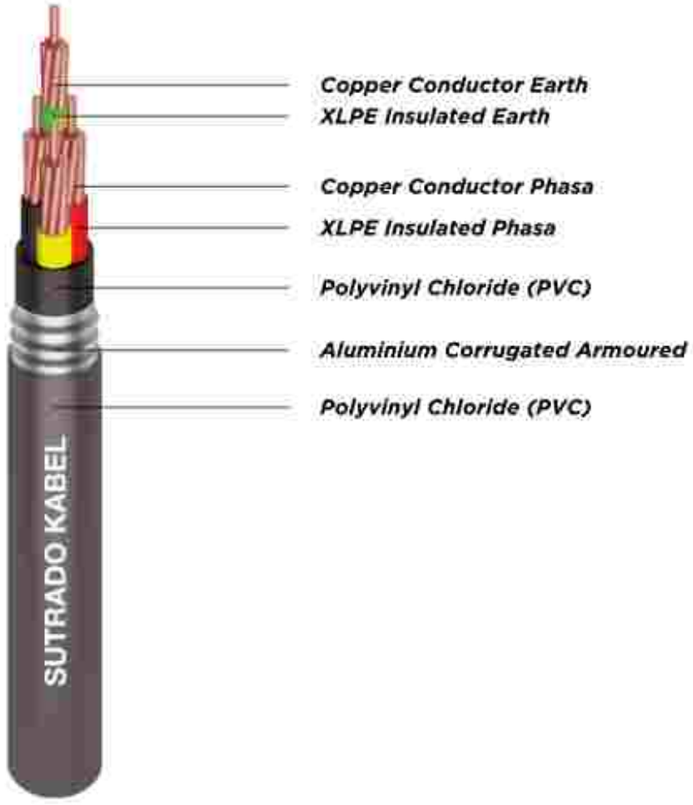
**Further information about derating factor for certain cable arrangement can be found on supplementary technical information*

0.6/1 (1.2) kV
MC-HL XHHW-2 (Cu/XLPE/CAA/PVC)

(Copper Conductor, XLPE Insulation, Corrugated Aluminium Armour and PVC Sheathed)

Standard Spesification : IEC 60502-1, ICEA S-95-568/NEMA WC 70

**Other Specification are available on request*



Application

MC-HL XHHW-2 (Cu/XLPE/CAA/PVC) may be installed indoors or outdoors, in wet or dry locations, as open runs of cable secured to supports spaced not more than six feet apart, in cable tray, as aerial cable on a messenger, in any approved raceway, direct burial, or encased in concrete.

MC-HL XHHW-2 (Cu/XLPE/CAA/PVC) are also approved for use in Class I & II, Division 2, Class III, Divisions 1 and 2, and Class I, Zone 2 hazardous locations per NEC articles 501, 502, 503 and 505; in Zone 2, Class II Div 2, Class III Div 1 and Class III Div 2 per CEC.

Special Features on Request

- Oil Resistance
- UV Resistance
- Flame Retardant Cat. A, B, C
- Flame Retardant Non Category
- Heat Resistance
- Anti Termite
- Anti Rodent
- Low Smoke Zero Halogen
- Metal Coated Conductor (Tinned Cu)

Hazardous Location

According to NEC 501, 502, 503 & 505

PHYSICAL PROPERTIES						ELECTRICAL PROPERTIES							
Phase Conductor		Earthing Conductor		Approx. Overall Diameter	Approx. Cable Weight	Max. DC Resistance at 20°C	Max. DC Resistance at 20°C	Max. AC Resistance at 90 °C	Inductance	Reactance	Max. Current Capacity at 40 °C	Max. Current Capacity at 20 °C	Max. Short Circuit Current at 1 Second
						Phase	Earth		L	X	In Air	In Ground	
No. of Core	mm²	No. of Core	mm²	mm	kg/km	Ohm/km	Ohm/km	Ohm/km	mH/km	Ohm/km	A	A	kA
2	2.5	1	2.5	20.94	570	7.410	7.410	9.449	0.64000	0.2011	67	91	0.38
2	4	1	4	21.88	690	4.610	4.610	5.878	0.59985	0.1863	88	77	0.57
3	6	1	6	23.40	781	3.080	3.080	3.927	0.5434	0.1743	109	95	0.86
2	10	1	10	25.42	970	1.830	1.830	2.334	0.5064	0.1654	146	126	1.43
2	16	1	16	27.60	1314	1.150	1.150	1.466	0.4680	0.1577	190	167	2.29
2	25	1	16	31.40	1814	0.727	1.150	0.927	0.4063	0.1455	254	207	3.58
2	35	1	16	33.80	1846	0.524	1.150	0.669	0.4126	0.1390	307	246	5.01
2	50	1	25	37.00	2310	0.387	0.727	0.494	0.4281	0.1329	370	290	7.16
2	70	1	35	41.70	3031	0.268	0.524	0.342	0.4064	0.1277	463	371	10.02
2	95	1	50	44.90	3883	0.193	0.387	0.247	0.3896	0.1234	548	423	13.59
2	120	1	70	50.20	4870	0.153	0.268	0.196	0.3600	0.1194	638	480	17.17
2	150	1	95	58.30	6000	0.124	0.193	0.159	0.3697	0.1199	756	547	21.48
2	185	1	95	60.40	7539	0.098	0.193	0.128	0.3732	0.1177	871	612	26.47
2	240	1	120	72.50	9288	0.075	0.153	0.098	0.3691	0.1204	1056	716	34.34
2	300	1	150	79.20	11127	0.060	0.124	0.078	0.3722	0.1173	1211	808	42.93
3	2.5	1	2.5	21.90	678	7.410	7.410	9.449	0.61013	0.20148	56	49	0.58
3	4	1	4	23.40	736	4.610	4.610	5.878	0.6042	0.1929	72	64	0.57
3	6	1	6	24.40	855	3.080	3.080	3.927	0.5770	0.1851	90	78	0.86
3	10	1	10	26.90	1097	1.830	1.830	2.334	0.5391	0.1696	122	104	1.43
3	16	1	16	30.40	1405	1.150	1.150	1.466	0.5032	0.1602	162	134	2.29
3	25	1	16	33.80	1864	0.727	1.150	0.927	0.4645	0.1522	213	171	3.58
3	35	1	16	36.50	2272	0.524	1.150	0.669	0.4621	0.1459	258	203	5.01
3	50	1	25	40.25	2866	0.387	0.727	0.494	0.4464	0.1396	311	240	7.16
3	70	1	35	44.90	3788	0.268	0.524	0.342	0.4259	0.1338	390	293	10.02
3	95	1	50	50.20	4997	0.193	0.387	0.247	0.4126	0.1296	477	350	13.59
3	120	1	70	58.30	6213	0.153	0.268	0.196	0.4013	0.1260	557	396	17.17
3	150	1	95	60.80	7553	0.124	0.193	0.159	0.4034	0.1266	657	447	21.48
3	185	1	90	71.30	8235	0.098	0.193	0.127	0.4064	0.1208	763	521	26.47
3	240	1	120	78.70	11186	0.075	0.153	0.097	0.4054	0.1274	931	588	34.34
3	300	1	150	86.00	14491	0.060	0.124	0.078	0.3955	0.1255	1076	670	42.93
4	2.5	1	2.5	23.40	783	7.410	7.410	9.449	0.60548	0.20089	49	43	0.58
4	4	1	4	25.90	839	4.610	4.610	5.878	0.6280	0.1973	64	56	0.57
4	6	1	6	26.40	975	3.080	3.080	3.927	0.5949	0.1869	81	69	0.86
4	10	1	10	28.90	1277	1.830	1.830	2.334	0.5548	0.1743	109	92	1.43
4	16	1	16	32.80	1738	1.150	1.150	1.466	0.5212	0.1638	145	117	2.29
4	25	1	16	36.20	2243	0.727	1.150	0.927	0.5033	0.1581	190	149	3.58
4	35	1	16	39.70	2788	0.524	1.150	0.669	0.4852	0.1527	230	178	5.01
4	50	1	25	43.90	3551	0.387	0.727	0.494	0.4867	0.1486	278	210	7.16
4	70	1	35	48.70	4756	0.268	0.524	0.342	0.4620	0.1451	348	257	10.02
4	95	1	50	56.10	6235	0.193	0.387	0.247	0.4478	0.1387	425	307	13.59
4	120	1	70	61.30	7675	0.153	0.268	0.196	0.4334	0.1361	499	350	17.17
4	150	1	95	71.30	9660	0.124	0.193	0.159	0.4453	0.1396	584	396	21.48
4	185	1	95	77.70	11853	0.098	0.193	0.127	0.4389	0.1378	671	448	26.47
4	240	1	120	86.70	14925	0.075	0.153	0.097	0.4208	0.1354	788	520	34.34
4	300	1	150	94.50	18264	0.060	0.124	0.078	0.4214	0.1333	913	584	42.93

**Further information about derating factor for certain cable arrangement can be found on supplementary technical information*

0.6/1 (1.2) kV
MC-HL XHHW-2

(Copper Conductor, XLPE Insulated with Aluminium Welded Corrugated Armoured and PVC Sheath)
Standard Spesification : IEC 60502-1, ICEA S-95-658/NEMA WC 70

**Other Specification are available on request*

Copper Conductor

XLPE Insulated

Grounding Copper Conductor

Polyvinyl Chloride (PVC) Filler

Aluminium Welded Corrugated Armoured

Polyvinyl Chloride (PVC) Outersheath

Application

XHHW-2 cables may be installed indoors or outdoors; in wet or dry locations; as open runs of cable secured to supports spaced not more than six feet apart; in cable tray; as aerial cable on a messenger; in any approved raceway; direct burial; or encased in concrete.

XHHW-2 cables are also approved for use in Class I & II, Division 2, Class III, Divisions 1 and 2, and Class I, Zone 2 hazardous locations per NEC articles 501, 502, 503 and 505; in Zone 2, Class II Div 2, Class III Div 1 and Class III Div 2 per CEC.

Special Features on Request

- Oil Resistance
- UV Resistance
- Flame Retardant Cat. A, B, C
- Flame Retardant Non Category
- Heat Resistance
- Anti Termite
- Anti Rodent
- Low Smoke Zero Halogen

PHYSICAL PROPERTIES						ELECTRICAL PROPERTIES			
No. of Core	Size	Grounding Conductor		Approx. Overall Diameter	Approx. Cable Weight	Max. DC Resistance at 20 °C	Max. Current - Carrying Capacity at 75 °C	Max. Short Circuit Current at 1 Second	AC Voltage Test
-	AWG	No of Core	AWG	mm	kg/km	ohm/km	A	kA	kV
3	14 (2.08 mm²)	3	18 (0.82 mm²)	18.7	621.9	8.463	15	0,3	3.5
4		3	18 (0.82 mm²)	19.7	684.0	8.463	15		3.5
3	12 (3.31 mm²)	3	16 (1.30 mm²)	19.7	716.2	5.342	20	0,5	3.5
4		3	16 (1.30 mm²)	21.7	801.4	5.342	20		3.5
3	10 (5.26 mm²)	3	14 (2.08 mm²)	21.7	854.1	3.346	30	0,7	3.5
4		3	14 (2.08 mm²)	23.7	959.7	3.346	28		3.5
3	8 (8.36 mm²)	3	14 (2.08 mm²)	23.7	1015.1	2.011	50	1.2	3.5
4		1	10 (5.26 mm²)	24.7	1135.6	2.011	40		3.5
3	6 (13.3 mm²)	3	12 (3.31 mm²)	25.7	1282.9	1.323	65	1,9	3.5
4		1	8 (8.36 mm²)	27.7	1458.6	1.323	52		3.5
3	4 (21.2 mm²)	3	12 (3.31 mm²)	29.7	1699.0	0.830	85	3,0	3.5
		1	8 (8.36 mm²)	29.7	1685.7	0.830	85		3.5
4		1	8 (8.36 mm²)	31.7	1959.7	0.830	68		3.5
3	2 (33.6 mm²)	3	10 (5.26 mm²)	33.9	2287.5	0.521	115	4,8	3.5
4		1	6 (13.30 mm²)	36.4	2687.7	0.521	92		3.5
3	1 (42.4 mm²)	3	10 (5.26 mm²)	35.9	2622.0	0.415	130	6,0	3.5
4		1	6 (13.30 mm²)	39.3	3165.8	0.415	104		3.5
3	1/0 (53.5 mm²)	3	10 (5.26 mm²)	39.3	3179.4	0.328	150	7,6	3.5
4		1	6 (13.30 mm²)	43.5	3818.2	0.328	120		3.5
3	2/0 (67.4 mm²)	3	10 (5.26 mm²)	42.3	3704.0	0.261	175	9,5	3.5
4		1	6 (13.30 mm²)	46.7	4569.4	0.261	140		3.5
3	4/0 (107 mm²)	3	8 (8.36 mm²)	48.7	5323.7	0.164	230	15,1	3.5
4		1	4 (21.15 mm²)	53.9	6501.1	0.164	184		3.5
3	250 (127 mm²)	3	8 (8.36 mm²)	54.1	6279.4	0.139	255	17,9	3.5
4		1	4 (21.15 mm²)	59.3	7732.7	0.139	185		3.5
3	350 (177 mm²)	3	7 (10.54 mm²)	60.3	8213.5	0.099	310	25,0	3.5
4		1	3 (26.67 mm²)	66.7	10211.0	0.099	248		3.5
3	500 (253 mm²)	3	6 (13.30 mm²)	69.9	11410.3	0.070	380	35,7	3.5
4		1	2 (33.63 mm²)	78.3	14293.1	0.070	304		3.5
3	750 (380 mm²)	3	5 (16.77 mm²)	80.7	15829.2	0.046	475	53,5	3.5
4		1	1 (42.40 mm²)	89.3	19813.1	0.046	380		3.5

0.6/1 (1.2) kV
MC-HL XHHW-2 YARN

(Copper Conductor, XLPE Insulation, Continuous Welded Aluminium Armoured and PVC Sheath)
Standard Spesification : IEC 60502-1, ICEA S-95-658/NEMA WC 70, UL 44, UL 1569

**Other Specification are available on request*

Copper Conductor

XLPE Insulated

PP Yarn Filler with Polyester Tape

Aluminium Corrugated Armoured

Polyvinyl Chloride (PVC) Outersheath

Application

MC (XHHW-2) cables may be installed indoors or outdoors, in wet or dry locations, as open runs of cable secured to supports spaced not more than six feet apart, in cable tray, as aerial cable on a messenger, in any approved raceway, direct burial, or encased in concrete.

MC (XHHW-2) cables are also approved for use in Class I & II, Division 2, Class III, Divisions 1 and 2, and Class I, Zone 2 hazardous locations per NEC articles 501, 502, 503 and 505, in Zone 2, Class II Div 2, Class III Div 1 and Class III Div 2 per CEC.

