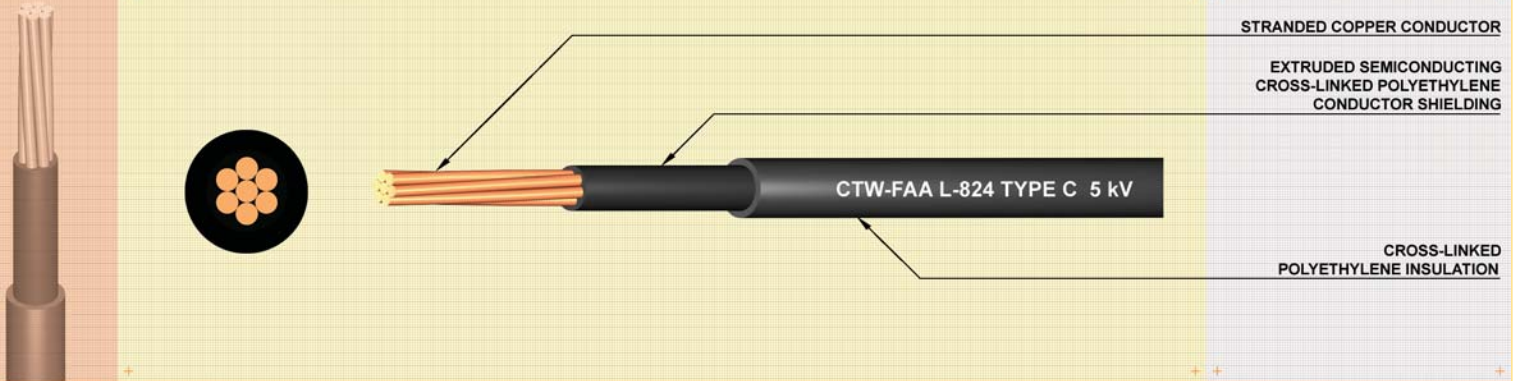




# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-FAA L-824 TYPE C 5 kV

SINGLE CONDUCTOR XLPE INSULATED FOR AIRPORT LIGHTING & CONTROL CABLE



CONSTRUCTION		APPLICATION		CLASSIFICATION		REFERENCE	
Conductor	Concentric stranded annealed copper (Left-hand direction for outer layer). 7 wires for class B 19 wires for class C in accordance with ASTM B3 & B8.	These are single conductor 5000 volts nonshielded power cables suitable for underground installation for lighting at airports per FAA L-824 Type C and AC 150/5345-7E.	Maximum Conductor Temperature - Normal operation 90 °C. - Emergency overload conditions 130°C. - Short circuit conditions 250°C.	FAA L-824 Type C at 2001-5000 volts  With ICEA S-96-659 / NEMA WC71-1999.			
Conductor Shield	Extruded semi-conducting cross-linked polyethylene (XLPE) compound.	They are rated for use at 90 °C wet or dry conditions.	Maximum operating voltage 5 kV.	** AC rms = 13 kV & DC = 35 kV			
Insulation	Black cross-linked polyethylene (XLPE) compound.	FAA L-824 cables are suitable for use in conduit, duct, aerial and direct burial installations.					

CTW-FAA L-824 TYPE C 5 kV	Conductor			Thickness of insulation	Overall diameter (Approx.)	Cable weight (Approx.)	Maximum DC. conductor resistance at 20°C	Minimum insulation resistance at 15.6°C	Allowable ampacities in free air at 40°C (ambient)	Standard length	
	PRODUCT CODE	SIZE core x AWG	Nominal cross sectional area AWG								Number & diameter of wire No. / mm
K3J061008	1 x 8	8	7 / 1.23	3.69	0.110 (2.8)	10.5	150	2.14	2,100	80	1,000
K3J061008*	1 x 8	8	19 / 0.75	3.75	0.110 (2.8)	10.5	150	2.14	2,100	80	1,000
K3J061006	1 x 6	6	7 / 1.55	4.65	0.110 (2.8)	11.5	200	1.35	1,900	110	1,000
K3J061006*	1 x 6	6	19 / 0.95	4.75	0.110 (2.8)	11.5	200	1.35	1,900	110	1,000
K3J061004	1 x 4	4	7 / 1.96	5.88	0.110 (2.8)	13.0	290	0.85	1,600	145	1,000
K3J061004*	1 x 4	4	19 / 1.20	6.00	0.110 (2.8)	13.0	290	0.85	1,600	145	1,000

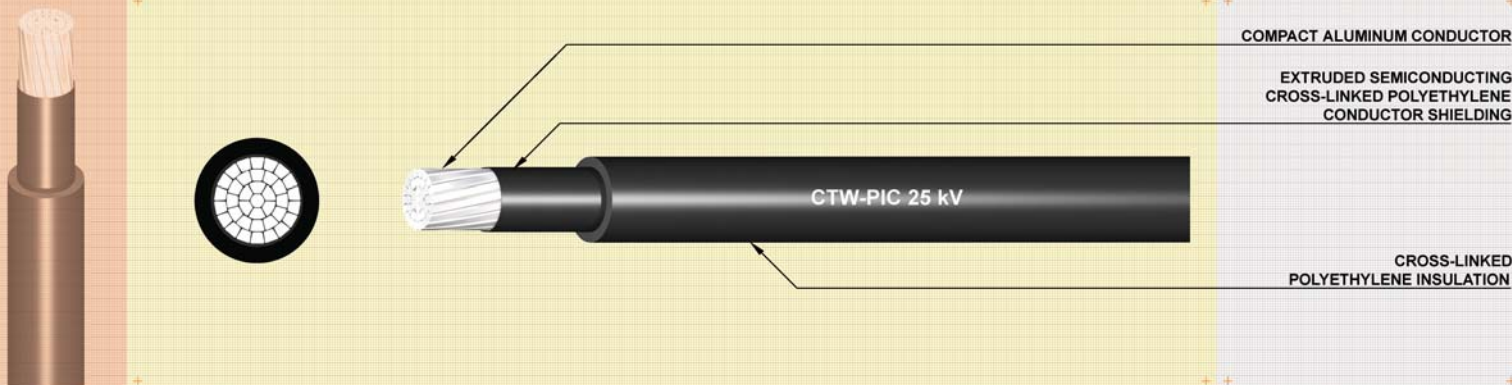
R = Packing in reel



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-PIC 25 kV

25 kV ALUMINUM STRANDED CONDUCTOR CROSS-LINKED POLYETHYLENE PARTIAL INSULATED CABLE



CONSTRUCTION		APPLICATION	CLASSIFICATION
Conductor	Compact stranded hard drawn Aluminum wire.	For use in primary aerial cable on pole. (installed with pin insulator)	Temperature : - Normal operation 90 °C. - Emergency overload conditions 130 °C. - Short circuit conditions 250 °C. - Voltage rating : 25 kV phase to phase.
Conductor Shield	Semi-conducting cross-linked polyethylene.		
Insulation	Track resistant cross-linked polyethylene (Black)		
		REFERENCE	AC TEST VOLTAGE
		ICEA S-66-524 / MEA / PEA	11 kV for 5 minutes

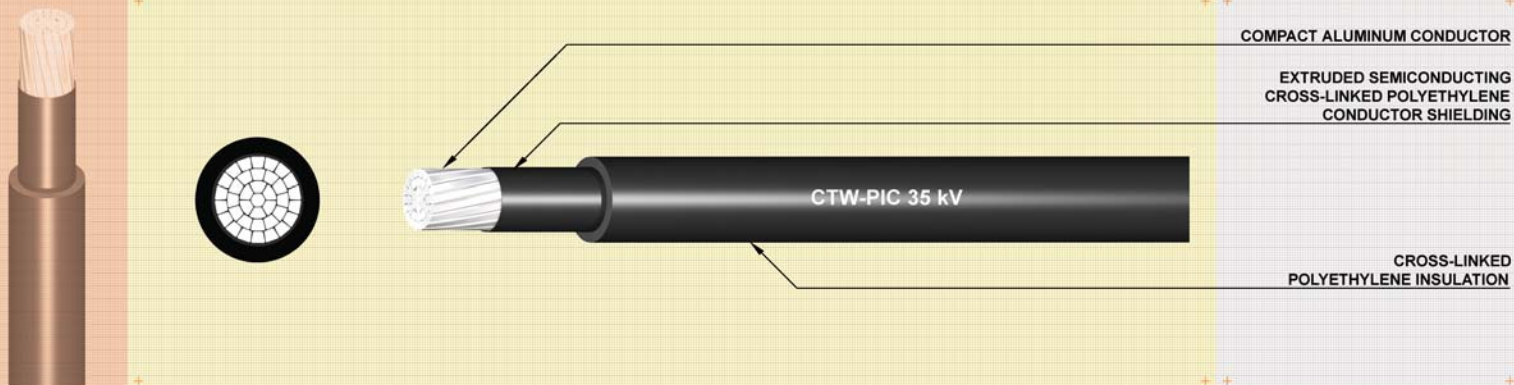
CTW-PIC 25 kV		Nominal sectional area	Minimum number of wire	Diameter of conductor (Approx.)	Minimum thickness of conductor shield & insulation	Overall diameter (Approx.)	Maximum DC. conductor resistance at 20°C	Minimum breaking strength of conductor	Minimum insulation resistance at 15.6°C	Allowable ampacities in free air at 40°C (ambient)	Cable weight (Approx.)	AC test voltage	Standard packing
PRODUCT CODE	SIZE core x mm <sup>2</sup>	mm <sup>2</sup>	No.	mm	mm	mm	Ω/km	N.	M.Ω-km	A	kg/km	kV	m/R
K1M051035	1 x 35	35	6	6.95	2.22	12.0	0.868	5,591	980	149	160	11	1,000
K1M051050	1 x 50	50	6	8.33	2.35	14.0	0.641	7,313	900	186	215	11	1,000
K1M051070	1 x 70	70	12	9.73	2.45	15.5	0.443	10,420	880	237	300	11	1,000
K1M051095	1 x 95	95	15	11.45	2.55	18.0	0.320	14,098	850	279	380	11	1,000
K1M051120	1 x 120	120	15	12.95	2.60	20.0	0.253	18,518	800	321	460	11	1,000
K1M051150	1 x 150	150	15	14.27	2.60	21.0	0.206	22,457	750	365	560	11	1,000
K1M051185	1 x 185	185	30	15.98	2.70	22.5	0.164	28,974	700	429	680	11	1,000