Special Features on Request

- Oil Resistance
- UV Resistance
- Flame Retardant Cat. A, B, C
- Flame Retardant Non Category
- Heat Resistance
- Anti Termite
- Anti Rodent
- Low Smoke Zero Halogen

Hazardous Location

According to NEC 501, 502, 503 & 505

PHYSICAL PROPERTIES					ELECTRICAL PROPERTIES		
No. Of Core	Size		Approx. Overall Diameter	Approx. Cable Weight	Max. DC Resistance at 20 °C	Max. Current - Carrying Capacity at 75 °C	Max. Short Circuit Current at 1 Second
	AWG	MCM	mm	kg/mm	ohm/km	A	kA
3	14 (2.08 mm²)	-	18.70	590.40	8.463	15	0.30
4			19.70	651.91	8.463	15	0.30
3	12 (3.31 mm²)	-	19.70	671.24	5.342	20	0.47
4			21.70	755.24	5.342	20	0.47
3	10 (5.26 mm²)	-	21.70	786.82	3.346	30	0.75
4			23.70	891.26	3.346	28	0.75
3	8 (5.26 mm²)	-	23.70	946.62	2.011	50	1.20
4			24.70	1075.32	2.011	40	1.20
3	6 (13.30 mm²)	-	25.70	1173.25	1.323	65	1.90
4			27.70	1360.62	1.323	52	1.90
3	4 (21.20 mm²)	-	29.70	1584.51	0.830	85	3.00
4			31.70	1856.91	0.830	68	3.00
3	2 (33.60 mm²)	-	33.90	2115.02	0.521	115	4.80
4			35.90	2511.69	0.521	92	4.80
3	1 (42.40 mm²)	-	35.90	2446.45	0.415	130	6.00
4			39.30	2988.54	0.415	104	6.00
3	1/0 (53.50 mm²)	-	39.30	2996.70	0.328	150	7.60
4			43.50	3651.72	0.328	120	7.60
3	2/0 (67.40 mm²)	-	42.30	3516.80	0.261	175	9.50
4			46.70	4396.82	0.261	140	9.50
3	4/0 (107 mm²)	-	48.70	5038.14	0.164	230	15.10
4			52.90	6232.46	0.164	184	15.10
3	-	250 (127 mm²)	54.10	5981.32	0.139	255	17.90
4			59.30	7462.64	0.139	185	17.90
3	-	350 (177 mm²)	60.30	7842.65	0.099	310	25.00
4			66.70	9873.51	0.099	248	25.00
3	-	500 (253 mm²)	69.90	10913.19	0.070	308	35.70
4			78.30	13860.02	0.070	304	35.70
3	-	750 (380 mm²)	79.70	15197.87	0.046	475	53.50
4			88.30	19234.57	0.046	380	53.50

**Further information about derating factor for certain cable arrangement can be found on supplementary technical information*

0.6/1 (1.2) kV
MC-HL XHHW-2 YARN

(Copper Conductor, XLPE Insulated with Continuously Corrugated Aluminium Welded and PVC Sheath)
Standard Spesification : IEC 60502-1, ICEA S-95-658/NEMA WC 70, UL 44, UL 1569

**Other Specification are available on request*

Copper Conductor

XLPE Insulated

Grounding Copper Conductor

PP Yarn Filler

Continuously Corrugated Aluminium Welded

Polyvinyl Chloride (PVC) Outersheath

Application

MC-HL (XHHW-2) cables may be installed indoors or outdoors, in wet or dry locations, as open runs of cable secured to supports spaced not more than six feet apart, in cable tray, as aerial cable on a messenger, in any approved raceway, direct burial, or encased in concrete.

MC-HL (XHHW-2) cables are also approved for use in Class I & II, Division 2, Class III, Divisions 1 and 2, and Class I, Zone 2 hazardous locations per NEC articles 501, 502, 503 and 505; in Zone 2, Class II Div 2, Class III Div 1 and Class III Div 2 per CEC.

Special Features on Request

- Oil Resistance
- UV Resistance
- Flame Retardant Cat. A, B, C
- Flame Retardant Non Category
- Heat Resistance
- Anti Termite
- Anti Rodent
- Low Smoke Zero Halogen

Hazardous Location

According to NEC 501, 502, 503 & 505

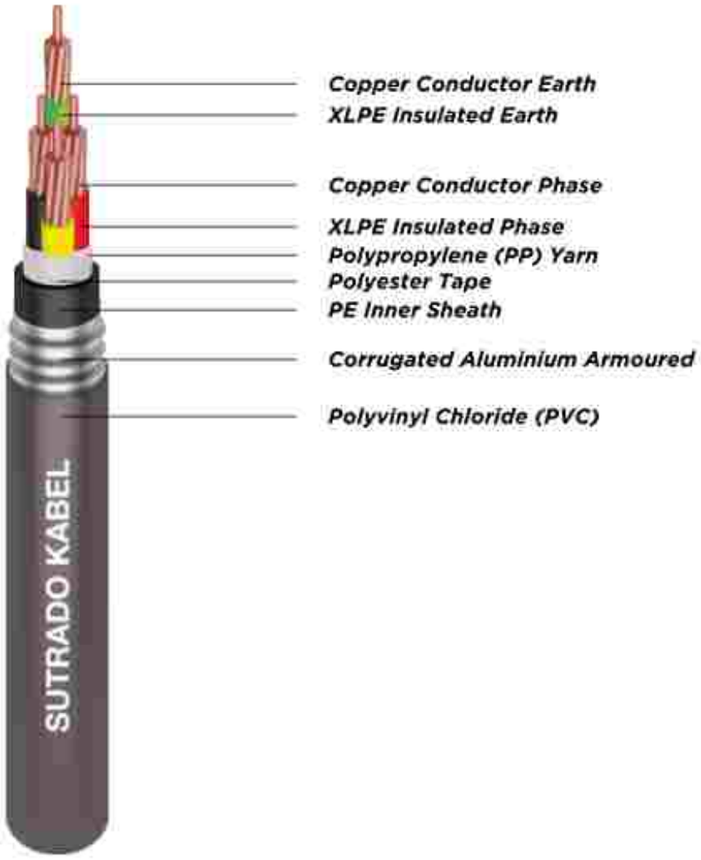
PHYSICAL PROPERTIES						ELECTRICAL PROPERTIES			
No. of Core	Size	Grounding Conductor		Approx. Overall Diameter	Approx. Cable Weight	Max. DC Resistance at 20 °C	Max. Current - Carrying Capacity at 75 °C	Max. Short Circuit Current at 1 Second	AC Voltage Test
-	AWG	No. of Core	AWG	mm	kg/km	Ohm/km	A	kA	kV
3	14 (2.08 mm²)	3	16 (0.82 mm²)	15.7	495	8.463	15	0.3	3.5
4		3	18 (0.82 mm²)	17.7	577	8.463	15		3.5
2	**12 (3.31 mm)**	**1**	**12 (3.31 mm)**	**16.7**	**541**	**5.342**	**24**	**0.5**	**3.5**
3		**3**	**16 (1.30 mm)**	**17.7**	**596**	**5.342**	**20**		**3.5**
4		3	16 (1.30 mm²)	18.7	690	5.342	20		3.5
3	**10 (5.26 mm)**	**3**	**14 (2.08 mm)**	**18.7**	**717**	**3.346**	**30**	**0.7**	**3.5**
4		3	14 (2.08 mm²)	19.7	829	3.346	28		3.5
3	8 (8.36 mm²)	3	14 (2.08 mm²)	20.7	868	2.011	50	1.2	3.5
4		1	10 (5.26 mm²)	22.7	1118	2.011	40		3.5
3	6 (13.3 mm²)	3	12 (3.31 mm²)	22.7	1117	1.323	65	1.9	3.5
4		1	8 (8.36 mm²)	24.7	1503	1.323	52		3.5
3	4 (21.2 mm²)	3	12 (3.31 mm²)	26.7	1524	0.830	85	3.0	3.5
		1	8 (8.36 mm²)	28.7	1511	0.830	65		3.5
4		1	8 (8.36 mm²)	29.7	1849	0.830	68		3.5
3	**2 (33.6 mm)**	**3**	**10 (5.26 mm)**	**30.9**	**2104**	**0,521**	**115**	**4.8**	**3.5**
4		1	6 (13.30 mm²)	33.9	2590	0.521	92		3.5
3	1 (42.4 mm²)	3	10 (5.26 mm²)	32.9	2453	0.415	130	6.0	3.5
4		1	6 (13.30 mm²)	36.3	3065	0.415	104		3.5
3	1/0 (53.5 mm²)	3	10 (5.26 mm²)	35.8	2932	0.328	150	7.6	3.5
4		1	6 (13.30 mm²)	40.5	3766	0.328	120		3.5
3	2/0 (67.4 mm²)	3	10 (5.26 mm²)	39.3	3509	0,261	175	9.5	3.5
4		1	6 (13.30 mm²)	43.7	4489	0,261	140		3.5
3	4/0 (107 mm²)	3	8 (8.36 mm²)	45.7	5127	0,164	230	15.1	3.5
4		1	4 (21.15 mm²)	49.9	6532	0,164	184		3.5
3	350 (177 mm²)	3	8 (8.36 mm²)	51.1	6096	0,139	255	17.9	3.5
4		1	4 (21.15 mm²)	56.3	7856	0,139	185		3.5
3	350 (177 mm²)	3	7 (10.54 mm²)	57.3	8051	0,099	310	25.0	3.5
4		1	3 (26.67 mm²)	62.7	10349	0,099	248		3.5
3	500 (253 mm²)	3	6 (13.30 mm²)	66.9	11216	0,070	380	35.7	3.5
4		1	2 (33.63 mm²)	73.8	14491	0.070	304		3.5
3	750 (380 mm²)	3	5 (16.77 mm²)	79.7	16353	0.046	475	53.5	3.5
4		1	1 (42.40 mm²)	89.3	21308	0,046	380		3.5

**Further information about derating factor for certain cable arrangement can be found on supplementary technical information*

0.6/1 (1.2) kV
MC-HL XHHW-2 (Cu/XLPE/CAA/PE)

(Copper Conductor, XLPE Insulation, Corrugated Aluminium Armour and PE Sheathed)
Standard Spesification : IEC 60502-1, ICEA S-95-568/NEMA WC 70

**Other Specification are available on request*



Application

MC-HL (XHHW-2) Power Cables may be installed indoors or outdoors, in wet or dry locations, as open runs of cable secured to supports spaced not more than six feet apart, in cable tray, as aerial cable on a messenger, in any approved raceway, direct burial, or encased in concrete.

MC-HL (XHHW-2) Power Cables are also approved for use in Class I & II, Division 2, Class III, Divisions 1 and 2, and Class I, Zone 2 hazardous locations per NEC articles 501, 502, 503 and 505; in Zone 2, Class II Div 2, Class III Div 1 and Class III Div 2 per CEC.

Special Features on Request

- Oil Resistance
- UV Resistance
- Flame Retardant Cat. A, B, C
- Flame Retardant Non Category
- Heat Resistance
- Anti Termite
- Anti Rodent
- Low Smoke Zero Halogen

Hazardous Location

According to NEC 501, 502, 503 & 505

PHYSICAL PROPERTIES						ELECTRICAL PROPERTIES				
Phase Coonductor		Earthing Coonductor		Approx. Overall Diameter	Approx. Cable Weight	Max. DC Resistance at 20 °C	Max. DC Resistance at 20 °C	Max. Current - Carrying Capacity at 30 °C	Max. Short circuit at 1 sec	AC Voltage Test
No of Core	Size	No of Core	Size			Phase	Earth	In Ground		
Pcs	AWG / Kcmil	Pcs	AWG / Kcmil	mm	kg/km	ohm/km	ohm/km	A	kA	kV/min
2	12 (3.31 mm²)	1	12 (3.31 mm²)	20.90	506	5.350	5.350	70	0.47	3.5/5
3		1		21.90	567	5.350	5.350	66	0.47	3.5/5
4		1		22.90	640	5.350	5.350	50	0.47	3.5/5
2	10 (5.26 mm²)	1	10 (5.26 mm²)	21.90	605	3.350	3.350	89	0.75	3.5/5
3		1		23.40	695	3.350	3.350	74	0.75	3.5/5
4		1		24.40	792	3.350	3.350	64	0.75	3.5/5
2	8 (8.36 mm²)	1	8 (8.36 mm²)	23.90	756	2.100	2.100	117	1.20	3.5/5
3		1		24.90	873	2.100	2.100	93	1.20	3.5/5
4		1		26.40	1017	2.100	2.100	81	1.20	3.5/5
2	6 (13.3 mm²)	1	6 (13.3 mm²)	25.90	976	1.320	1.320	145	1.90	3.5/5
3		1		27.40	1145	1.320	1.320	112	1.90	3.5/5
4		1		30.40	1372	1.320	1.320	105	1.90	3.5/5
2	4 (21.2 mm²)	1	6 (13.3 mm²)	31.40	1375	0.841	1.350	188	3.03	3.5/5
3		1		34.30	1701	0.841	1.350	156	3.03	3.5/5
4		1		37.00	2053	0.841	1.350	136	3.03	3.5/5
2	2 (33.6 mm²)	1	5 (16.55 mm²)	35.30	1869	0.525	1.057	243	4.81	3.5/5
3		1		38.00	2291	0.525	1.057	200	4.81	3.5/5
4		1		41.20	2787	0.525	1.057	175	4.81	3.5/5
2	1/0 (53.5 mm²)	1	3 (26.37 mm²)	39.70	2563	0.328	0.667	311	7.66	3.5/5
3		1		42.90	3186	0.328	0.667	256	7.66	3.5/5
4		1		47.00	4024	0.328	0.667	225	7.66	3.5/5
2	2/0 (67.4 mm²)	1	2 (33.6 mm²)	43.90	3179	0.262	0.525	353	9.64	3.5/5
3		1		48.00	4056	0.262	0.525	291	9.64	3.5/5
4		1		52.90	5041	0.262	0.525	255	9.64	3.5/5
2	4/0 (107 mm²)	1	1/0 (53.5 mm²)	49.70	4554	0.164	0.328	452	15.31	3.5/5
3		1		54.90	5745	0.164	0.328	374	15.31	3.5/5
4		1		59.60	7173	0.164	0.328	328	15.31	3.5/5
2	250 (127 mm²)	1	2/0 (67.4 mm²)	55.40	5474	0.138	0.262	500	18.17	3.5/5
3		1		60.30	6889	0.138	0.262	413	18.17	3.5/5
4		1		70.30	8856	0.138	0.262	365	18.17	3.5/5
2	350 (177 mm²)	1	3/0 (85 mm²)	61.50	7091	0.100	0.207	594	25.33	3.5/5
3		1		71.80	9272	0.100	0.207	498	25.33	3.5/5
4		1		74.20	11598	0.100	0.207	435	25.33	3.5/5
2	**500 (253 mm²)**	1	**250 (127 mm²)**	74.50	10011	0.070	0.138	727	36.20	3.5/5
3		**1**		**81.90**	**12887**	**0.070**	**0.138**	**602**	**36.20**	**3.5/5**
4		1		89.20	16150	0.070	0.138	528	36.20	3.5/5

**Further information about derating factors for arrangement can be found on supplementary technical information.*

5 kV
Cu/EPR/CTS/CAA/PVC

(Copper Conductor, EPR Insulated, Copper Tape Screen, Aluminium Welded Corrugated Armoured and PVC Sheath)
Standard Spesification : IEC 60502-2, NEMA WC 74

**Other Specification are available on request*

Conductors Screen
Semi Conductive Compound

ID Tape
Polyester Tape (Red, Yellow, Black)

Binder Tape
Polyester Tape

Wrapping Tape
Overlap non Woven Tape

Conductors
Round Compact Copper Wire (Cu)

Insulation
Ethylene Propylene Rubber (EPR)

Insulation Screen
Semi Conductive Compound

Metallic Screen
Copper Tape Screen

Filler
Polypropylene (PP) Yarn

Inner Sheath
Polyvinyl Chloride (PVC)

Armour
Aluminium Welded Corrugated Armour

Outher Sheath
Polyvinyl Chloride (PVC)

PHYSICAL PROPERTIES				ELECTRICAL PROPERTIES					
				Conductor		Max. Current - Carrying Capacity at 30°C			
No. Of Core	Size	Approx. Overall Diameter	Approx. Cable Weight	Max. DC Resistance at 20 °C	Max. AC Resistance at 90 °C	In Air	In Ground	Max. Short Circuit Current at 1 Second	AC Voltage Test
	AWG	mm	kg/mm	ohm/km	Ohm/km	A	A	kA	kV / 5 mins
3	2	46.90	3448.88	0,524	0,668	165	156	4,7	13
3	1	48.90	3918.55	0.387	0.494	205	181	6,4	13
3	1/0	50.10	4294.59	0,387	0,494	200	184	6,4	13
3	2/0	53.30	4940.49	0.268	0.342	246	224	9.3	13
3	4/0	59.70	5667.69	0,153	0,196	333	300	16,2	13
3	250	62.90	7281.02	0,124	0,160	375	334	20	13
3	350	68.30	9328.35	0,099	0,128	431	376	25,1	13
3	500	75.90	12088.24	0,060	0,080	568	483	41,3	13
3	750	88.60	16322.23	0,047	0,064	663	545	52,8	13

**Further information about derating factors for arrangement can be found on supplementary technical information.*

Application

Cu/EPR/CTS/CAA/PVC 5kV cables are recommended for distribution circuits, and for feeders or branch circuits in industrial & utility power distribution systems.

Type MV cables may be installed in wet or dry locations, indoors or outdoors (exposed to sunlight), in any raceway or underground duct, directly buried, cable tray, or messenger supported in industrial establishments and electric utilities.

Special Features on Request

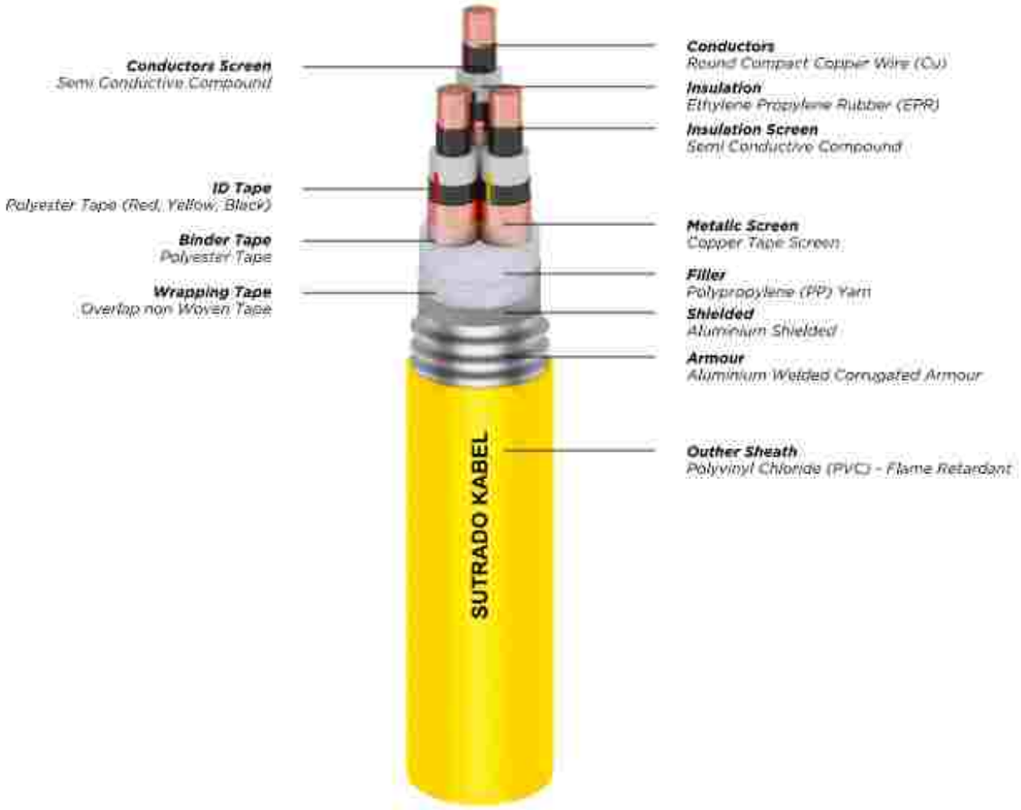
- Oil Resistance
- UV Resistance
- Flame Retardant Cat. A, B, C
- Flame Retardant Non Category
- Heat Resistance
- Anti Termite
- Anti Rodent
- Low Smoke Zero Halogen
- 133% or 173% Insulation Level

5 kV
MV-90 / MV-105 MC-HL

(Copper Conductor, EPR Insulation, Copper Tape Screen, Continuous Welded Corrugated Aluminium Armour, PVC Sheath-Flame Retardant)

Standard Spesification : IEC 60502-1, ICEA S-93-639/NEMA WC 74

**Other Specification are available on request*



PHYSICAL PROPERTIES				ELECTRICAL PROPERTIES					
No. Of Core	Size	Approx. Overall Diameter	Approx. Cable Weight	Conductor		Max. Current - Carrying Capacity at 30°C		Max. Short Circuit Current at 1 Second	AC Voltage Test
				Max. DC Resistance at 20 °C	Max. AC Resistance at 90 °C	In Air	In Ground		
	AWG	mm	kg/mm	ohm/km	Ohm/km	A	A	kA	kV / 5 mins
3	2	46.90	3448.88	0.524	0.668	165	156	4.7	13
3	1	48.90	3918.55	0.387	0.494	205	181	6.4	13
3	1/0	50.10	4294.59	0.387	0.494	200	184	6.4	13
3	2/0	53.30	4940.49	0.268	0.342	246	224	9.3	13
3	4/0	59.70	5667.69	0,153	0,196	333	300	16.2	13
3	250	62.90	7281.02	0,124	0,160	375	334	20	13
3	350	68.30	9328.35	0,099	0,128	431	376	25.1	13
3	500	75.90	12088.24	0,060	0,080	568	483	41.3	13
3	750	88.60	16322.23	0,047	0,064	663	545	52.8	13

**Further information about derating factors for arrangement can be found on supplementary technical information.*

Application

MV-90/MV-105 MC-HL cables are recommended for distribution circuits, and for feeders or branch circuits in industrial & utility power distribution systems.

Type MV cables may be installed in wet or dry locations, indoors or outdoors (exposed to sunlight), in any raceway or underground duct, directly buried, cable tray, or messenger supported in industrial establishments and electric utilities.

Special Features on Request

- Oil Resistance
- UV Resistance
- Flame Retardant Cat. A, B, C
- Flame Retardant Non Category
- Heat Resistance
- Anti Termite
- Anti Rodent
- Low Smoke Zero Halogen
- 133% or 173% Insulation Level

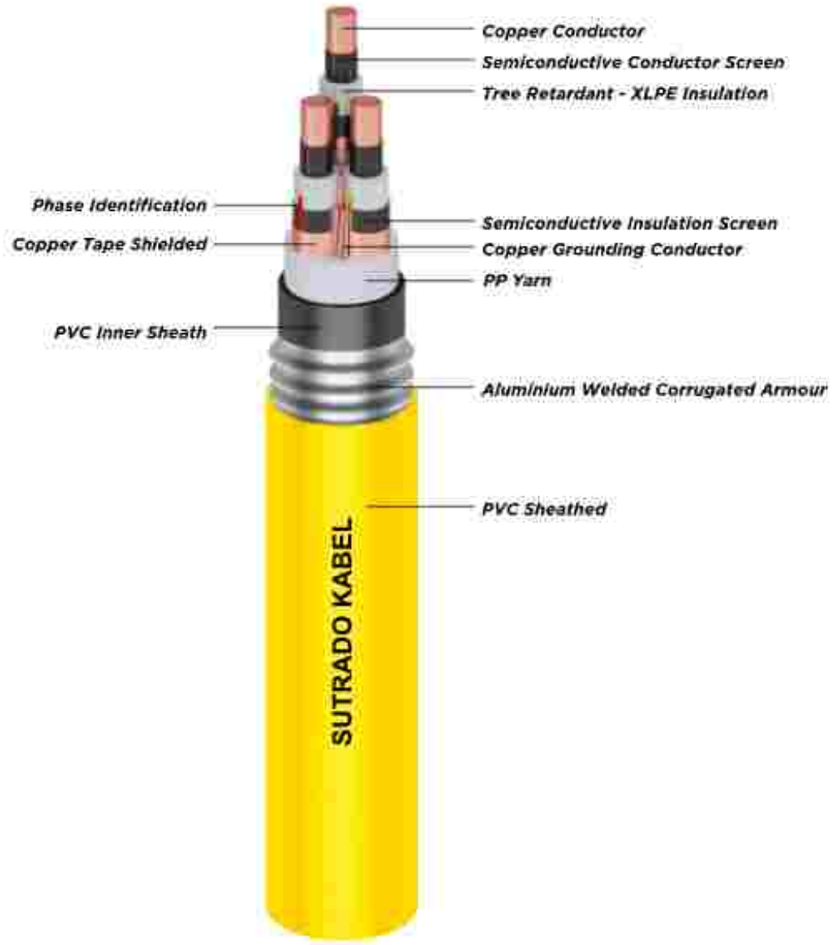
Hazardous Location

According to NEC 501, 502, 503 & 505

5 kV
Type MV-105 MC-HL

(Copper Conductor, Tree Retardant - XLPE Insulation with 133% Insulation Level, Continuous Welded Corrugated Aluminium Armour and PVC Sheath)
Standard Spesification : IEC 60502-2, ICEA S-93-639/NEMA WC 74

**Other Specification are available on request*



PHYSICAL PROPERTIES					ELECTRICAL PROPERTIES		
Size	Grounding Counductor		Approx. Overall Diameter	Approx. Cable Weight	Max. DC Resistance at 20 °C	Ampacities in Cable Tray	Ampacities in Direct Burial
AWG	No of Core	AWG	mm	lb/1000ft	Ohm/1000ft	A	A
8.0	3	12	37.7	726	0.652	66	90
6.0	3	10	40.2	872	0.411	88	115
4.0	3	10	44.4	1118	0.258	115	150
2.0	3	10	48.4	1386	0.162	154	190
1.0	3	8	49.4	1594	0.129	180	215
1/0	3	8	51.4	1818	0.102	205	245
2/0	3	8	54.4	2093	0.081	240	280
4/0	3	7	62.2	2437	0.051	320	360
250	3	6	66.3	2923	0.043	355	395
350	3	6	72.0	3474	0.031	440	475
500	3	5	79.1	5321	0.022	545	570
750	3	4	93.0	7601	0.014	685	700
1000	3	3	104.6	9873	0.011	790	785

**Other specification are available on request*

Application

Cables are recommended as an economical alternate to a wire in conduit system. Designed specifically for use as fedeers or branch circuits in industrial and utility power distribution systems. Cables may be installed in both exposed and concealed work, wet and dry locations, directly buried in the earth or embedded in concrete.

Cables may be installed on metal racks, troughs, in cable trays or secured to support not greater than 6 feet apart.

Special Features on Request

- Oil Resistance
- UV Resistance
- Flame Retardant Cat. A, B, C
- Flame Retardant Non Category
- Heat Resistance
- Anti Termite
- Anti Rodent
- Low Smoke Zero Halogen
- 133% or 173% Insulation Level

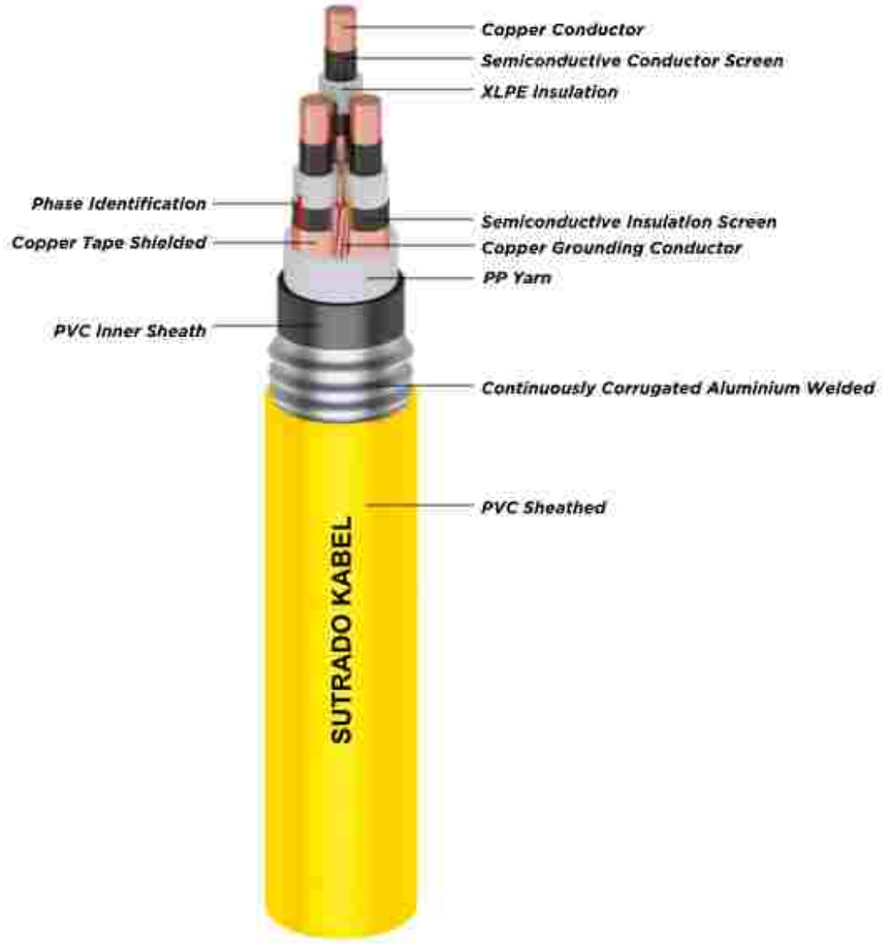
Hazardous Location

According to NEC 501, 502, 503 & 505

5 kV
Type MV MC-HL

(Copper Conductor, XLPE Insulated with 133% Insulation Level, Continuously Corrugated Aluminium Welded & PVC Sheath)
Standard Spesification : IEC 60502-2, ICEA S-93-639/NEMA WC 74, UL 1072

**Other Specification are available on request*



Application

Type MV MC-HL cables are recommended as an economical alternate to a wire in conduit system.