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-PIC 35 kV

35 kV ALUMINUM STRANDED CONDUCTOR CROSS-LINKED POLYETHYLENE INSULATED CABLE



CONSTRUCTION		APPLICATION	CLASSIFICATION
Conductor	Compact stranded hard drawn Aluminum wire.	For use in primary aerial cable on pole. (installed with pin insulator)	Temperature : - Normal operation 90 °C. - Emergency overload conditions 130 °C. - Short circuit conditions 250 °C. - Voltage rating : 35 kV phase to phase.
Conductor Shield	Semi-conducting cross-linked polyethylene.		
Insulation	Track resistant cross-linked polyethylene (Black)		
		REFERENCE	AC TEST VOLTAGE
		ICEA S-66-524 / MEA / PEA	17 kV for 5 minutes

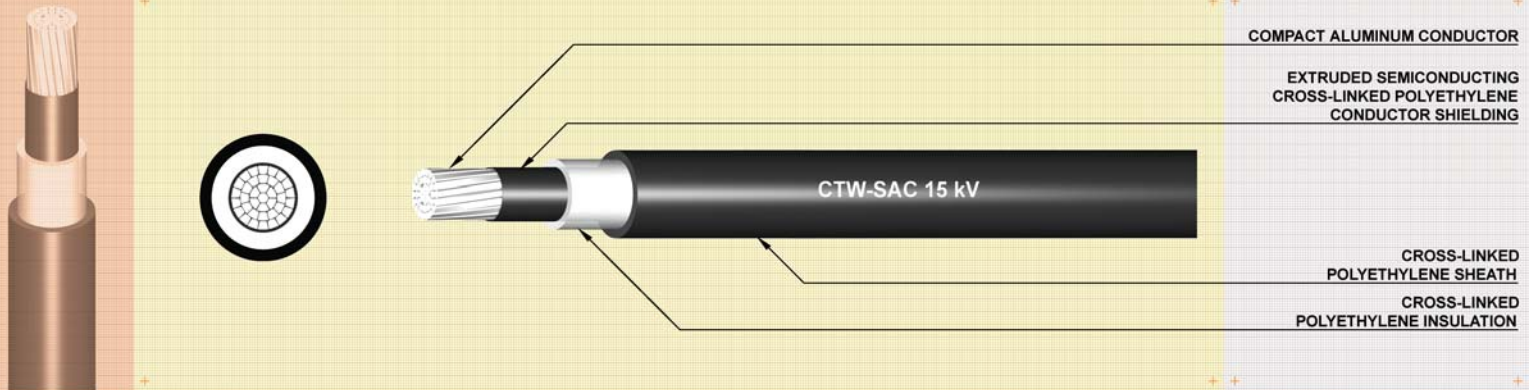
CTW-PIC 35 kV		Nominal cross sectional area mm <sup>2</sup>	Minimum number of wire No.	Diameter of conductor (Approx.) mm	Minimum thickness of conductor Shield & insulation mm	Overall diameter (Approx.) mm	Maximum DC. conductor resistance at 20°C Ω/km	Minimum breaking strength of conductor N.	Minimum insulation resistance at 15.6°C M.Ω-km	Allowable ampacities in free air at 40°C (ambient) A	Cable weight (Approx.) kg/km	AC test voltage kV	Standard packing m/R
PRODUCT CODE	SIZE core x mm <sup>2</sup>												
K10051035	1 x 35	35	6	6.95	3.25	15.0	0.868	5,591	1,400	148	200	17	1,000
K10051050	1 x 50	50	6	8.33	3.4	16.0	0.641	7,313	1,350	184	260	17	1,000
K10051070	1 x 70	70	12	9.73	3.6	18.0	0.443	10,420	1,300	234	350	17	1,000
K10051095	1 x 95	95	15	11.45	3.7	20.0	0.320	14,098	1,100	276	430	17	1,000
K10051120	1 x 120	120	15	12.95	3.8	22.0	0.253	18,518	1,000	318	530	17	1,000
K10051150	1 x 150	150	15	14.27	3.8	23.0	0.206	22,457	950	365	630	17	1,000
K10051185	1 x 185	185	30	15.98	3.9	25.0	0.164	28,974	900	425	760	17	1,000



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-SAC 15 kV

15 kV ALUMINUM STRANDED CONDUCTOR CROSS-LINKED POLYETHYLENE INSULATED AND SHEATHED SPACED AERIAL CABLE



CONSTRUCTION		APPLICATION	CLASSIFICATION
Conductor	Compact stranded hard drawn Aluminum wire.	For use in primary aerial cable on pole. (installed with spacer)	Temperature : - Normal operation 90 °C. - Emergency overload conditions 130°C. - Short circuit conditions 250 °C. - Voltage rating : 15 kV phase to phase.
Conductor Shield	Semi-conducting cross-linked polyethylene.		
Insulation	Cross-linked polyethylene (Natural)		
Sheath	Track resistant cross-linked polyethylene (Black)		
		REFERENCE	AC TEST VOLTAGE
		ICEA S-66-524 / MEA / PEA	27 kV for 5 minutes

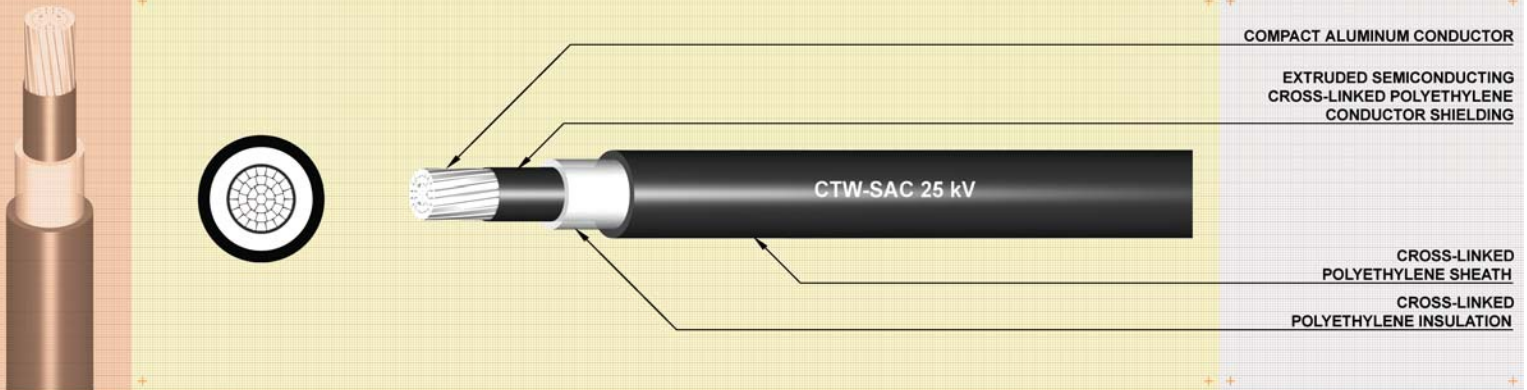
CTW-SAC 15 kV		Nominal sectional area	Minimum number of wire	Diameter of conductor (Approx.)	Thickness of insulation	Thickness of sheath	Overall diameter (Approx.)	Maximum DC. conductor resistance at 20°C	Minimum breaking strength of conductor	Minimum insulation resistance at 15.6°C	Allowable ampacities in free air at 40°C (ambient)	Cable weight (Approx.)	Standard packing
PRODUCT CODE	SIZE core x mm <sup>2</sup>	mm <sup>2</sup>	No.	mm	mm	mm	mm	Ω/km	N.	M.Ω-km	A	kg/km	m/R
K2K061025	1 x 25	25	6	5.90	1.91	1.91	15.0	1.20	4,120	2,000	120	200	1,000
K2K061035	1 x 35	35	6	6.95	1.91	1.91	16.5	0.868	5,591	1,800	151	250	1,000
K2K061050	1 x 50	50	6	8.33	1.91	1.91	18.0	0.641	7,313	1,600	187	295	1,000
K2K061070	1 x 70	70	12	9.73	1.91	1.91	19.5	0.443	10,420	1,400	231	370	1,000
K2K061095	1 x 95	95	15	11.45	1.91	1.91	21.0	0.320	14,098	1,300	281	470	1,000
K2K061120	1 x 120	120	15	12.95	1.91	1.91	23.0	0.253	18,518	1,200	324	560	1,000
K2K061150	1 x 150	150	15	14.27	1.91	1.91	24.0	0.206	22,457	1,100	375	650	1,000
K2K061185	1 x 185	185	30	15.98	1.91	1.91	26.0	0.164	28,974	1,000	433	770	1,000
K2K061240	1 x 240	240	30	18.47	1.91	1.91	28.0	0.125	37,506	900	525	960	1,000