Designed specifically for use as feeders or branch circuits in industrial and utility power distribution systems. Cable maybe installed in both exposed and conceal work, wet and dry locations, sirectly buried in the earth or embedded in concrete.

Cables maybe installed on metal racks, troughs, in cable trays or secured to supports not greater than 6 feet a part.

Special Features on Request

- Oil Resistance
- UV Resistance
- Flame Retardant Cat. A, B, C
- Flame Retardant Non Category
- Heat Resistance
- Anti Termite
- Anti Rodent
- Low Smoke Zero Halogen
- 133% or 173% Insulation Level

Hazardous Location

According to NEC 501, 502, 503 & 505

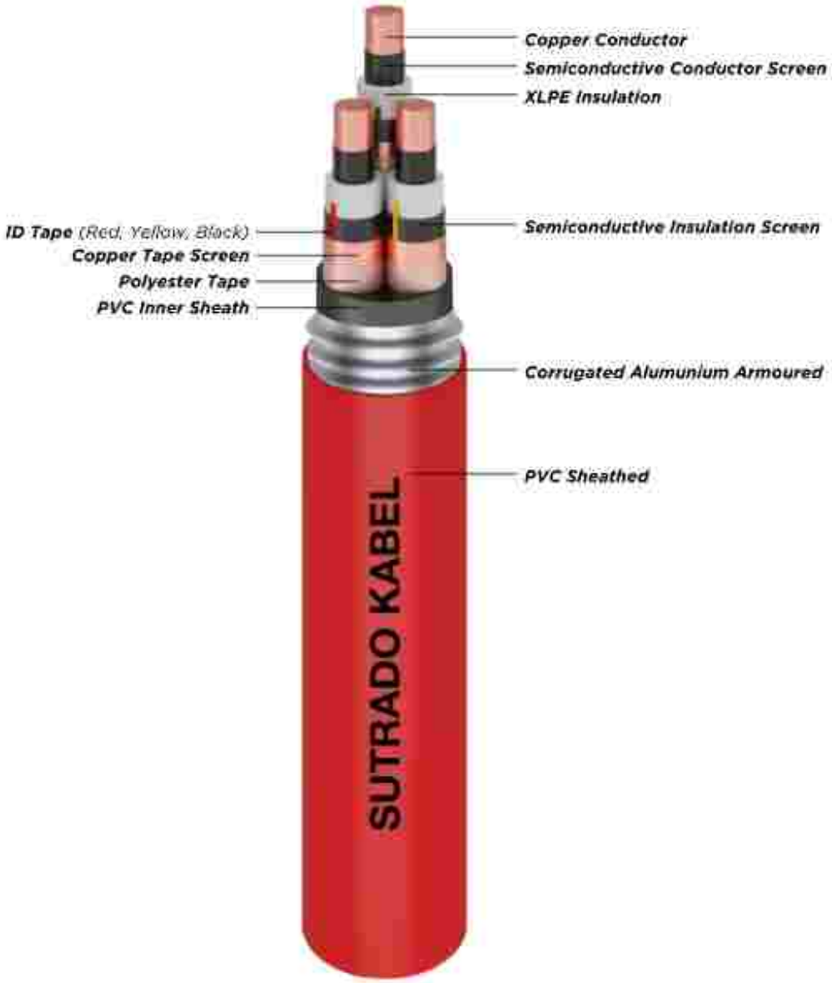
PHYSICAL PROPERTIES					ELECTRICAL PROPERTIES		
Size	Grounding Conductor		Approx. Overall Diameter	Approx. Cable Weight	Max. DC Resistance at 20 °C	Max. Current - Carrying Capacity at 75 °C	
						Cable Tray	Direct Burial
AWG/(KCMIL)	No of Core	AWG	mm	kg/km	ohm/km	A	A
2	3	10	45.9	3544	0.592	154	190
2	**3**	**2**	**45.9**	**4322**	**0.592**	**154**	**190**
1	3	8	47.6	4030	0.472	180	215
1/0	3	8	49.3	4484	0.373	205	245
2/0	3	8	52.5	5106	0.294	240	280
4/0	3	7	57.9	6774	0.185	320	360
4/0	**3**	**2**	**57.9**	**7414**	**0.185**	**320**	**360**
250	3	6	62.1	7744	0.157	355	395
350	3	6	67.5	9615	0.113	440	475
500	3	5	74.1	12357	0.079	545	570
750	3	4	85.1	17061	0.052	685	700

**Other specification are available on request*

5 kV
MC-HL MV Shielded

(Copper Conductor, XLPE Insulation, Copper Tape Screen, Corrugated Aluminium Armour and PVC Sheathed)
Specification Standard : IEC 60502-2, ICEA S-93-639/NEMA WC 74

**Other Specification are available on request*



PHYSICAL PROPERTIES					ELECTRICAL PROPERTIES		
Size			Approx. Overall Diameter	Approx. Cable Weight	Max. DC Resistance at 20 °C	Ampacities in Cable Tray	Ampacities in Direct Burial
AWG / KCMIL			mm	kg/km	Ohm/km	A	A
3	x	2	49.20	3482	0.521	106	111
3	x	1	51.20	3877	0.413	121	127
3	**x**	**1/0**	**54.40**	**4414**	**0.328**	**138**	**145**
3	x	2/0	57.10	5064	0.261	156	164
3	x	4/0	63.00	6728	0.164	201	212
3	x	250	70.30	7787	0.139	223	234
3	x	350	76.20	9880	0.099	267	281
3	x	500	83.50	12915	0.070	321	339
3	x	750	94.70	18052	0.046	390	413

**Further information about derating factors for arrangement can be found on supplementary technical information.*

Application

This cables are recommended as an economical alternate to a wire in conduit system.

Designed specifically for use as feeders or branch circuits in industrial and utility power distribution systems. Cable maybe installed in both exposed and conceal work, wet and dry locations, sirectly buried in the earth or embedded in concrete.

Cables maybe installed on metal racks, troughs, in cable trays or secured to supports not greater than 6 feet a part.

Special Features on Request

- Oil Resistance
- UV Resistance
- Flame Retardant Cat. A, B, C
- Flame Retardant Non Category
- Heat Resistance
- Anti Termite
- Anti Rodent
- Low Smoke Zero Halogen
- 133% or 173% Insulation Level

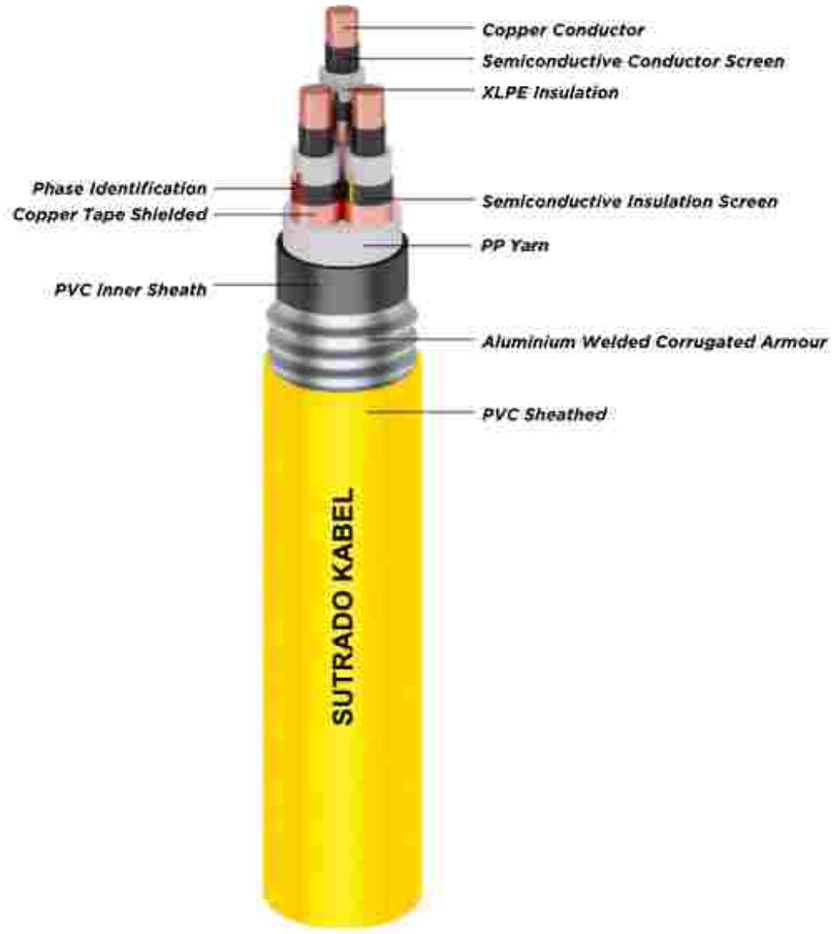
Hazardous Location

According to NEC 501, 502, 503 & 505

5 kV
MC-HL MV Shielded

(Copper Conductor, XLPE Insulation, Copper Tape Screen, Corrugated Aluminium Armour and PVC Sheathed)
Specification Standard : IEC 60502-2, ICEA S-93-639/NEMA WC 74

**Other Specification are available on request*



PHYSICAL PROPERTIES				ELECTRICAL PROPERTIES		
No. of Core	Size	Approx. Overall Diameter	Approx. Cable Weight	Max. DC Resistance at 25 °C	Ampacities in Cable Tray	Ampacities in Direct Burial
-	AWG/KCMIL	mm	kg/km	Ohm/km	A	A
3	2	62.30	5309	0.521	185	200
	1	68.60	6074	0.413	210	225
	1/0	70.80	6667	0.328	240	255
	2/0	73.50	7429	0.261	275	290
	4/0	79.80	9560	0.164	360	375
	250	82.30	10397	0.139	400	410
	350	88.20	12647	0.099	490	495
	500	96.20	16212	0.070	600	590
	750	107.10	22181	0.046	745	720

**Further information about derating factors for arrangement can be found on supplementary technical information.*
**Other size from the table above can be discuss*

Application

This cables are recommended as an economical alternate to a wire in conduit system.

Designed specifically for use as feeders or branch circuits in industrial and utility power distribution systems. Cable maybe installed in both exposed and conceal work, wet and dry locations, sirectly buried in the earth or embedded in concrete.

Cables maybe installed on metal racks, troughs, in cable trays or secured to supports not greater than 6 feet a part.

Special Features on Request

- Oil Resistance
- UV Resistance
- Flame Retardant Cat. A, B, C
- Flame Retardant Non Category
- Heat Resistance
- Anti Termite
- Anti Rodent
- Low Smoke Zero Halogen
- 133% or 173% Insulation Level

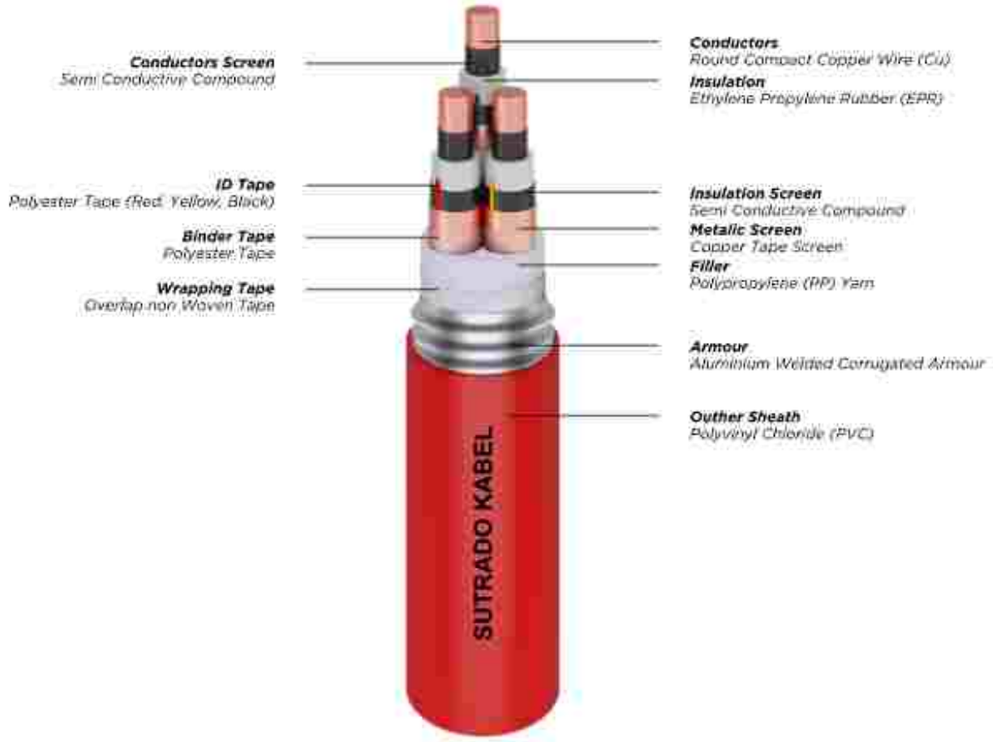
Hazardous Location

According to NEC 501, 502, 503 & 505

15 kV
MV-90 / MV-105 MC-HL

(Copper Conductor, EPR Insulation, Copper Tape Screen, Continuous Welded Corrugated Aluminium Armour, PVC Sheathed)
Standard Spesification : IEC 60502-2, ICEA S-93-639/NEMA WC 74

**Other Specification are available on request*



PHYSICAL PROPERTIES			ELECTRICAL PROPERTIES		
Size	Approx. Overall Diameter	Approx. Cable Weight	Max. DC Resistance at 25 °C	Ampacities in Cable Tray	Ampacities in Direct Burial
AWG/KCMIL	mm	Kg/mm	Ohm/km	A	A
2	48.4	5682	0.5315	154	190
1	49.4	6535	0.4232	180	215
1/0	51.4	7457	0.3346	205	245
2/0	54.4	8583	0.2657	240	280
4/0	62.2	11854	0.1673	320	360
250	66.3	13698	0.1414	355	395
350	72.0	17480	0.1010	440	475
500	79.1	23278	0.0709	545	570
750	93.0	33248	0.0472	685	700
1000	104.6	43189	0.0354	790	785

**Further information about derating factors for arrangement can be found on supplementary technical information.*
**Other size from the table above can be discuss*

Application

MV-90/MV-105 MC-HL cables are recommended for distribution circuits, and for feeders or branch circuits in industrial & utility power distribution systems.

Type MV cables may be installed in wet or dry locations, indoors or outdoors (exposed to sunlight), in any raceway or underground duct, directly buried, cable tray, or messenger supported in industrial establishments and electric utilities.