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-SAC 25 kV

25 kV ALUMINUM STRANDED CONDUCTOR CROSS-LINKED POLYETHYLENE INSULATED AND SHEATHED SPACED AERIAL CABLE



CONSTRUCTION		APPLICATION	CLASSIFICATION
Conductor	Compact stranded hard drawn Aluminum wire.	For use in primary aerial cable on pole. (installed with spacer)	Temperature : - Normal operation 90 °C. - Emergency overload conditions 130 °C. - Short circuit conditions 250 °C. - Voltage rating : 25 kV phase to phase.
Conductor Shield	Semi-conducting cross-linked polyethylene.		
Insulation	Cross-linked polyethylene (Natural)		
Sheath	Track resistant cross-linked polyethylene (Black)		
		REFERENCE	AC TEST VOLTAGE
		ICEA S-66-524 / MEA / PEA	38 kV for 5 minutes

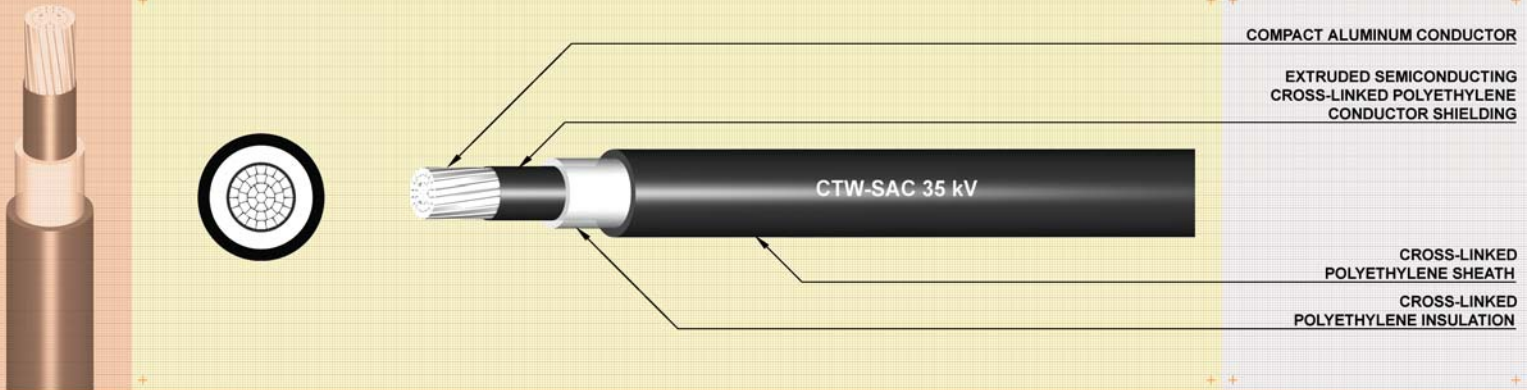
CTW-SAC 25 kV PRODUCT CODE	SIZE core x mm <sup>2</sup>	Nominal sectional area	Minimum number of wire	Diameter of conductor (Approx.)	Thickness of insulation	Thickness of sheath	Overall diameter (Approx.)	Maximum DC. conductor resistance at 20°C	Minimum breaking strength of conductor	Minimum insulation resistance at 15.6°C	Allowable ampacities in free air at 40°C (ambient)	Cable weight (Approx.)	Standard packing
		mm <sup>2</sup>	No.	mm	mm	mm	mm	Ω/km	N.	M.Ω-km	A	kg/km	m/R
K2M061025	1 x 25	25	6	5.90	3.175	3.175	21.0	1.20	4,120	2,800	119	320	1,000
K2M061035	1 x 35	35	6	6.95	3.175	3.175	22.0	0.868	5,591	2,500	149	390	1,000
K2M061050	1 x 50	50	6	8.33	3.175	3.175	23.0	0.641	7,313	2,250	186	440	1,000
K2M061070	1 x 70	70	12	9.73	3.175	3.175	25.0	0.443	10,420	2,050	229	540	1,000
K2M061095	1 x 95	95	15	11.45	3.175	3.175	26.0	0.320	14,098	1,850	279	640	1,000
K2M061120	1 x 120	120	15	12.95	3.175	3.175	28.0	0.253	18,518	1,700	321	740	1,000
K2M061150	1 x 150	150	15	14.27	3.175	3.175	29.0	0.206	22,457	1,600	371	850	1,000
K2M061185	1 x 185	185	30	15.98	3.175	3.175	31.0	0.164	28,974	1,500	429	990	1,000
K2M061240	1 x 240	240	30	18.47	3.175	3.175	33.0	0.125	37,506	1,300	520	1,190	1,000



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-SAC 35 kV

35 kV ALUMINUM STRANDED CONDUCTOR CROSS-LINKED POLYETHYLENE INSULATED AND SHEATHED SPACED AERIAL CABLE



CONSTRUCTION		APPLICATION	CLASSIFICATION
Conductor	Compact stranded hard drawn Aluminum wire.	For use in primary aerial cable on pole. (installed with spacer)	Temperature : - Normal operation 90 °C. - Emergency overload conditions 130 °C. - Short circuit conditions 250 °C. - Voltage rating : 35 kV phase to phase.
Conductor Shield	Semi-conducting cross-linked polyethylene.		
Insulation	Cross-linked polyethylene (Natural)		
Sheath	Track resistant cross-linked polyethylene (Black)		
		REFERENCE	AC TEST VOLTAGE
		ICEA S-66-524 / MEA / PEA	49 kV for 5 minutes

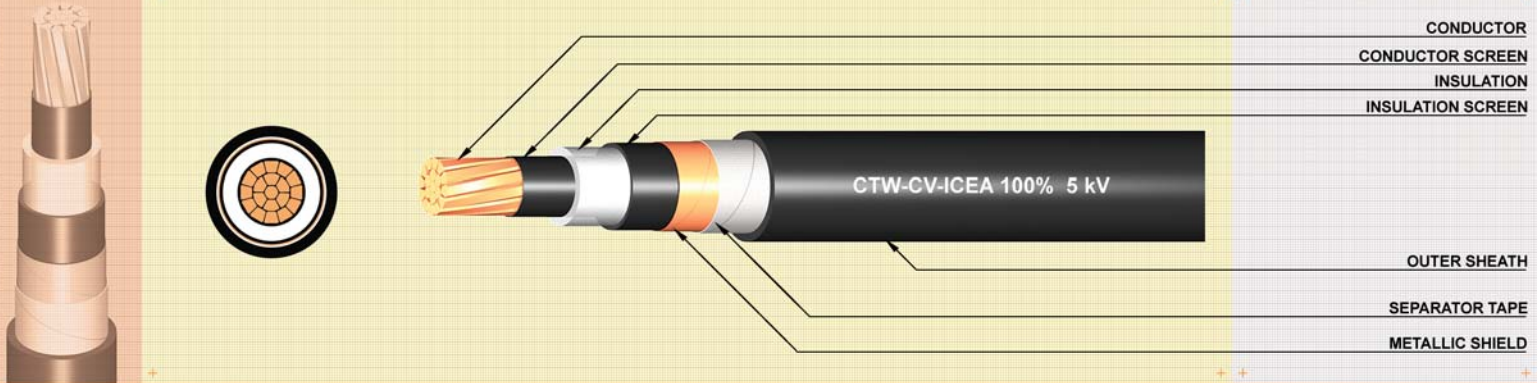
CTW-SAC 35 kV		Nominal sectional area	Minimum number of wire	Diameter of conductor (Approx.)	Thickness of insulation	Thickness of sheath	Overall diameter (Approx.)	Maximum DC. conductor resistance at 20°C	Minimum breaking strength of conductor	Minimum insulation resistance at 15.6°C	Allowable ampacities in free air at 40°C (ambient)	Cable weight (Approx.)	Standard packing
PRODUCT CODE	SIZE core x mm <sup>2</sup>	mm <sup>2</sup>	No.	mm	mm	mm	mm	Ω/km	N.	M.Ω-km	A	kg/km	m/R
K2O061025	1 x 25	25	6	5.90	4.445	3.175	22.5	1.20	4,120	3,100	118	410	1,000
K2O061035	1 x 35	35	6	6.95	4.445	3.175	24.5	0.868	5,591	2,900	148	470	1,000
K2O061050	1 x 50	50	6	8.33	4.445	3.175	25.5	0.641	7,313	2,600	184	530	1,000
K2O061070	1 x 70	70	12	9.73	4.445	3.175	27.5	0.443	10,420	2,400	227	630	1,000
K2O061095	1 x 95	95	15	11.45	4.445	3.175	29.0	0.320	14,098	2,100	276	750	1,000
K2O061120	1 x 120	120	15	12.95	4.445	3.175	31.0	0.253	18,518	2,000	318	850	1,000
K2O061150	1 x 150	150	15	14.27	4.445	3.175	32.5	0.206	22,457	1,800	367	960	1,000
K2O061185	1 x 185	185	30	15.98	4.445	3.175	33.5	0.164	28,974	1,700	425	1,100	1,000
K2O061240	1 x 240	240	30	18.47	4.445	3.175	36.5	0.125	37,506	1,500	515	1,400	1,000



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW - CV - ICEA 100% SINGLE CORE CU/XLPE/PVC 5 kV

100% INSULATION LEVELS, MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE CABLE, COPPER CONDUCTOR WITH TAPE SHIELD



### CONSTRUCTION

Conductor	Compact round stranded annealed copper.
Conductor Screen	Semi-conducting cross-linked polyethylene.
Insulation	Cross-linked polyethylene. (XLPE)
Insulation Screen	Semi-conducting cross-linked polyethylene.
Metallic Shield	Annealed copper tape.
Separator Tape	Polyester and/or Spunbond tape.
Outer Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)

### APPLICATION

Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.

### CLASSIFICATION

Maximum Conductor Temperature 90 °C (Normal Operation)  
Maximum Conductor Temperature 250 °C (Short-circuit Conditions)

### REFERENCE

ICEA S-66-524 (100% Insulation Levels)  
\*\* AC Test Voltage : 13 kV

### NOTE

A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.

Product code	Conductor			Thickness of insulation mm	Diameter over insulation (Approx.) mm	Thickness of outer sheath mm	Overall diameter (Approx.) mm	Cable weight (Approx.) kg/km	Maximum conductor resistance at 20°C Ω/km	Minimum insulation resistance at 15.6°C MΩ-km	Ampacities direct burial in ground at 30°C A	Allowable ampacities in free air at 40°C (ambient) A	Standard length m/R
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) mm										
K3J121010	1 x 10	6	3.72	2.29	9.5	1.52	16	310	1.83	1,800	90	100	1,000
K3J121016	1 x 16	6	4.69	2.29	10.5	1.52	17	380	1.15	1,600	115	125	1,000
K3J121025	1 x 25	6	5.90	2.29	12.0	1.52	18	490	0.727	1,400	150	165	1,000
K3J121035	1 x 35	6	6.95	2.29	13.0	1.52	19	610	0.524	1,300	180	200	1,000
K3J121050	1 x 50	6	8.33	2.29	14.0	1.52	20	770	0.387	1,100	210	240	1,000
K3J121070	1 x 70	12	9.73	2.29	16.0	2.03	23	1,030	0.268	1,000	260	295	1,000
K3J121095	1 x 95	15	11.45	2.29	17.5	2.03	25	1,300	0.193	850	310	365	1,000
K3J121120	1 x 120	18	12.95	2.29	19.5	2.03	26	1,570	0.153	800	350	420	1,000
K3J121150	1 x 150	18	14.27	2.29	20.5	2.03	28	1,870	0.124	700	395	475	1,000
K3J121185	1 x 185	30	15.98	2.29	22.0	2.03	29	2,230	0.0991	650	450	545	1,000
K3J121240	1 x 240	34	18.47	2.29	25.0	2.03	32	2,790	0.0754	600	520	640	500
K3J121300	1 x 300	34	20.68	2.29	27.0	2.03	35	3,390	0.0601	550	585	740	500
K3J121400	1 x 400	53	23.39	2.29	30.0	2.03	38	4,390	0.0470	450	670	850	500
K3J121500	1 x 500	53	26.67	2.29	33.5	2.03	42	5,380	0.0366	400	760	975	250
K3J121630	1 x 630	53	30.20	2.29	37.0	2.79	47	6,860	0.0283	370	860	1,130	250
K3J121800	1 x 800	53	34.00	2.29	41.0	2.79	51	8,530	0.0221	350	1,025	1,330	250
K3J1211000	1 x 1,000	53	40.00	2.29	46.5	2.79	57	10,530	0.0176	300	1,215	1,520	250

\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt, Spacing of cable = 2 x cable overall diameter

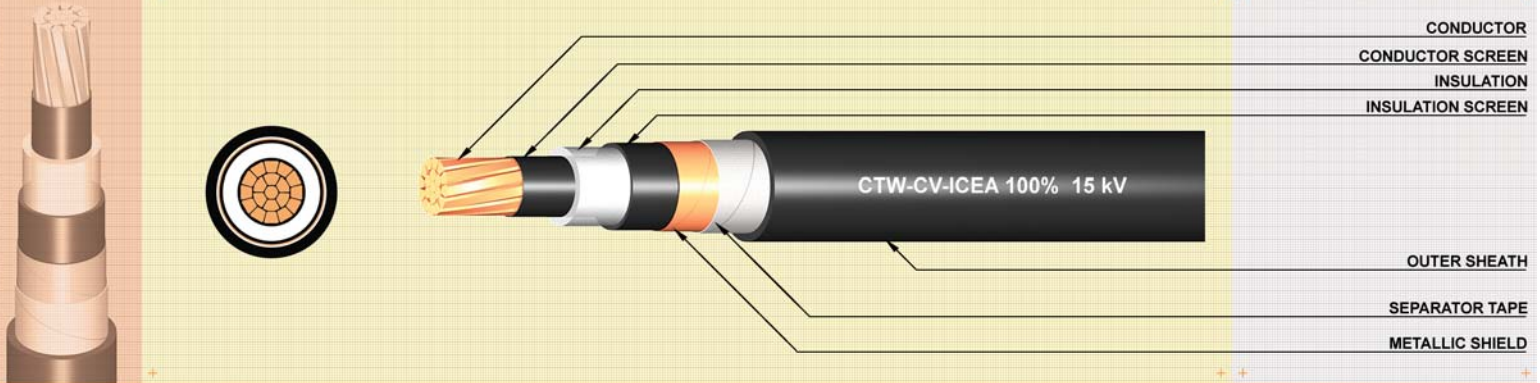
R = Packing in reel



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV-ICEA 100% SINGLE CORE CU/XLPE/PVC 15 kV

100% INSULATION LEVELS, MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE CABLE, COPPER CONDUCTOR WITH TAPE SHIELD



CONSTRUCTION		APPLICATION	CLASSIFICATION
Conductor	Compact round stranded annealed copper.	Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.	Maximum Conductor Temperature 90 °C (Normal Operation)
Conductor Screen	Semi-conducting cross-linked polyethylene.		Maximum Conductor Temperature 250 °C (Short-circuit Conditions)
Insulation	Cross-linked polyethylene. (XLPE)	<b>REFERENCE</b> ICEA S-66-524 (100% Insulation Levels) ** AC Test Voltage : 27 kV	<b>NOTE</b> A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.
Insulation Screen	Semi-conducting cross-linked polyethylene.		
Metallic Shield	Annealed copper tape.		
Separator Tape	Polyester and/or Spunbond tape.		
Outer Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)		

Product code	Conductor			Thickness of insulation (mm)	Diameter over insulation (Approx.) (mm)	Thickness of outer sheath (mm)	Overall diameter (Approx.) (mm)	Cable weight (Approx.) (kg/km)	Maximum conductor resistance at 20°C (Ω/km)	Minimum insulation resistance at 15.6°C (MΩ-km)	Ampacities direct burial in ground at 30°C (A)	Allowable ampacities in free air at 40°C (ambient) (A)	Standard length (m/R)
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) (mm)										
K3K121025	1 x 25	6	5.90	4.45	16.5	2.03	23	690	0.727	2,200	140	155	1,000
K3K121035	1 x 35	6	6.95	4.45	17.0	2.03	24	810	0.524	2,000	170	190	1,000
K3K121050	1 x 50	6	8.33	4.45	18.5	2.03	26	990	0.387	1,800	200	230	1,000
K3K121070	1 x 70	12	9.73	4.45	20.0	2.03	27	1,210	0.268	1,600	250	285	1,000
K3K121095	1 x 95	15	11.45	4.45	22.0	2.03	29	1,490	0.193	1,500	295	355	1,000
K3K121120	1 x 120	18	12.95	4.45	23.5	2.03	31	1,770	0.153	1,300	335	410	1,000
K3K121150	1 x 150	18	14.27	4.45	25.0	2.03	32	2,080	0.124	1,200	375	455	1,000
K3K121185	1 x 185	30	15.98	4.45	26.5	2.03	34	2,450	0.0991	1,100	430	525	1,000
K3K121240	1 x 240	34	18.47	4.45	29.0	2.03	37	3,030	0.0754	1,000	495	620	500
K3K121300	1 x 300	34	20.68	4.45	31.5	2.03	39	3,640	0.0601	900	560	720	500
K3K121400	1 x 400	53	23.39	4.45	34.5	2.79	43	4,650	0.0470	800	640	825	500
K3K121500	1 x 500	53	26.67	4.45	38.0	2.79	48	5,820	0.0366	750	725	950	250
K3K121630	1 x 630	53	30.20	4.45	41.5	2.79	52	7,180	0.0283	650	820	1,120	250
K3K121800	1 x 800	53	34.00	4.45	45.0	2.79	56	8,870	0.0221	600	985	1,305	250
K3K1211000	1 x 1,000	53	40.00	4.45	51.5	2.79	62	10,920	0.0176	550	1,185	1,495	250

\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt, Spacing of cable = 2 x cable overall diameter

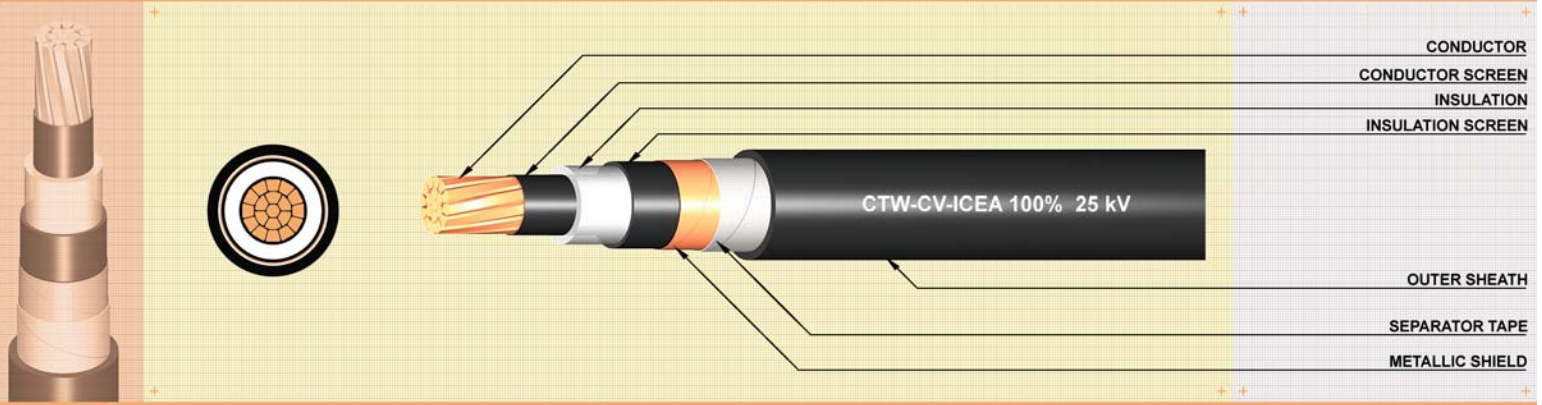




# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV-ICEA 100% SINGLE CORE CU/XLPE/PVC 25 kV