Special Features on Request

- Oil Resistance
- UV Resistance
- Flame Retardant Cat. A, B, C
- Flame Retardant Non Category
- Heat Resistance
- Anti Termite
- Anti Rodent
- Low Smoke Zero Halogen
- 133% or 173% Insulation Level
- Ground Conductor

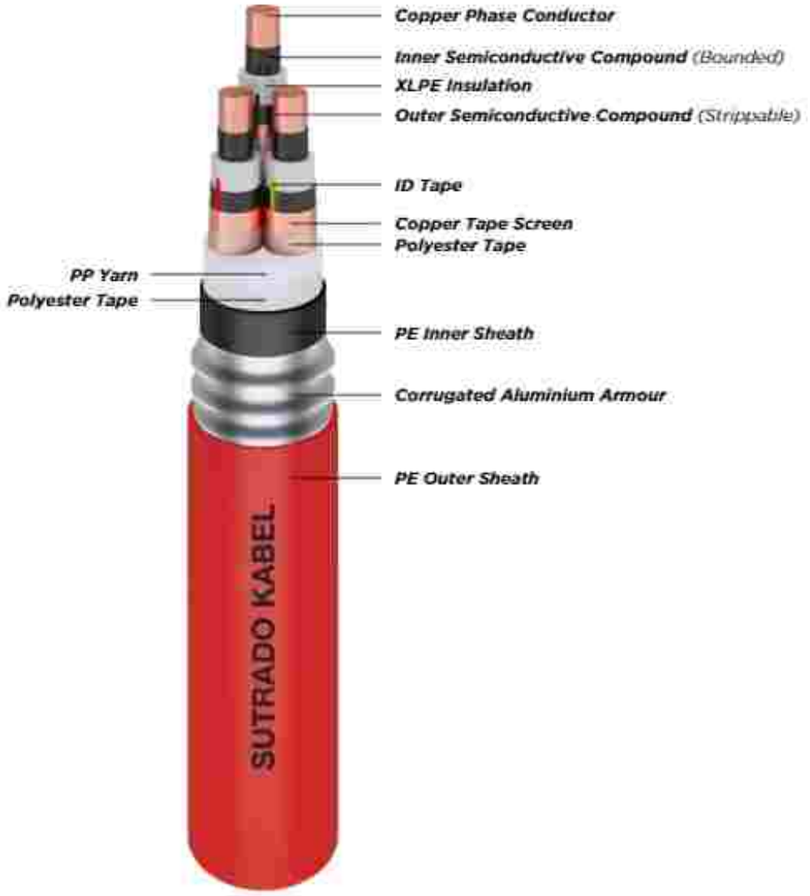
Hazardous Location

According to NEC 501, 502, 503 & 505

35 kV
MC-HL XHHW-2 (Cu/XLPE/CTS/CAA/PE)

(Copper Conductor, XLPE Insulation, Copper Tape Screen, Continuous Welded Corugated Aluminium Armour and PE Sheathed)
Standard Spesification : IEC 60502-2, ICEA S-93-639/NEMA WC 74

**Other Specification are available on request*



PHYSICAL PROPERTIES				ELECTRICAL PROPERTIES		
Phase Conductor		Approx. Overall Diameter	Approx. Cable Weight	Max. DC Resistance at 20 °C	Max. Current - Carrying Capacity at 30 °C	Max. Short circuit at 1 sec
No of Core	Size				In Ground	
Pcs	AWG/Kcmil	mm	kg/km	Ohm/km	A	kA
3	1/0 (53.5 mm²)	82.00	5997	0.3280	210	7.66
3	2/0 (67.4 mm²)	84.00	8444	0.2610	236	9.64
3	3/0 (85 mm²)	87.00	9275	0.2070	268	12.16
3	4/0 (107 mm²)	111.20	1413	0.1640	300	15.31
3	250 (127 mm²)	114.20	15919	0.1390	327	18.17
3	350 (177 mm²)	119.20	18268	0.0990	390	25.33
3	500 (253 mm²)	125.70	21836	0.0700	465	36.20
3	750 (380 mm²)	135.20	27175	0.0460	571	54.37

**Further information about derating factors for arrangement can be found on supplementary technical information.*

Application

For installation indoor, in ground direct burried, for power station and switchgear, if there is a risk that low mechanical damage may occur.

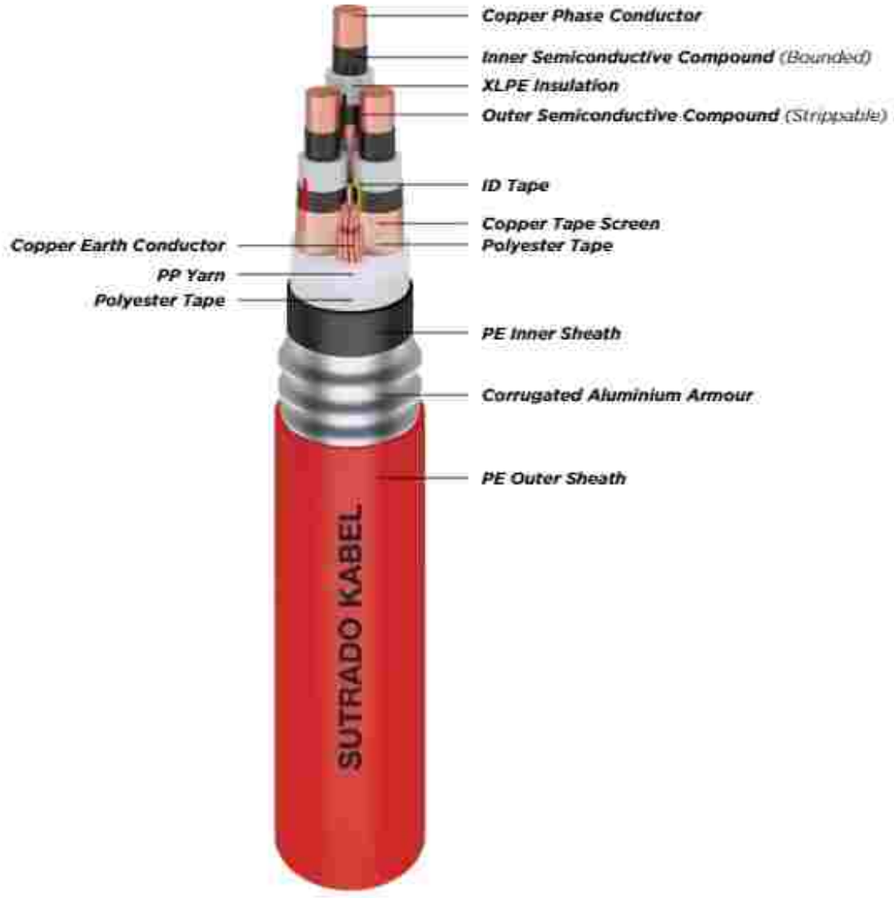
Special Features on Request

- Oil Resistance
- UV Resistance
- Heat Resistance
- Anti Termite
- Anti Rodent
- 133% or 173% Insulation Level
- Ground Conductor
- Flame Retardant Cat. A, B, C Using PVC Outer Sheath
- Flame Retardant Non Category Using PVC Outer Sheath

35 kV
MC-HL XHHW-2 (Cu/XLPE/CTS/CAA/PE)

(Copper Conductor, XLPE Insulation, Copper Tape Screen, Continuous Welded Corrugated Aluminium Armour and PE Sheathed)
Standard Spesification : IEC 60502-2, ICEA S-93-639/NEMA WC 74

**Other Specification are available on request*



PHYSICAL PROPERTIES						ELECTRICAL PROPERTIES			
Phase Conductor		Grounding Conductor		Approx. Overall Diameter	Approx. Cable Weight	DC Resistant at 20°C		Max. Current - Carrying Capacity at 30 °C	Max. Short circuit at 1 sec
No of Core	Size	No of Core	Size			Phase	Earth	In Ground	
Pcs	AWG/Kcmil	Pcs	AWG/Kcmil	mm	kg/km	Ohm/km	Ohm/km	A	kA
3	1/0	1	4	82.00	6756	0.3280	0.830	205	7.66
3	2/0	1	2	84.00	8696	0.2610	0.522	232	9.64
3	4/0	1	1/0	111.20	11512	0.1640	0.328	287	15.31
3	250	1	2/0	114.20	16426	0.1390	0.261	325	18.17
3	350	1	2/0	119.20	18775	0.0991	0.261	389	25.33
3	500	1	250	125.70	22765	0.0695	0.139	467	36.20
3	750	1	300	135.20	28315	0.0462	0.116	570	54.37

**Further information about derating factors for arrangement can be found on supplementary technical information.*

Application

For installation indoor, in ground direct burried, for power station and switchgear, if there is a risk that low mechanical damage may occur.

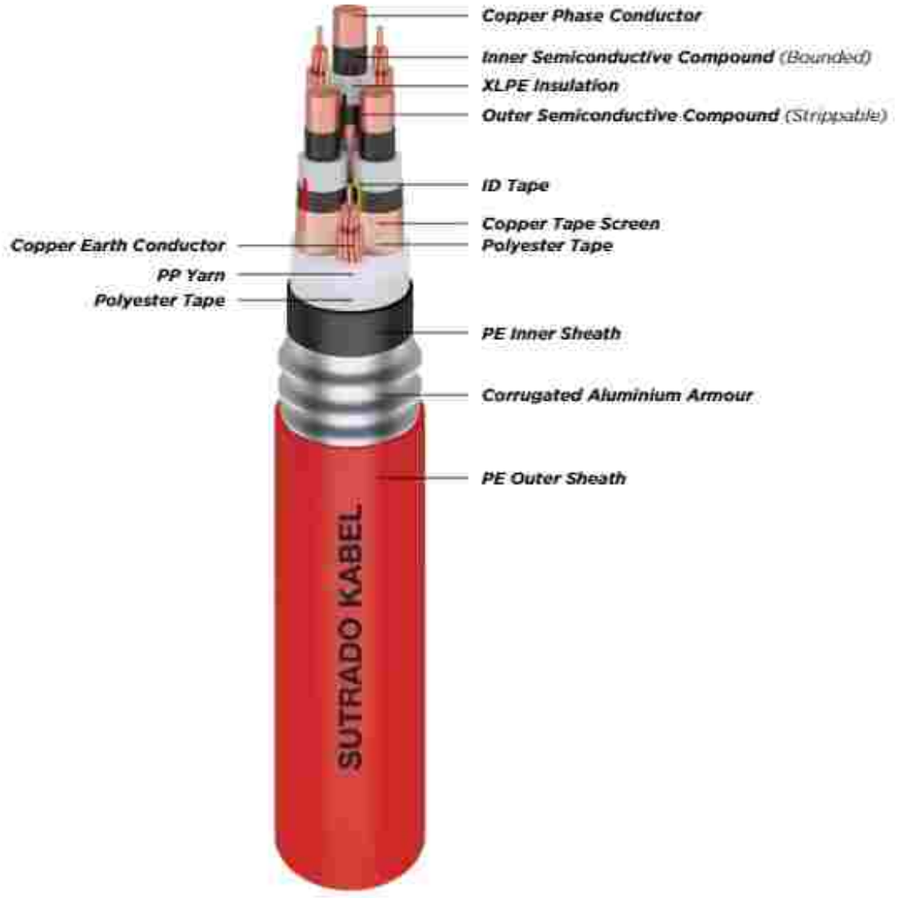
Special Features on Request

- Oil Resistance
- UV Resistance
- Heat Resistance
- Anti Termite
- Anti Rodent
- 133% or 173% Insulation Level
- Flame Retardant Cat. A, B, C Using PVC Outer Sheath
- Flame Retardant Non Category Using PVC Outer Sheath

35 kV
MC-HL XHHW-2 (Cu/XLPE/CTS/CAA/PE)

(Copper Conductor, XLPE Insulation, Copper Tape Screen, Continuous Welded Corrugated Aluminium Armour and PE Sheathed)
Standard Spesification : IEC 60502-2, ICEA S-93-639/NEMA WC 74

**Other Specification are available on request*



PHYSICAL PROPERTIES						ELECTRICAL PROPERTIES			
Phase Conductor		Grounding Conductor		Approx. Overall Diameter	Approx. Cable Weight	DC Resistant at 20°C		Max. Current - Carrying Capacity at 30 °C	Max. Short circuit at 1 sec
No of Core	Size	No of Core	Size			Phase	Earth	In Ground	
Pcs	AWG/Kcmil	Pcs	AWG/Kcmil	mm	kg/km	Ohm/km	Ohm/km	A	kA
3	1/0	1	5	82.00	8174	0.3280	1.050	265	7.66
3	2/0	1	4	84.00	8919	0.2610	0.830	232	8.64
3	4/0	1	2	91.20	10466	0.1640	0.522	297	15.31
3	250	1	1	114.20	16877	0.1390	0.417	325	18.17
3	350	1	1/0	119.20	19464	0.0991	0.328	389	25.33
3	500	1	1/0	125.70	23749	0.0695	0.207	467	36.20
3	750	1	250	135.20	30025	0.0463	0.139	570	54.37

**Further information about derating factors for arrangement can be found on supplementary technical information.*

Application

For installation indoor, in ground direct burried, for power station and switchgear, if there is a risk that low mechanical damage may occur.

Special Features on Request

- Oil Resistance
- UV Resistance
- Heat Resistance
- Anti Termite
- Anti Rodent
- 133% or 173% Insulation Level
- Flame Retardant Cat. A, B, C Using PVC Outer Sheath
- Flame Retardant Non Category Using PVC Outer Sheath

87/150 (170) kV
Cu/XLPE/CWS/CAA/HDPE

(Copper Conductor, XLPE Insulation, Copper Wire Screen, Water Sealing, Continuous Welded Corrugated Aluminium Armour and HDPE Sheathed)
Standard Spesification : IEC 60840

**Other Specification are available on request*

PHYSICAL PROPERTIES						ELECTRICAL PROPERTIES			
Size			Conductor Shape	Approx. Overall Diameter	Approx. Cable Weight	Max. DC Resistance at 20 °C	Max. Current – Carrying Capacity at 30 °C	Max. Short circuit at 1 sec	
							In Ground	Conductor	Screen
mm²			-	mm	kg/km	Ohm/km	A	kA/Sec	kA/Sec
1	x	300	cm	107.60	12151	0.0601	579	43	31
1	x	400	cm	112.00	13320	0.0470	659	57	31
1	x	500	cm	117.20	14593	0.0366	749	72	31
1	x	630	cm	120.90	16436	0.0283	849	90	31
1	x	800	cm	125.30	18431	0.0221	952	114	31
1	x	1000	4 SG	131.20	21647	0.0176	964	143	31
1	x	1200	4 SG	134.40	23510	0.0151	1027	172	31
1	x	1600	5 SG	144.50	28758	0.0113	1138	229	31
1	x	2000	5 SG	151.20	33755	0.0090	1227	286	31

**Further information about derating factors for arrangement can be found on supplementary technical information.*

Application

Single core High Voltage Cable, Copper or Alumunium Conductor with rated Voltage of 170 kV. Applies for underground transmission with power frequency of 50-60 Hz.

Instalation

- Max Duration Short Circuit at 5 second, Operating temperature of cable conductor shall not exceed 250° C.
- Minimum bending radius of cable shallnot be smaller than 15 times of actual overall diametre cable.