100% INSULATION LEVELS, MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE CABLE, COPPER CONDUCTOR WITH TAPE SHIELD



CONSTRUCTION		APPLICATION	CLASSIFICATION
Conductor	Compact round stranded annealed copper.	Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.	Maximum Conductor Temperature 90 °C (Normal Operation)
Conductor Screen	Semi-conducting cross-linked polyethylene.		Maximum Conductor Temperature 250 °C (Short-circuit Conditions)
Insulation	Cross-linked polyethylene. (XLPE)	<b>REFERENCE</b> ICEA S-66-524 (100% Insulation Levels) ** AC Test Voltage : 38 kV	<b>NOTE</b> A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.
Insulation Screen	Semi-conducting cross-linked polyethylene.		
Metallic Shield	Annealed copper tape.		
Separator Tape	Polyester and/or Spunbond tape.		
Outer Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)		

Product code	Conductor			Thickness of insulation mm	Diameter over insulation (Approx.) mm	Thickness of outer sheath mm	Overall diameter (Approx.) mm	Cable weight (Approx.) kg/km	Maximum conductor resistance at 20°C Ω/km	Minimum insulation resistance at 15.6°C MΩ·km	Ampacities direct burial in ground at 30°C A	Allowable ampacities in free air at 40°C (ambient) A	Standard length m/R
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) mm										
K3M121035	1 x 35	6	6.95	6.60	21.5	2.03	29	1,000	0.524	2,600	170	200	1,000
K3M121050	1 x 50	6	8.33	6.60	23.0	2.03	30	1,180	0.387	2,400	200	240	1,000
K3M121070	1 x 70	12	9.73	6.60	24.5	2.03	31	1,423	0.268	2,200	250	295	1,000
K3M121095	1 x 95	15	11.45	6.60	26.0	2.03	34	1,710	0.193	2,000	295	365	1,000
K3M121120	1 x 120	18	12.95	6.60	28.0	2.03	35	1,990	0.153	1,800	335	420	1,000
K3M121150	1 x 150	18	14.27	6.60	29.5	2.03	37	2,310	0.124	1,700	375	475	1,000
K3M121185	1 x 185	30	15.98	6.60	31.0	2.03	38	2,700	0.0991	1,600	430	545	1,000
K3M121240	1 x 240	34	18.47	6.60	33.5	2.03	41	3,290	0.0754	1,400	495	640	500
K3M121300	1 x 300	34	20.68	6.60	36.0	2.79	44	3,910	0.0601	1,300	560	740	500
K3M121400	1 x 400	53	23.39	6.60	39.0	2.79	49	5,110	0.0470	1,200	640	850	500
K3M121500	1 x 500	53	26.67	6.60	42.5	2.79	52	6,150	0.0366	1,000	725	975	250
K3M121630	1 x 630	53	30.20	6.60	46.0	2.79	56	7,530	0.0283	950	820	1,130	250
K3M121800	1 x 800	53	34.00	6.60	50.0	2.79	60	9,250	0.0221	850	985	1,330	250
K3M1211000	1 x 1,000	53	40.00	6.60	55.5	2.79	66	11,330	0.0176	750	1,185	1,520	250

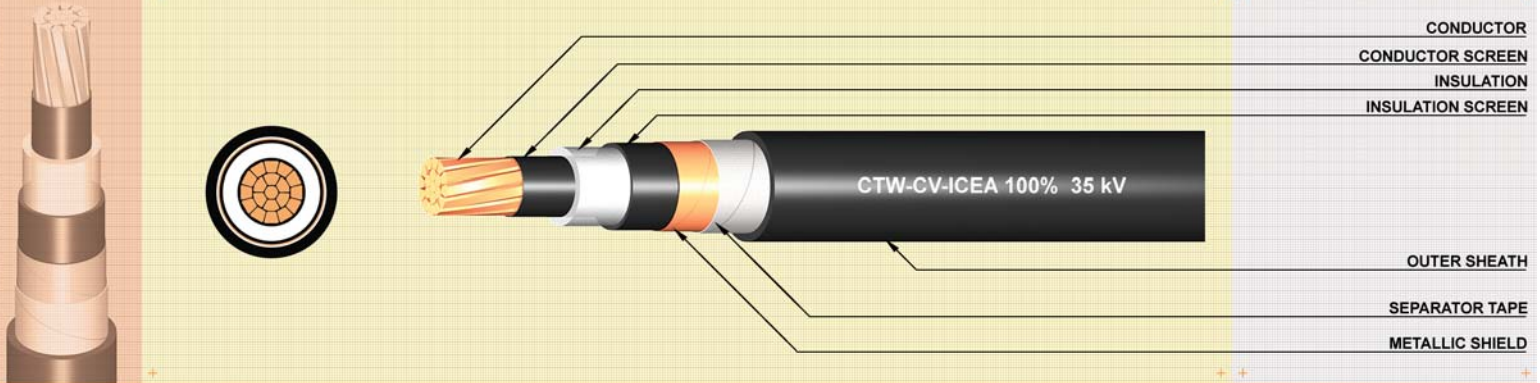
\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt, Spacing of cable = 2 x cable overall diameter  
R = Packing in reel



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV-ICEA 100% SINGLE CORE CU/XLPE/PVC 35 kV

100% INSULATION LEVELS, MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE CABLE, COPPER CONDUCTOR WITH TAPE SHIELD



### CONSTRUCTION

Conductor	Compact round stranded annealed copper.
Conductor Screen	Semi-conducting cross-linked polyethylene.
Insulation	Cross-linked polyethylene. (XLPE)
Insulation Screen	Semi-conducting cross-linked polyethylene.
Metallic Shield	Annealed copper tape.
Separator Tape	Polyester and/or Spunbond tape.
Outer Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)

### APPLICATION

Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.

### CLASSIFICATION

Maximum Conductor Temperature 90 °C (Normal Operation)  
Maximum Conductor Temperature 250 °C (Short-circuit Conditions)

### REFERENCE

ICEA S-66-524  
(100% Insulation Levels)  
\*\* AC Test Voltage : 49 kV

### NOTE

A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.

Product code	Conductor			Thickness of insulation mm	Diameter over insulation (Approx.) mm	Thickness of outer sheath mm	Overall diameter (Approx.) mm	Cable weight (Approx.) kg/km	Maximum conductor resistance at 20°C Ω/km	Minimum insulation resistance at 15.6°C MΩ-km	Ampacities direct burial in ground at 30°C A	Allowable ampacities in free air at 40°C (ambient) A	Standard length m/R
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) mm										
K3O121050	1 x 50	6	8.33	8.76	27.0	2.03	35	1,410	0.387	2,900	200	235	1,000
K3O121070	1 x 70	12	9.73	8.76	28.5	2.03	37	1,650	0.268	2,600	250	290	1,000
K3O121095	1 x 95	15	11.45	8.76	30.5	2.03	39	1,950	0.193	2,400	295	360	1,000
K3O121120	1 x 120	18	12.95	8.76	32.0	2.03	41	2,240	0.153	2,200	335	415	1,000
K3O121150	1 x 150	18	14.27	8.76	33.5	2.03	42	2,570	0.124	2,100	375	470	1,000
K3O121185	1 x 185	30	15.98	8.76	35.0	2.03	43	2,970	0.0991	1,900	430	540	1,000
K3O121240	1 x 240	34	18.47	8.76	37.5	2.79	48	3,730	0.0754	1,700	495	635	500
K3O121300	1 x 300	34	20.68	8.76	40.0	2.79	50	4,380	0.0601	1,600	560	735	500
K3O121400	1 x 400	53	23.39	8.76	43.5	2.79	54	5,440	0.0470	1,400	640	845	500
K3O121500	1 x 500	53	26.67	8.76	46.5	2.79	57	6,510	0.0366	1,300	725	970	250
K3O121630	1 x 630	53	30.20	8.76	50.0	2.79	61	7,910	0.0283	1,200	820	1,125	250
K3O121800	1 x 800	53	34.00	8.76	54.0	2.79	65	9,650	0.0221	1,100	985	1,325	250
K3O1211000	1 x 1,000	53	40.00	8.76	60.0	2.79	71	11,770	0.0176	1,000	1,185	1,515	250