Standard Specification

- IEC 60840

Standard Packing

- Steel Drum

87/150 (170) kV
Al/XLPE/CWS/CAA/HDPE

(Aluminium Conductor, XLPE Insulation, Copper Wire Screen, Water Sealing, Continuous Welded Corrugated Aluminium Armour and HDPE Sheathed)
Standard Spesification : IEC 60840

**Other Specification are available on request*

PHYSICAL PROPERTIES						ELECTRICAL PROPERTIES			
Size			Conductor Shape	Approx. Overall Diameter	Approx. Cable Weight	Max. DC Resistance at 20 °C	Max. Current - Carrying Capacity at 30 °C	Max. Short circuit at 1 sec	
							In Ground	Conductor	Screen
mm²			-	mm	kg/km	Ohm/km	A	kA/Sec	kA/Sec
1	x	300	cm	107.60	10300	0.1000	452	28	31
1	x	400	cm	112.00	10963	0.0778	518	38	31
1	x	500	cm	117.20	11581	0.0605	595	47	31
1	x	630	cm	120.90	12559	0.0490	664	60	31
1	x	800	cm	125.10	13443	0.0367	767	76	31
1	x	1000	4 SG	131.20	15310	0.0291	787	94	31
1	x	1200	4 SG	134.40	16881	0.0247	851	113	31
1	x	1600	5 SG	144.50	18443	0.0186	963	151	31
1	x	2000	5 SG	151.20	20835	0.0149	1055	189	31

**Further information about derating factors for arrangement can be found on supplementary technical information.*

Application

Single core High Voltage Cable, Copper or Alumunium Conductor with rated Voltage of 170 kV. Applies for underground transmission with power frequency of 50-60 Hz.

Instalation

- Max Duration Short Circuit at 5 second, Operating temperature of cable conductor shall not exceed 250° C.
- Minimum bending radius of cable shallnot be smaller than 15 times of actual overall diametre cable.

Standard Specification

- IEC 60840

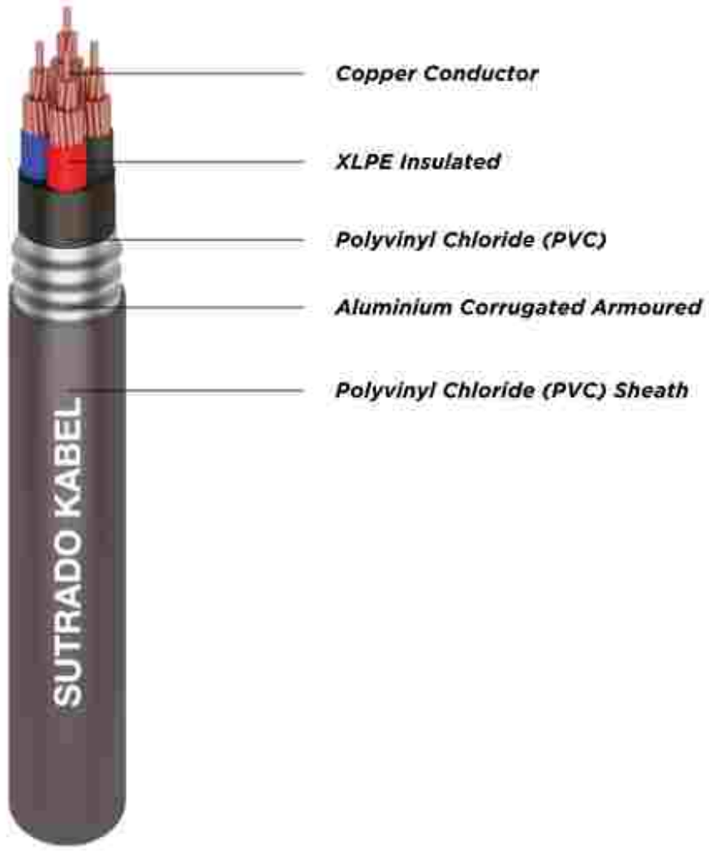
Standard Packing

- Steel Drum

0.6/1 (1.2) kV
XHHW MC-HL Control Cable

(Copper Conductor, XLPE Insulation, Continuous Welded Corrugated Aluminium Armoured, PVC Sheath)
Standard Spesification : IEC 60502-1, ICEA S-73-532/NEMA WC 57, UL 44

**Other Specification are available on request*



PHYSICAL PROPERTIES				ELECTRICAL PROPERTIES		
No. Of Core	Size	Approx. Overall Diameter	Approx. Cable Weight	Max. DC Resistance at 20 °C	Max. Current - Carrying Capacity	Max. Short Circuit Current at 1 Second
	AWG	mm	kg/mm	ohm/km	A	kA
2	14 (2.08 mm²)	18.70	547.26	8.463	15	0.30
3		18.70	590.40	8.463	15	0.30
4		19.70	651.91	8.463	15	0.30
5		22.70	707.97	8.463	15	0.30
7		23.70	800.20	8.463	14	0.30
9		25.70	911.04	8.463	14	0.30
12		28.70	1074.37	8.463	10	0.30
19		32.90	1408.27	8.463	10	0.30
37		40.30	2144.67	8.463	8	0.30
2	**12 (3.31 mm²)**	**19.70**	**616.47**	**5.342**	**20**	**0.47**
3		19.70	671.24	5.342	20	0.47
4		21.70	755.24	5.342	20	0.47
5		23.70	809.06	5.342	20	0.47
7		24.70	928.04	5.342	17	0.47
9		27.70	1075.64	5.342	17	0.47
12		30.70	1279.49	5.342	12	0.47
19		35.90	1717.36	5.342	12	0.47
37		45.50	2820.63	5.342	10	0.47
2	10 (5.26 mm²)	20.70	705.11	3.346	30	0.75
3		21.70	786.82	3.346	30	0.75
4		23.70	891.26	3.346	28	0.75
5		24.70	947.04	3.346	28	0.75
7		26.70	1115.64	3.346	24	0.75
9		29.70	1323.39	3.346	24	0.75
12		33.90	1613.83	3.346	17	0.75

**Further information about derating factor for certain cable arrangement can be found on supplementary technical information*

Application

XHHW MC-HL CONTROL cables may be installed indoors or outdoors, in wet or dry locations, as open runs of cable secured to supports spaced not more than six feet apart, in cable tray, as aerial cable on a messenger, in any approved raceway, direct burial, or encased in concrete.

XHHW MC-HL CONTROL cables are also approved for use in Class I & II, Division 2, Class III, Divisions 1 and 2, and Class I, Zone 2 hazardous locations per NEC articles 501, 502, 503 and 505; in Zone 2, Class II Div 2, Class III Div 1 and Class III Div 2 per CEC.

Special Features on Request

- Oil Resistance
- UV Resistance
- Flame Retardant Cat. A, B, C
- Flame Retardant Non Category
- Heat Resistance
- Anti Termite
- Anti Rodent
- Low Smoke Zero Halogen

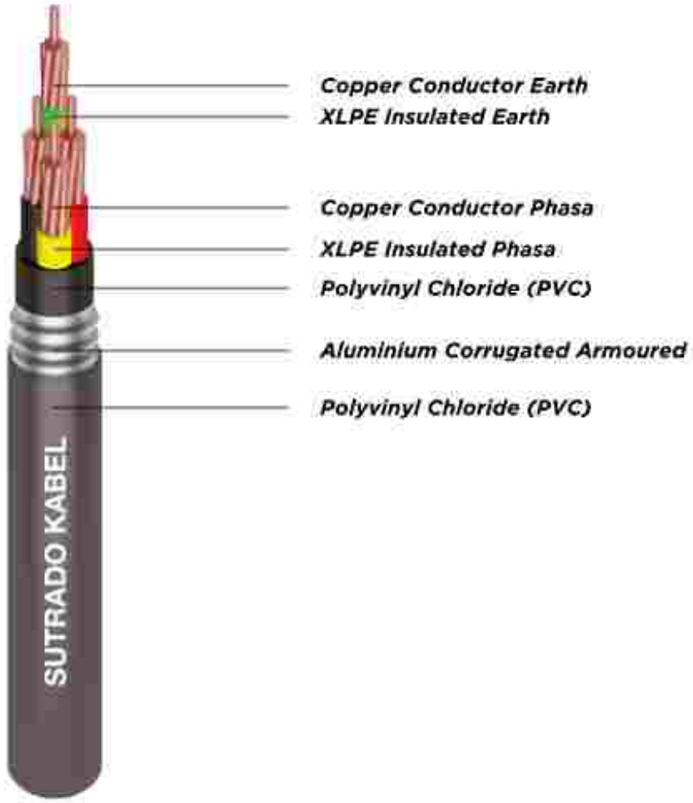
Hazardous Location

According to NEC 501, 502, 503 & 505

0.6/1 (1.2) kV
MC-HL XHHW-2 (Cu/XLPE/CAA/PVC) Control Cable

(Copper Conductor, XLPE Insulated with Aluminium Welded Corrugated Armoured and PVC Sheath)
Standard Spesification : IEC 60502-1, ICEA S-73-532/NEMA WC 57, UL 44

**Other Specification are available on request*



PHYSICAL PROPERTIES						ELECTRICAL PROPERTIES				
Phase Counductor		Earthing Counductor		Approx. Overall Diameter	Approx. Cable Weight	Max. DC Resistance at 20 °C Phase	Max. DC Resistance at 20 °C Earth	Max. Current - Carrying Capacity at 30 °C in Ground	Max. Short circuit at 1 sec	AC Voltage Test
No. of Core	Size	No. of Core	Size							
Pcs	AWG / Kcmil	Pcs	AWG / Kcmil	mm	kg/km	ohm/km	ohm/km	A	kA	kV
2	14 (2.08 mm²)	1	14 (2.08 mm²)	19.40	495	8.460	8.460	60	0.30	3.5
3		**1**		**20.40**	**545**	**8.460**	**8.460**	**49**	**0.30**	**3.5**
4		**1**		**21.40**	**603**	**8.460**	**8.460**	**43**	**0.30**	**3.5**
5		1		21.90	620	8.460	8.460	38	0.30	3.5
6		1		22.40	660	8.460	8.460	35	0.30	3.5
7		**1**		**23.40**	**713**	**8.460**	**8.460**	**32**	**0.30**	**3.5**
9		1		25.90	831	8.460	8.460	28	0.30	3.5
12		**1**		**27.40**	**944**	**8.460**	**8.460**	**25**	**0.30**	**3.5**
19		1		31.40	1223	8.460	8.460	20	0.30	3.5
37		**1**		**38.50**	**1929**	**8.460**	**8.460**	**14**	**0.30**	**3.5**
2	12 (3.31 mm²)	1	12 (3.31 mm²)	20.40	566	5.350	5.350	60	0.47	3.5
3		1		21.40	633	5.350	5.350	49	0.47	3.5
4		1		22.40	701	5.350	5.350	43	0.47	3.5
5		1		23.40	736	5.350	5.350	38	0.47	3.5
6		1		23.90	786	5.350	5.350	35	0.47	3.5
7		1		24.90	855	5.350	5.350	32	0.47	3.5
9		1		27.90	1009	5.350	5.350	25	0.47	3.5
12		1		30.40	1184	5.350	5.350	25	0.47	3.5
19		1		34.30	1594	5.350	5.350	20	0.47	3.5
37		1		42.40	678	5.350	5.350	14	0.47	3.5
2	10 (5.26 mm²)	1	10 (5.26 mm²)	21.90	2544	3.350	3.350	37	0.75	3.5
3		1		22.90	763	3.350	3.350	60	0.75	3.5
4		1		24.40	864	3.350	3.350	49	0.75	3.5
5		1		25.40	911	3.350	3.350	38	0.75	3.5
6		1		25.90	985	3.350	3.350	35	0.75	3.5
7		1		27.40	1080	3.350	3.350	37	0.75	3.5
9		1		31.40	1301	3.350	3.350	28	0.75	3.5
12		1		33.30	1567	3.350	3.350	37	0.75	3.5
19		1		37.50	2105	3.350	3.350	20	0.75	3.5
37		1		47.50	3568	3.350	3.350	14	0.75	3.5

**Further information about derating factors for arrangement can be found on supplementary technical information).*

Application

MC-HL (XHHW-2) Power Cables may be installed indoors or outdoors, in wet or dry locations, as open runs of cable secured to supports spaced not more than six feet apart, in cable tray, as aerial cable on a messenger, in any approved raceway, direct burial, or encased in concrete.

MC-HL (XHHW-2) Power Cables are also approved for use in Class I & II, Division 2, Class III, Divisions 1 and 2, and Class I, Zone 2 hazardous locations per NEC articles 501, 502, 503 and 505; in Zone 2, Class II Div 2, Class III Div 1 and Class III Div 2 per CEC.

Special Features on Request

- Oil Resistance
- UV Resistance
- Flame Retardant Cat. A, B, C
- Flame Retardant Non Category
- Heat Resistance
- Anti Termite
- Anti Rodent
- Low Smoke Zero Halogen

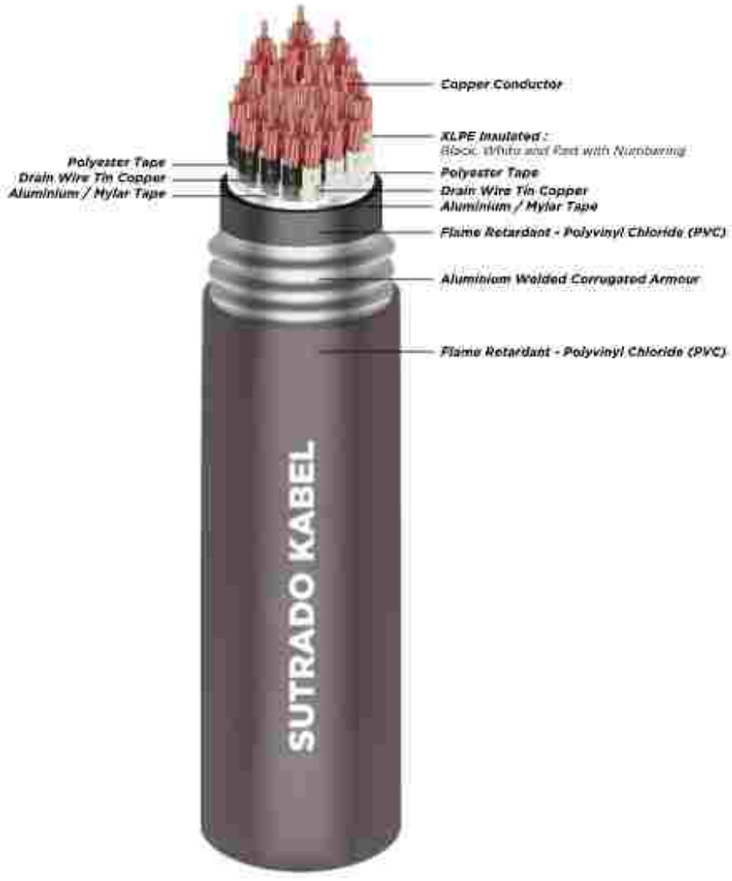
Hazardous Location

According to NEC 501, 502, 503 & 505

300 V
SP-OS Type ITC/PLTC Armoured Instrumentation Cable

(Copper Conductor, XLPE Insulation, Individual and Overall Shielded, Corrugated Aluminium Armour and Flame Retardant PVC Sheathed)

Standard Spesification : ICEA S-95-658/NEMA WC 70, UL Standard 2250, UL 13



PHYSICAL PROPERTIES					ELECTRICAL PROPERTIES	
Size	Number of Pairs	Number of Triads	Approx. Overall Diameter	Approx. Cable Weight	Min. Insul Resistance	Max. Capacitance at 1khz
AWG	pcs	pcs	mm	Kg/Km	M ohm.km	pF/m
16	2	-	21.7	623	1000	102
	4	-	23.8	789	1000	102
	8	-	28.9	1100	1000	85
	12	-	32.4	1493	1000	85
	24	-	42.6	2447	1000	85
	36	-	49.3	3114	1000	85
	50	-	58.2	3950	1000	85
	-	2	22.7	685	1000	102
	-	4	26.4	917	1000	102
	-	8	32.4	1298	1000	85
	-	12	37.6	1904	1000	85
	-	24	47.9	3137	1000	85
	-	36	55.7	4094	1000	85
	-	50	64.3	5459	1000	85

Application

Cables are designed for use as instrumentation cables, process control and computer cables in ITC non-classified or labeled circuits up to 150 volts and 5 amps (750VA).

Special Features on Request

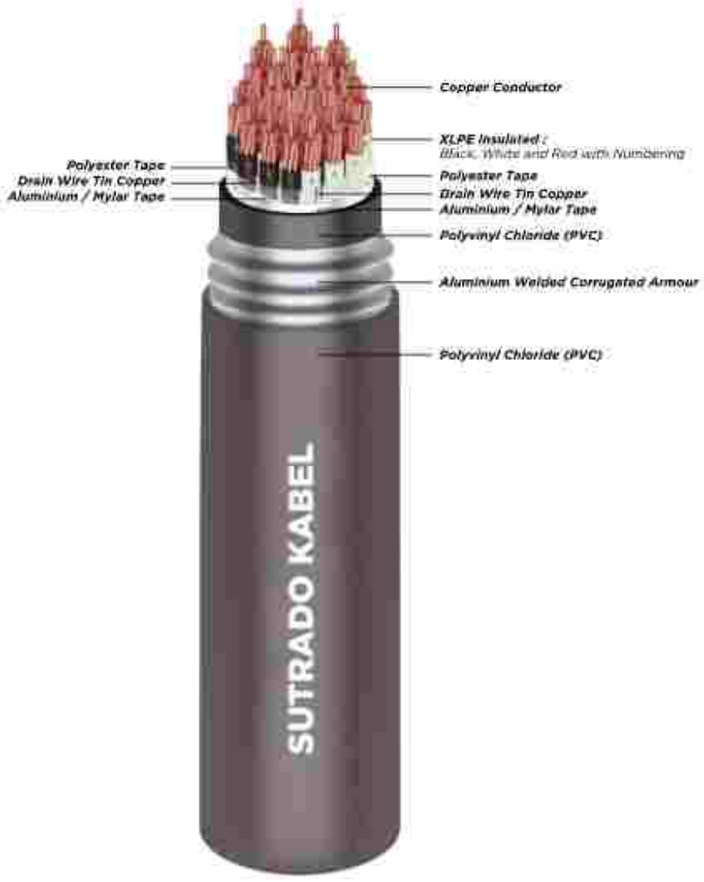
- Oil Resistance
- UV Resistance
- Heat Resistance
- Anti Termite

300/500 V
Cu/XLPE/ISCR/OSCR/CAA/PVC
Instrumentation Cable

(Copper Conductor, XLPE Insulated, Individual Screen, Overall Screen, Corrugated Alluminium Armour and PVC Sheath)

Standard Spesification : BS-EN 50288-7, ICEA S-73-532/NEMA WC 57

*Other Specification are available on request



PHYSICAL PROPERTIES					ELECTRICAL PROPERTIES				
Size			Approx. Overall Diameter	Approx. Cable Weight	Max. DC Resistance at 20 °C	Min. Insul Resistance at 20 °C	Max. Capacitance at 1 Khz	Max. Inductance Resistance	AC Voltage Test
AWG			mm	kg/km	ohm/km	M.ohm/km	pF/m	mH/m	kV
2P	**x**	**16**	**21.10**	**490**	**13.400**	**1000**	**198**	**706**	**2/1**
2P	x	14	22.60	558	8.460	1000	232	674	2/1
2P	x	12	24.30	658	5.350	1000	278	688	2/1
3P	x	16	21.60	540	13.400	1000	198	711	2/1
3P	x	14	23.10	621	8.460	1000	232	679	2/1
3P	x	12	24.80	746	5.350	1000	278	688	2/1
4P	x	16	23.10	608	13.400	1000	198	726	2/1
4P	x	14	24.80	720	8.460	1000	232	695	2/1
4P	x	12	26.80	867	5.350	1000	278	688	2/1
6P	x	16	25.30	742	13.400	1000	198	745	2/1
6P	x	14	27.30	882	8.460	1000	232	715	2/1
6P	x	12	30.50	1113	5.350	1000	278	688	2/1
8P	x	16	87.80	782	13.400	1000	198	766	2/1
8P	x	14	31.00	1077	8.460	1000	232	742	2/1
8P	x	12	33.90	1392	5.350	1000	278	711	2/1
10P	x	16	32.20	1086	13.400	1000	198	800	2/1
10P	x	14	35.40	1330	8.460	1000	232	770	2/1
10P	x	12	38.60	1680	5.350	1000	278	740	2/1

*Further information about derating factor for certain cable arrangement can be found in supplementary technical information

Application

Cables are designed for use as instrumentation cables, process control and computer cables in ITC non-classified or labeled circuits up to 150 volts and 5 amps (750VA).

Special Features on Request

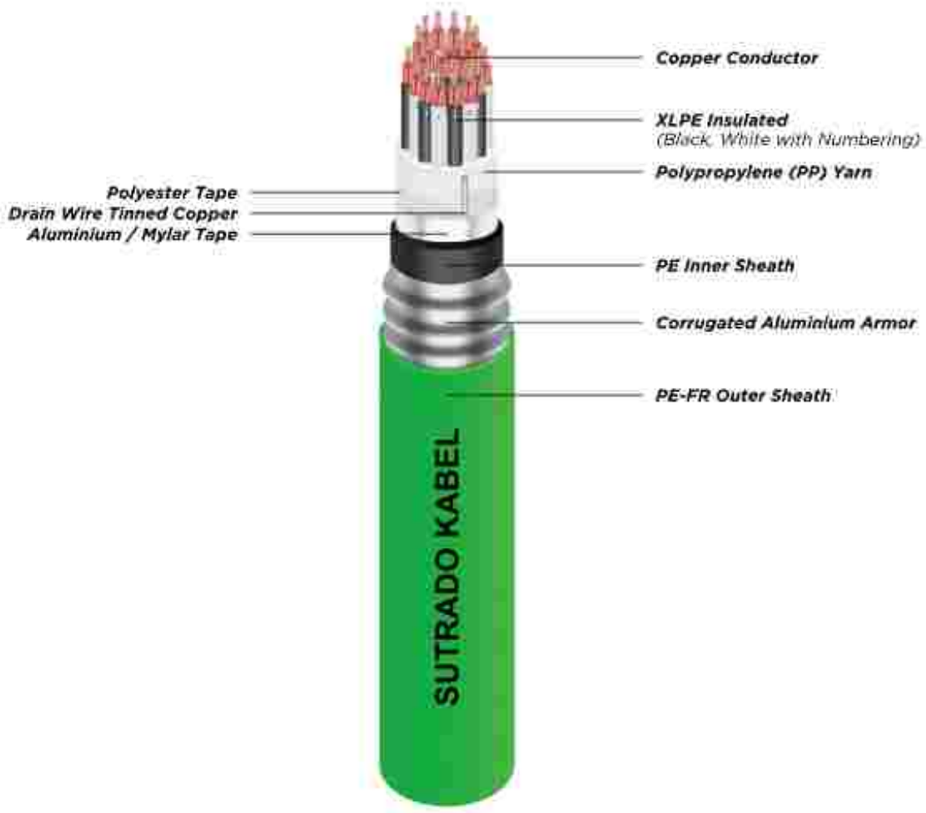
- Oil Resistance
- UV Resistance
- Heat Resistance
- Anti Termite
- Flame Retardant Cat. A, B, C
- Flame Retardant Non Category

300/500 V
Cu/XLPE/OSCR/PE/CAA/PE-FR
Instrumentation Cable

(Copper Conductor, XLPE Insulated, Overall Screen, PE Inner Sheath, Continuous Welded Corrugated Aluminium Armour, PE-FR Outer Sheath)

Standard Spesification : BS EN 50286-7, ICEA S-73-532/NEMA WC 57, IEC 60332-3-22

**Other Specification are available on request.*



Application

Used for the transmission of measuring data signals in power stations and industrial plants. This cable is suitable for fixed indoor, outdoor, or underground installations.

Special Features on Request

- Oil Resistance
- UV Resistance
- Flame Retardant Cat. A, B, C
- Flame Retardant Non Category
- Heat Resistance
- Anti Termite
- Anti Rodent
- Low Smoke Zero Halogen

PHYSICAL PROPERTIES					ELECTRICAL PROPERTIES	
Size	Number of Core		Approx. Overall Diameter	Approx. Cable Weight	Max. DC Resistance at 20 °C	Min. Insul Resistance
	Pair	Triad				
AWG	Pcs	Pcs	mm	kg/km	Ohm/km	M.Ohm/km
18	1	-	20.90	476	21.400	1000
18	2	-	19.60	445	21.400	1000
18	4	-	21.60	688	21.400	1000
18	6	-	23.30	941	21.400	1000
18	8	-	25.30	1331	21.400	1000
18	**10**	**-**	**29.50**	**2260**	**21.400**	**1000**
18	12	-	30.00	2521	21.400	1000
18	16	-	32.70	3987	21.400	1000
18	20	-	35.40	5526	21.400	1000
18	24	-	38.10	8538	21.400	1000
18	30	-	40.10	10613	21.400	1000
18	-	1	20.90	483	21.400	1000
18	-	2	23.10	792	21.400	1000
18	-	4	25.30	1320	21.400	1000
18	-	6	28.00	2122	21.400	1000
18	-	8	32.20	3378	21.400	1000
18	-	10	36.40	6134	21.400	1000
18	-	12	36.90	7184	21.400	1000
18	-	16	41.10	12085	21.400	1000
18	-	20	44.30	17584	21.400	1000
18	-	24	48.90	27707	21.400	1000
18	-	30	52.10	36422	21.400	1000
16	**1**	**-**	**20.90**	**485**	**13.400**	**1000**
16	2	-	20.60	502	13.400	1000
16	4	-	22.60	798	13.400	1000
16	6	-	24.80	1123	13.400	1000
16	8	-	26.80	1588	13.400	1000
16	10	-	31.50	2749	13.400	1000
16	12	-	32.20	3098	13.400	1000
16	16	-	35.40	4913	13.400	1000
16	20	-	38.10	6843	13.400	1000
16	24	-	41.30	10565	13.400	1000
16	30	-	43.30	13156	13.400	1000
16	-	1	20.90	498	13.400	1000
16	-	2	24.30	928	13.400	1000
16	-	4	26.80	1579	13.400	1000
16	-	6	31.00	2607	13.400	1000
16	-	8	34.40	4121	13.400	1000
16	-	10	39.10	7557	13.400	1000
16	-	12	40.10	8885	13.400	1000
16	-	16	44.30	14972	13.400	1000
16	-	20	47.90	21906	13.400	1000
16	-	24	53.60	34369	13.400	1000
16	-	30	56.80	45194	13.400	1000

**Further information about derating factors for arrangement can be found on supplementary technical information.*

300/500 V
MC-HL Instrumentation Cable

(Copper Conductor, XLPE Insulation, Individual and Overall Shielded, Corrugated Aluminium Armour and PVC Sheathed)
Standard Spesification : ICEA S-73-532/NEMA WC 57

**Other Specification are available on request*

PHYSICAL PROPERTIES					ELECTRICAL PROPERTIES	
Size	Number of Pairs	Number of Triads	Approx. Overall Diameter	Approx. Cable Weight	DC Resistance at 20°C	Min. Insul Resistance
AWG	pcs	pcs	mm	kg/mm	Ohm/km	MOhm/km
20	2	-	22.60	531	33.80	1000
	4	-	27.50	737		
	6	-	31.50	900		
	8	-	34.90	1096		
	12	-	40.80	1418		
	16	-	45.00	1683		
	20	-	49.10	2040		
	24	-	54.80	2363		
	36	-	61.70	3018		
	50	-	76.00	4120		
	-	2	23.30	579		
	-	4	29.50	829		
	-	6	33.40	1058		
	-	8	36.60	1246		
	-	12	42.80	1612		
	-	16	47.90	2041		
	-	20	52.60	2375		
	-	24	57.80	2734		
	-	36	69.60	3798		
	-	50	80.60	5048		

**Further information about derating factors for arrangement can be found on supplementary technical information.*
**Other size from the table above can be discuss*

Application

Cables are designed for use as instrumentation cables, process control and computer cables in ITC non-classified or labeled circuits up to 150 volts and 5 amps (750VA).

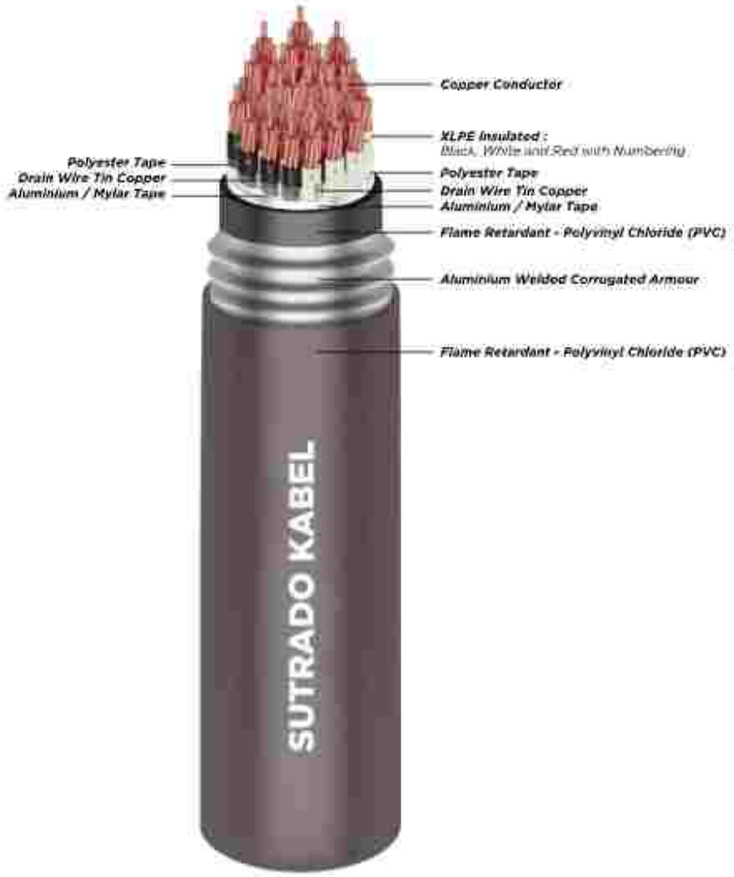
Special Features on Request

- Oil Resistance
- UV Resistance
- Heat Resistance
- Anti Termite
- Flame Retardant Cat. A, B, C
- Flame Retardant Non Category

600 V
MC-HL SP-OS Armoured Instrumentation Cable

(Copper Conductor, XLPE Insulation, Individual and Overall Shielded, Corrugated Aluminium Armour and Flame Retardant PVC Sheathed)

Standard Spesification : ICEA S-95-658/NEMA WC 70, UL Standard 2250, UL 13



Application

Cable designed for use as instrumentation cables, process control signaling circuits or where a 600V cable is desired, or discretesignals at levels above 100 mili-volts in circuitswhere maximum noise protection is required.