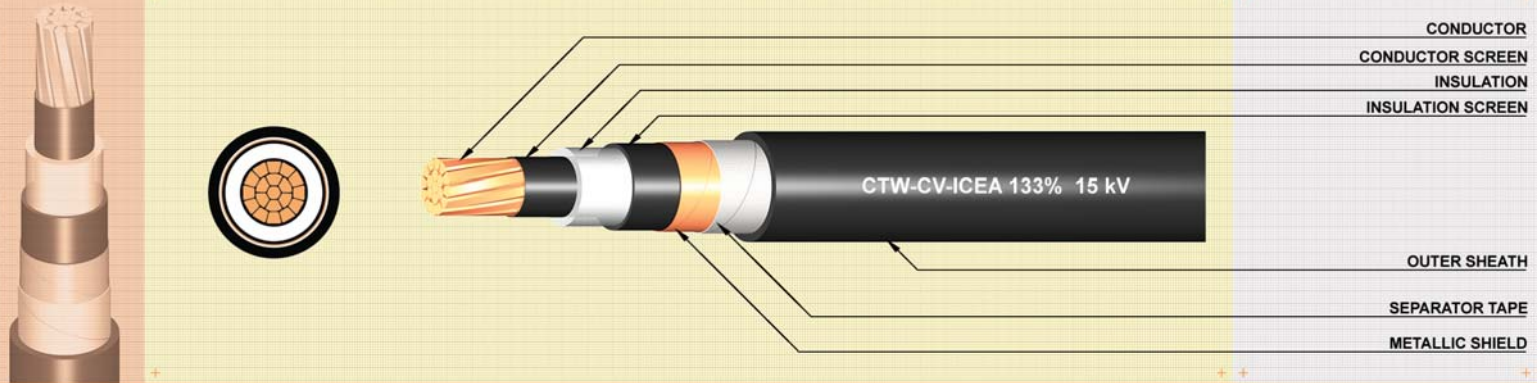
\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt, Spacing of cable = 2 x cable overall diameter



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV-ICEA 133% SINGLE CORE CU/XLPE/PVC 15 kV

133% INSULATION LEVELS, MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE CABLE, COPPER CONDUCTOR WITH TAPE SHIELD



CONSTRUCTION		APPLICATION	CLASSIFICATION
Conductor	Compact round stranded annealed copper.	Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.	Maximum Conductor Temperature 90 °C (Normal Operation)
Conductor Screen	Semi-conducting cross-linked polyethylene.		Maximum Conductor Temperature 250 °C (Short-circuit Conditions)
Insulation	Cross-linked polyethylene. (XLPE)		
Insulation Screen	Semi-conducting cross-linked polyethylene.		
Metallic Shield	Annealed copper tape.	REFERENCE	NOTE
Separator Tape	Polyester and/or Spunbond tape.	ICEA S-66-524 (133% Insulation Levels)	A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.
Outer Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)	** AC Test Voltage : 33 kV	

Product code	Conductor			Thickness of insulation (mm)	Diameter over insulation (Approx.) (mm)	Thickness of outer sheath (mm)	Overall diameter (Approx.) (mm)	Cable weight (Approx.) (kg/km)	Maximum conductor resistance at 20°C (Ω/km)	Minimum insulation resistance at 15.6°C (MΩ-km)	Ampacities direct burial in ground at 30°C (A)	Allowable ampacities in free air at 40°C (ambient) (A)	Standard length (m/R)
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) (mm)										
K3U121025	1 x 25	6	5.90	5.46	18.5	2.03	26	790	0.727	2,500	140	155	1,000
K3U121035	1 x 35	6	6.95	5.46	19.5	2.03	27	920	0.524	2,300	170	190	1,000
K3U121050	1 x 50	6	8.33	5.46	21.0	2.03	28	1,100	0.387	2,100	200	230	1,000
K3U121070	1 x 70	12	9.73	5.46	22.5	2.03	30	1,330	0.268	1,900	250	285	1,000
K3U121095	1 x 95	15	11.45	5.46	24.0	2.03	32	1,620	0.193	1,700	295	355	1,000
K3U121120	1 x 120	18	12.95	5.46	25.5	2.03	33	1,900	0.153	1,600	335	410	1,000
K3U121150	1 x 150	18	14.27	5.46	27.0	2.03	35	2,220	0.124	1,500	375	455	1,000
K3U121185	1 x 185	30	15.98	5.46	28.5	2.03	37	2,600	0.0991	1,400	430	525	1,000
K3U121240	1 x 240	34	18.47	5.46	31.0	2.03	39	3,180	0.0754	1,200	495	620	500
K3U121300	1 x 300	34	20.68	5.46	33.5	2.03	42	3,800	0.0601	1,100	560	720	500
K3U121400	1 x 400	53	23.39	5.46	36.5	2.79	46	4,980	0.0470	1,000	640	825	500
K3U121500	1 x 500	53	26.67	5.46	40.0	2.79	50	6,020	0.0366	900	725	950	250
K3U121630	1 x 630	53	30.20	5.46	43.5	2.79	53	7,390	0.0283	800	820	1,120	250
K3U121800	1 x 800	53	34.00	5.46	47.0	2.79	57	9,100	0.0221	700	985	1,305	250
K3U1211000	1 x 1,000	53	40.00	5.46	53.0	2.79	63	11,160	0.0176	600	1,185	1,495	250

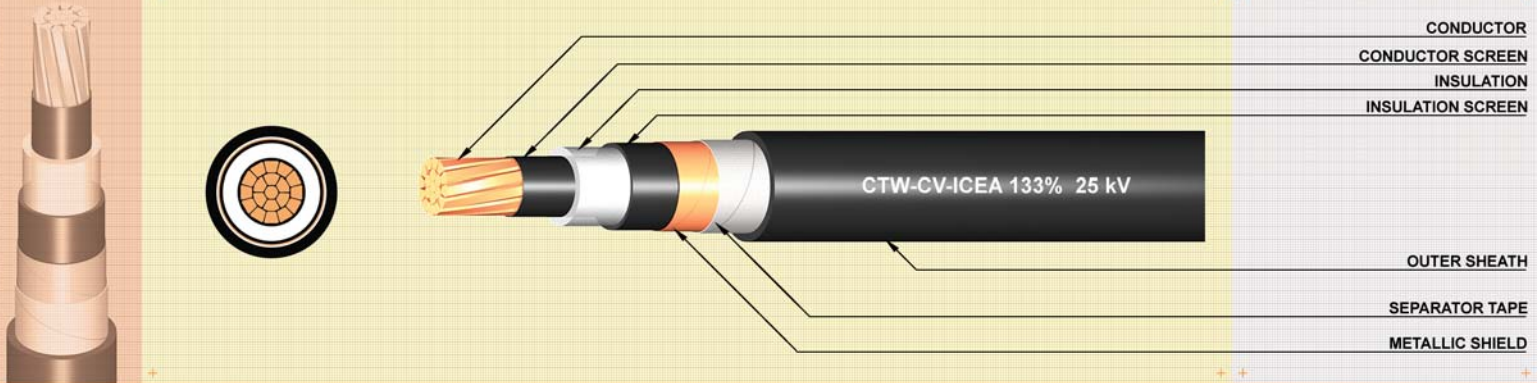
\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt, Spacing of cable = 2 x cable overall diameter  
R = Packing in reel



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW - CV - ICEA 133% SINGLE CORE CU/XLPE/PVC 25 kV

133% INSULATION LEVELS, MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE CABLE, COPPER CONDUCTOR WITH TAPE SHIELD



### CONSTRUCTION

Conductor	Compact round stranded annealed copper.
Conductor Screen	Semi-conducting cross-linked polyethylene.
Insulation	Cross-linked polyethylene. (XLPE)
Insulation Screen	Semi-conducting cross-linked polyethylene.
Metallic Shield	Annealed copper tape.
Separator Tape	Polyester and/or Spunbond tape.
Outer Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)

### APPLICATION

Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.

### CLASSIFICATION

Maximum Conductor Temperature 90 °C (Normal Operation)  
Maximum Conductor Temperature 250 °C (Short-circuit Conditions)

### REFERENCE

ICEA S-66-524 (133% Insulation Levels)  
\*\* AC Test Voltage : 49 kV

### NOTE

A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.

Product code	Conductor			Thickness of insulation mm	Diameter over insulation (Approx.) mm	Thickness of outer sheath mm	Overall diameter (Approx.) mm	Cable weight (Approx.) kg/km	Maximum conductor resistance at 20°C Ω/km	Minimum insulation resistance at 15.6°C MΩ-km	Ampacities direct burial in ground at 30°C A	Allowable ampacities in free air at 40°C (ambient) A	Standard length m/R
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) mm										
K3T121035	1 x 35	6	6.95	8.76	26.5	2.03	34	1,260	0.524	3,200	170	200	1,000
K3T121050	1 x 50	6	8.33	8.76	28.0	2.03	36	1,460	0.387	2,900	200	240	1,000
K3T121070	1 x 70	12	9.73	8.76	29.5	2.03	37	1,710	0.268	2,600	250	295	1,000
K3T121095	1 x 95	15	11.45	8.76	31.0	2.03	39	2,010	0.193	2,400	295	365	1,000
K3T121120	1 x 120	18	12.95	8.76	32.5	2.03	41	2,300	0.153	2,200	335	420	1,000
K3T121150	1 x 150	18	14.27	8.76	34.0	2.03	42	2,640	0.124	2,100	375	475	1,000
K3T121185	1 x 185	30	15.98	8.76	35.5	2.79	45	3,180	0.0991	2,000	430	545	1,000
K3T121240	1 x 240	34	18.47	8.76	38.0	2.79	48	3,800	0.0754	1,800	495	640	500
K3T121300	1 x 300	34	20.68	8.76	40.5	2.79	50	4,460	0.0601	1,600	560	740	500
K3T121400	1 x 400	53	23.39	8.76	43.5	2.79	53	5,520	0.0470	1,500	640	850	500
K3T121500	1 x 500	53	26.67	8.76	46.5	2.79	56	6,590	0.0366	1,400	725	975	250
K3T121630	1 x 630	53	30.20	8.76	50.5	2.79	60	8,000	0.0283	1,200	820	1,130	250
K3T121800	1 x 800	53	34.00	8.76	54.0	2.79	64	9,740	0.0221	1,100	985	1,330	250
K3T1211000	1 x 1,000	53	40.00	8.76	60.5	2.79	70	11,800	0.0176	1,000	1,185	1,520	250