Special Features on Request

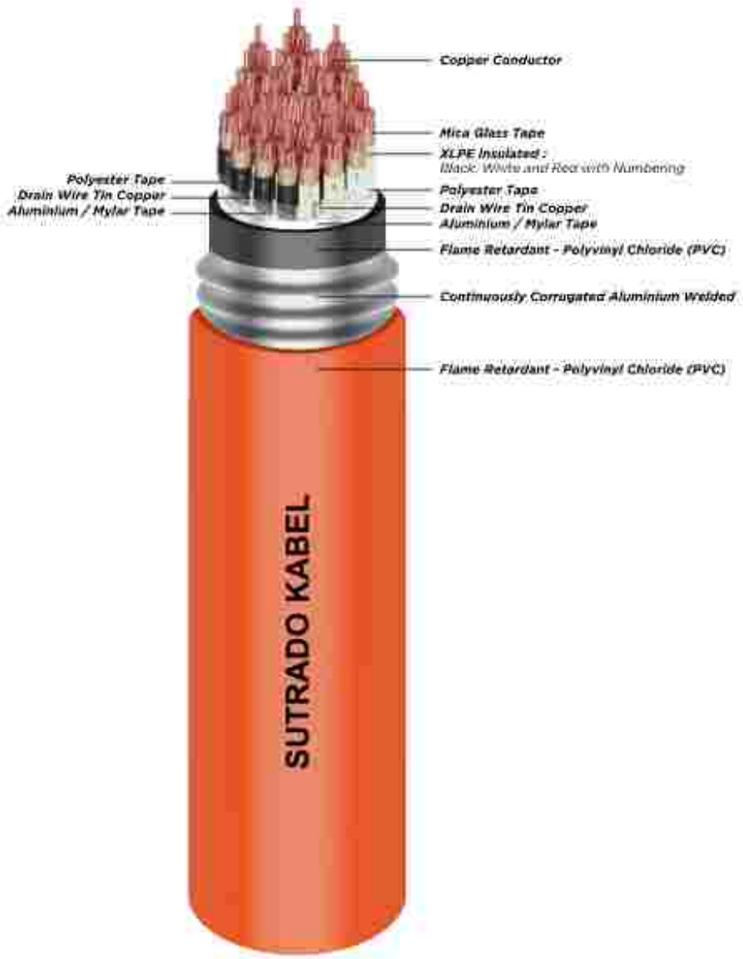
- Oil Resistance
- UV Resistance
- Heat Resistance
- Anti Termite

PHYSICAL PROPERTIES

Size	Number of Pairs	Number of Triads	Approx. Overall Diameter	Approx. Cable Weight
AWG	pcs	pcs	mm	Kg/Km
18	2	-	22.70	552.60
	4	-	28.70	767.29
	8	-	36.10	1193.21
	12	-	42.50	1555.52
	24	-	57.30	2764.36
	36	-	65.90	3599.49
	50	-	78.70	4944.84
	-	2	23.70	609.53
	-	4	29.70	857.06
	-	8	37.30	1369.78
	-	12	45.70	1984.23
	-	24	61.70	3328.51
	-	36	70.10	4378.52
	-	50	82.90	5920.13

0.6/1 (1.2) kV
Armoured Instrumentation Cable

(Copper Conductor, Mica Glass Tape, XLPE Insulation, Individual and Overall Shielded, Continuously Corrugated Aluminium Welded and Flame Retardant PVC Sheathed)
Standard Spesification : BS-EN 50288-7, IEC 60331, ICEA S-95-658/NEMA WC 70



Application

Cables area designed for use as instrumentation cables, process control and computer cables.

Protection from interference among groups as well as external sources is provided by individual group shields as well as an overall cable shield.

Special Features on Request

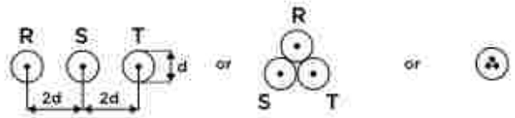
- Oil Resistance
- UV Resistance
- Heat Resistance
- Anti Termite

PHYSICAL PROPERTIES					ELECTRICAL PROPERTIES	
Size	Number of Pairs	Number of Triads	Approx. Overall Diameter	Approx. Cable Weight	Min. Insul Resistance	Max. Capacitance at 1Khz
AWG	pcs	pcs	mm	Kg/Km	M.ohm.km	pF/m
16	2	-	24.2	731	1000	102
	4	-	30.9	1020	1000	102
	8	-	39.3	1481	1000	85
	12	-	46.9	2019	1000	85
	24	-	63.9	3357	1000	85
	32	-	71.3	4146	1000	85
	-	2	25.7	812	1000	102
	-	4	32.9	1170	1000	102
	-	8	41.5	1743	1000	85
	-	12	50.1	2373	1000	85
	-	24	68.1	4097	1000	85
	-	32	75.7	5062	1000	85
14	2	-	25.7	806	1000	102
	4	-	32.9	1158	1000	102
	7	**-**	**39.3**	**1552**	**1000**	**85**
	8	-	42.0	1723	1000	85
	12	-	51.1	2366	1000	85
	24	-	69.1	4054	1000	85
	32	-	78.7	5184	1000	85
	-	2	27.2	905	1000	102
	-	4	35.1	1343	1000	102
	-	8	44.7	2045	1000	85
	-	12	54.3	2847	1000	85
	-	24	73.8	4970	1000	85
	-	32	82.9	6355	1000	85

Installation Guide

CURRENT CARRYING CAPACITY

The Current Ratings Are Designed With The Following Conditions :
One Circuit Of Three Phase Load



Maximum operating temperature :

PVC insulation: 70°C
XLPE insulation: 90°C
No other heat sources installed near the group of cables

Cable laying :

In Ground :
Soil temperature : 30°C
Depth of laying : 70 cm
Soil thermal resistivity : 100°C.cm/Watt

In Air :
Ambient temperature : 30°C
The cable must be protected from solar radiation and should have a large enough space so that heat generated from the loaded cable can be wasted perfectly.

Note :
If the actual installation conditions differ from the ones mentioned above, the current ratings should be multiplied by the appropriate derating factors shown in the tables on the next pages.

DERATING FACTORS

A. GROUPING IN GROUND

1. GROUND TEMPERATURE

	GROUND TEMPERATURES (°C)						
	20	25	30	35	40	45	50
XLPE INSULATION							
PVC INSULATION							

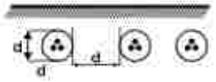
2. SOIL THERMAL RESISTIVITY

	SOIL THERMAL RESISTIVITY (°C.cm/Watt)			
	80	100	150	250
XLPE INSULATION				
PVC INSULATION				

3. DEPTH OF LAYING

	DEPTH OF LAYING (cm)					
	50	80	100	125	150	200
XLPE INSULATION						
PVC INSULATION						

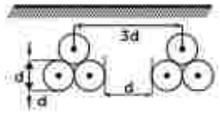
4. MULTICORE CABLE



	NUMBER OF GROUPING							
	1	2	3	4	5	6	8	10
XLPE INSULATION								
PVC INSULATION								

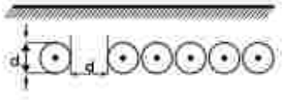
5. SINGLE CORE CABLE

A. TREFOIL FORMATION



	NUMBER OF GROUPING							
	1	2	3	4	5	6	8	10
XLPE INSULATION								
PVC INSULATION								

B. FLAT INFORMATION



	NUMBER OF GROUPING							
	1	2	3	4	5	6	8	10
XLPE INSULATION								
PVC INSULATION								

B. GROUPING IN AIR

1. AIR TEMPERATURE

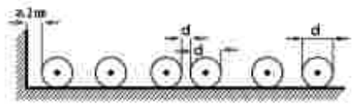
	AIR TEMPERATURES (°C)						

2. SINGLE CORE CABLE IN THREE PHASE SYSTEM

a. Flat Formation

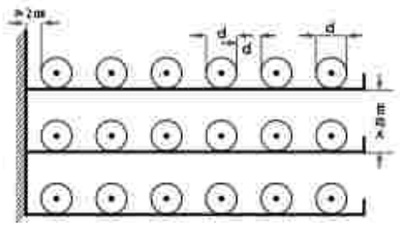
Minimum Distance From The Wall : 2.0 cm
Clearance Between System = Cable Diameter (d)

Laid on the ground



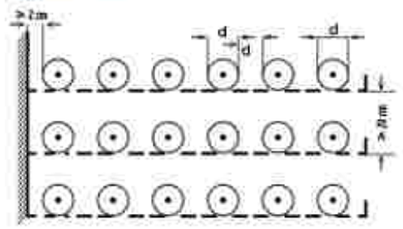
NUMBER OF SYSTEM			
DERATING FACTOR			

Laid on trough (air circulation restricted)



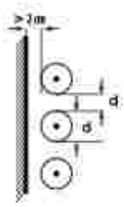
NUMBER OF TROUGH	NUMBER OF SYSTEM		
	DERATING FACTOR		

Laid on rack

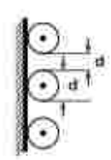


NUMBER OF TROUGH	NUMBER OF SYSTEM		
	DERATING FACTOR		

Arranged on structures or on the wall



NUMBER OF SYSTEM		
DERATING FACTOR		

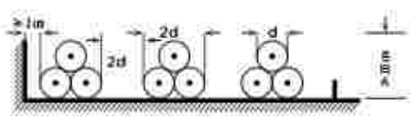


NUMBER OF SYSTEM		
DERATING FACTOR		

b. Trefoil Formation

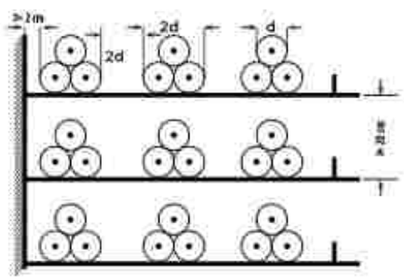
Minimum distance from the wall: 2.0 cm
Clearance between system = 2x cable diameter (2d)

Laid on ground



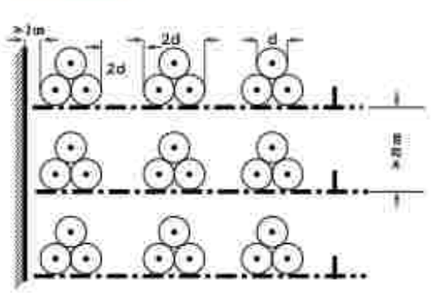
NUMBER OF SYSTEM			
DERATING FACTOR			

Laid on trough (air circulation restricted)



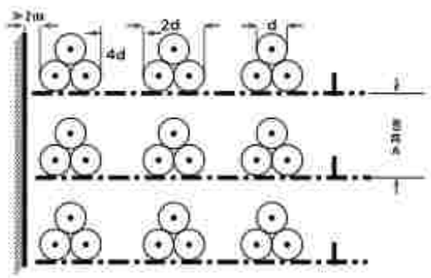
NUMBER OF TROUGH	NUMBER OF SYSTEM		
	DERATING FACTOR		

Laid on rack



NUMBER OF TROUGH	NUMBER OF SYSTEM		
	DERATING FACTOR		

Arrangement without reducing current rating (for all systems)
Minimum distance from the wall: 2.0 Cm
Clearance between cables = 4x cable diameter (4d)

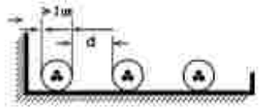


3. MULTICORE CABLE IN THREE PHASE SYSTEM AND SINGLE CORE CABLE IN DC SYSTEM

a. Flat formation

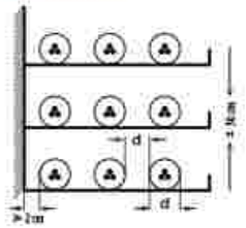
Minimum Distance From The Wall : 2.0 cm
Clearance Between System = Cable Diameter (d)

Laid on the ground



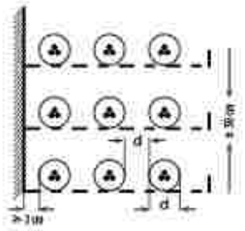
NUMBER OF SYSTEM				
DERATING FACTOR				

Laid on rack



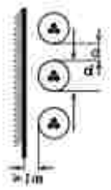
NUMBER OF TROUGH	NUMBER OF SYSTEM				
	DERATING FACTOR				

Laid on trough (air circulation restricted)



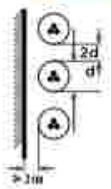
NUMBER OF TROUGH	NUMBER OF SYSTEM				
	DERATING FACTOR				

Arranged on structures or on the wall



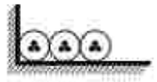
NUMBER OF SYSTEM				
DERATING FACTOR				

Arrangement without reducing current rating (for any number of cables)
Minimum distance from the wall: 2.0 Cm
Clearance between cables = 2x cable diameter (2d)



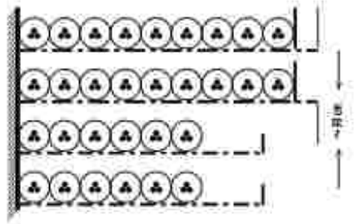
b. Cables Touching Throughout and in Contact with the Wall

Laid on the ground



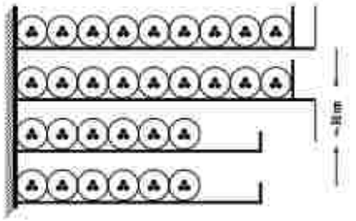
NUMBER OF SYSTEM				
DERATING FACTOR				

Laid on rack



NUMBER OF TROUGH	NUMBER OF SYSTEM				
	DERATING FACTOR				

Laid on trough (air circulation restricted)

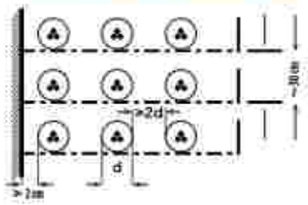


NUMBER OF TROUGH	NUMBER OF SYSTEM				
	DERATING FACTOR				

Arranged on structures or on the wall

NUMBER OF SYSTEM				
DERATING FACTOR				

Arrangement without reducing current rating (for any number of cables)
Minimum distance from the wall: 2.0 Cm
Clearance between cables = 2x cable diameter (2d)



PT Sutrakabel Intimandiri
Raya Bogor KM 49
Jl Roda Pembangunan No 5
Ds Cimandala Kec Sukaraja Kab Bogor 16710
Ph. 021 875 3735
Fax. 021 875 3736
Email : marketing@sutrakabel.com

www.sutrakabel.com

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