\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt, Spacing of cable = 2 x cable overall diameter



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV SINGLE CORE CU/XLPE/PVC 1.8/3 (3.6) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE INSULATED, COPPER CONDUCTOR WITH TAPE SHIELD



CONSTRUCTION		APPLICATION	CLASSIFICATION
Conductor	Compact round stranded annealed copper.	Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.	Maximum Conductor Temperature 90 °C (Normal Operation)
Conductor Screen	Semi-conducting cross-linked polyethylene.		Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)
Insulation	Cross-linked polyethylene. (XLPE)	<b>REFERENCE</b> IEC 60228 & IEC 60502-1 ** AC Test Voltage : 6.5 kV	<b>NOTE</b> A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.
Insulation Screen	Semi-conducting cross-linked polyethylene.		
Metallic Shield	Annealed copper tape.		
Separator Tape	Polyester and/or Spunbond tape.		
Outer Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)		

Product code	Conductor			Thickness of insulation mm	Diameter over insulation (Approx.) mm	Thickness of outer sheath mm	Overall diameter (Approx.) mm	Cable weight (Approx.) kg/km	Maximum conductor resistance at 20°C Ω/km	Minimum insulation resistance at 20°C MΩ-km	Ampacities direct burial in ground at 30°C A	Allowable ampacities in free air at 40°C (ambient) A	Standard length m/R
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) mm										
K3A121010	1 x 10	6	3.72	2.0	9.0	1.4	14	280	1.83	2,700	90	100	1,000
K3A121016	1 x 16	6	4.69	2.0	10.0	1.4	15	360	1.15	2,400	115	125	1,000
K3A121025	1 x 25	6	5.90	2.0	11.5	1.5	17	470	0.727	2,100	150	165	1,000
K3A121035	1 x 35	6	6.95	2.0	12.5	1.5	18	590	0.524	1,800	180	200	1,000
K3A121050	1 x 50	6	8.33	2.0	13.5	1.5	19	750	0.387	1,600	210	240	1,000
K3A121070	1 x 70	12	9.73	2.0	15.5	1.6	21	970	0.268	1,400	260	295	1,000
K3A121095	1 x 95	15	11.45	2.0	17.0	1.7	23	1,250	0.193	1,200	310	365	1,000
K3A121120	1 x 120	18	12.95	2.0	18.5	1.7	24	1,510	0.153	1,100	350	420	1,000
K3A121150	1 x 150	18	14.27	2.0	20.0	1.8	26	1,820	0.124	1,100	395	475	1,000
K3A121185	1 x 185	30	15.98	2.0	21.5	1.8	28	2,180	0.0991	900	450	545	1,000
K3A121240	1 x 240	34	18.47	2.0	24.0	1.9	30	2,750	0.0754	800	520	640	500
K3A121300	1 x 300	34	20.68	2.0	26.5	2.0	33	3,360	0.0601	700	585	740	500
K3A121400	1 x 400	53	23.39	2.0	29.5	2.1	36	4,370	0.0470	700	670	850	500
K3A121500	1 x 500	53	26.67	2.2	33.5	2.2	40	5,400	0.0366	700	760	975	250
K3A121630	1 x 630	53	30.20	2.4	37.5	2.4	44	6,800	0.0283	600	860	1,130	250
K3A121800	1 x 800	53	34.00	2.6	41.5	2.5	49	8,510	0.0221	600	1,025	1,330	250
K3A1211000	1 x 1,000	53	40.00	2.8	47.5	2.7	56	10,600	0.0176	600	1,215	1,520	250

\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt, Spacing of cable = 2 x cable overall diameter

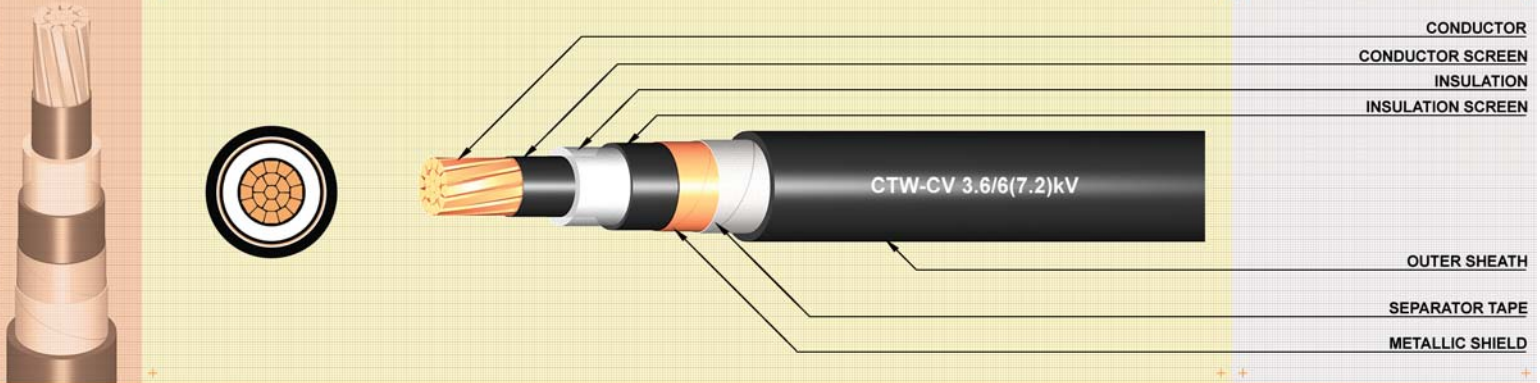
R = Packing in reel



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV SINGLE CORE CU/XLPE/PVC 3.6/6 (7.2) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE INSULATED, COPPER CONDUCTOR WITH TAPE SHIELD



### CONSTRUCTION

Conductor	Compact round stranded annealed copper.
Conductor Screen	Semi-conducting cross-linked polyethylene.
Insulation	Cross-linked polyethylene. (XLPE)
Insulation Screen	Semi-conducting cross-linked polyethylene.
Metallic Shield	Annealed copper tape.
Separator Tape	Polyester and/or Spunbond tape.
Outer Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)

### APPLICATION

Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.

### CLASSIFICATION

Maximum Conductor Temperature 90 °C (Normal Operation)  
Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)

### REFERENCE

IEC 60228 & IEC 60502-2  
\*\* AC Test Voltage : 12.5 kV

### NOTE

A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.

Product code	Conductor			Thickness of insulation mm	Diameter over insulation (Approx.) mm	Thickness of outer sheath mm	Overall diameter (Approx.) mm	Cable weight (Approx.) kg/km	Maximum conductor resistance at 20°C Ω/km	Minimum insulation resistance at 20°C MΩ-km	Ampacities direct burial in ground at 30°C A	Allowable ampacities in free air at 40°C (ambient) A	Standard length m/R
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) mm										
K3B121010	1 x 10	6	3.72	2.5	10.0	1.4	16	310	1.83	3,100	90	100	1,000
K3B121016	1 x 16	6	4.69	2.5	11.0	1.5	17	400	1.15	2,800	115	125	1,000
K3B121025	1 x 25	6	5.90	2.5	12.5	1.5	18	510	0.727	2,400	150	165	1,000
K3B121035	1 x 35	6	6.95	2.5	13.5	1.5	19	620	0.524	2,100	180	200	1,000
K3B121050	1 x 50	6	8.33	2.5	14.5	1.6	21	800	0.387	1,900	210	240	1,000
K3B121070	1 x 70	12	9.73	2.5	16.5	1.6	22	1,010	0.268	1,700	260	295	1,000
K3B121095	1 x 95	15	11.45	2.5	18.0	1.7	24	1,290	0.193	1,500	310	365	1,000
K3B121120	1 x 120	18	12.95	2.5	19.5	1.7	25	1,550	0.153	1,300	350	420	1,000
K3B121150	1 x 150	18	14.27	2.5	21.0	1.8	27	1,870	0.124	1,200	395	475	1,000
K3B121185	1 x 185	30	15.98	2.5	22.5	1.9	29	2,240	0.0991	1,100	450	545	1,000
K3B121240	1 x 240	34	18.47	2.6	25.5	2.0	32	2,830	0.0754	1,000	520	640	500
K3B121300	1 x 300	34	20.68	2.8	28.0	2.0	35	3,450	0.0601	1,000	585	740	500
K3B121400	1 x 400	53	23.39	3.0	31.5	2.2	38	4,510	0.0470	900	670	850	500
K3B121500	1 x 500	53	26.67	3.2	35.5	2.3	42	5,560	0.0366	900	760	975	250
K3B121630	1 x 630	53	30.20	3.2	38.5	2.4	46	6,920	0.0283	800	860	1,130	250
K3B121800	1 x 800	53	34.00	3.2	42.5	2.6	50	8,630	0.0221	700	1,025	1,330	250
K3B1211000	1 x 1,000	53	40.00	3.2	48.5	2.8	57	10,700	0.0176	600	1,215	1,520	250

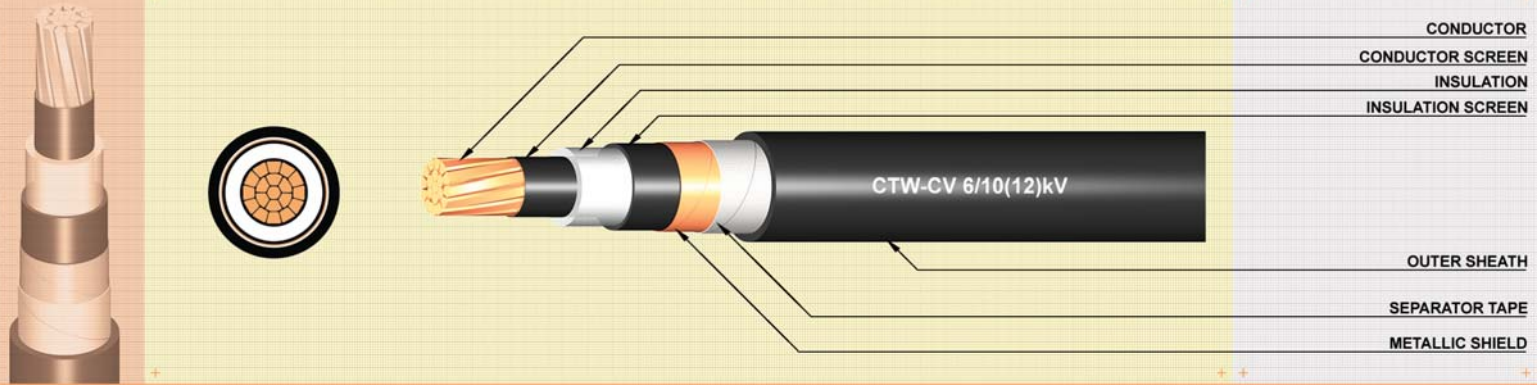
\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt, Spacing of cable = 2 x cable overall diameter



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV SINGLE CORE CU/XLPE/PVC 6/10 (12) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE INSULATED, COPPER CONDUCTOR WITH TAPE SHIELD



### CONSTRUCTION

Conductor	Compact round stranded annealed copper.
Conductor Screen	Semi-conducting cross-linked polyethylene.
Insulation	Cross-linked polyethylene. (XLPE)
Insulation Screen	Semi-conducting cross-linked polyethylene.
Metallic Shield	Annealed copper tape.
Separator Tape	Polyester and/or Spunbond tape.
Outer Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)

### APPLICATION

Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.

### CLASSIFICATION

Maximum Conductor Temperature 90 °C (Normal Operation)  
Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)

### REFERENCE

IEC 60228 & IEC 60502-2  
\*\* AC Test Voltage : 21 kV

### NOTE

A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.

Product code	Conductor			Thickness of insulation mm	Diameter over insulation (Approx.) mm	Thickness of outer sheath mm	Overall diameter (Approx.) mm	Cable weight (Approx.) kg/km	Maximum conductor resistance at 20°C Ω /km	Minimum insulation resistance at 20°C MΩ ·km	Ampacities direct burial in ground at 30°C A	Allowable ampacities in free air at 40°C (ambient) A	Standard length m/R
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) mm										
K3E121016	1 x 16	6	4.69	3.4	13.0	1.5	19	450	1.15	3,000	110	120	1,000
K3E121025	1 x 25	6	5.90	3.4	14.0	1.6	20	580	0.727	2,700	140	160	1,000
K3E121035	1 x 35	6	6.95	3.4	15.0	1.6	21	690	0.524	2,400	170	195	1,000
K3E121050	1 x 50	6	8.33	3.4	16.5	1.7	23	880	0.387	2,200	200	235	1,000
K3E121070	1 x 70	12	9.73	3.4	18.0	1.7	24	1,100	0.268	1,900	250	290	1,000
K3E121095	1 x 95	15	11.45	3.4	19.5	1.8	26	1,380	0.193	1,700	295	360	1,000
K3E121120	1 x 120	18	12.95	3.4	21.0	1.8	28	1,650	0.153	1,600	335	415	1,000
K3E121150	1 x 150	18	14.27	3.4	22.5	1.9	29	1,970	0.124	1,500	375	470	1,000
K3E121185	1 x 185	30	15.98	3.4	24.5	1.9	31	2,330	0.0991	1,400	430	540	1,000
K3E121240	1 x 240	34	18.47	3.4	27.0	2.0	34	2,920	0.0754	1,200	495	635	500
K3E121300	1 x 300	34	20.68	3.4	29.0	2.1	36	3,540	0.0601	1,100	560	735	500
K3E121400	1 x 400	53	23.39	3.4	32.0	2.2	39	4,560	0.0470	1,000	640	845	500
K3E121500	1 x 500	53	26.67	3.4	35.5	2.3	43	5,590	0.0366	900	725	970	250
K3E121630	1 x 630	53	30.20	3.4	39.0	2.4	46	6,950	0.0283	800	820	1,125	250
K3E121800	1 x 800	53	34.00	3.4	43.0	2.6	51	8,670	0.0221	700	985	1,325	250
K3E1211000	1 x 1,000	53	40.00	3.4	49.0	2.8	57	10,740	0.0176	600	1,185	1,515	250

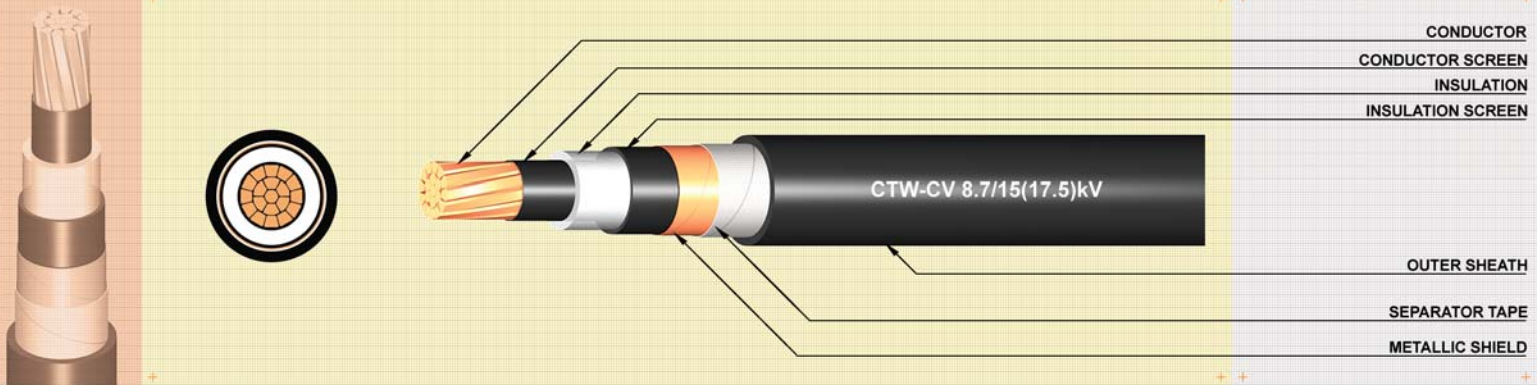
\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt, Spacing of cable = 2 x cable overall diameter  
R = Packing in reel



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV SINGLE CORE CU/XLPE/PVC 8.7/15 (17.5) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE INSULATED, COPPER CONDUCTOR WITH TAPE SHIELD



CONSTRUCTION		APPLICATION	CLASSIFICATION
Conductor	Compact round stranded annealed copper.	Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.	Maximum Conductor Temperature 90 °C (Normal Operation)
Conductor Screen	Semi-conducting cross-linked polyethylene.		Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)
Insulation	Cross-linked polyethylene. (XLPE)	<b>REFERENCE</b> IEC 60228 & IEC 60502-2  ** AC Test Voltage : 30.5 kV	<b>NOTE</b> A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.
Insulation Screen	Semi-conducting cross-linked polyethylene.		
Metallic Shield	Annealed copper tape.		
Separator Tape	Polyester and/or Spunbond tape.		
Outer Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)		

Product code	Conductor			Thickness of insulation mm	Diameter over insulation (Approx.) mm	Thickness of outer sheath mm	Overall diameter (Approx.) mm	Cable weight (Approx.) kg/km	Maximum conductor resistance at 20°C Ω/km	Minimum insulation resistance at 20°C MΩ-km	Ampacities direct burial in ground at 30°C A	Allowable ampacities in free air at 40°C (ambient) A	Standard length m/R
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) mm										
K3F121025	1 x 25	6	5.90	4.5	16.0	1.6	22	660	0.727	3,200	140	155	1,000
K3F121035	1 x 35	6	6.95	4.5	17.0	1.7	24	790	0.524	2,900	170	190	1,000
K3F121050	1 x 50	6	8.33	4.5	18.5	1.7	25	970	0.387	2,700	200	230	1,000
K3F121070	1 x 70	12	9.73	4.5	20.0	1.8	27	1,210	0.268	2,400	250	285	1,000
K3F121095	1 x 95	15	11.45	4.5	22.0	1.8	28	1,490	0.193	2,200	295	355	1,000
K3F121120	1 x 120	18	12.95	4.5	23.5	1.9	30	1,770	0.153	2,000	335	410	1,000
K3F121150	1 x 150	18	14.27	4.5	25.0	1.9	31	2,090	0.124	1,800	375	455	1,000
K3F121185	1 x 185	30	15.98	4.5	26.5	2.0	33	2,470	0.0991	1,700	430	525	1,000
K3F121240	1 x 240	34	18.47	4.5	29.0	2.1	36	3,060	0.0754	1,500	495	620	500
K3F121300	1 x 300	34	20.68	4.5	31.5	2.2	38	3,700	0.0601	1,400	560	720	500
K3F121400	1 x 400	53	23.39	4.5	34.5	2.3	42	4,730	0.0470	1,300	640	825	500
K3F121500	1 x 500	53	26.67	4.5	38.0	2.4	45	5,770	0.0366	1,100	725	950	250
K3F121630	1 x 630	53	30.20	4.5	41.5	2.5	49	7,150	0.0283	1,000	820	1,120	250
K3F121800	1 x 800	53	34.00	4.5	45.0	2.6	53	8,860	0.0221	900	985	1,305	250
K3F1211000	1 x 1,000	53	40.00	4.5	51.5	2.9	60	10,980	0.0176	800	1,185	1,495	250

\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt, Spacing of cable = 2 x cable overall diameter

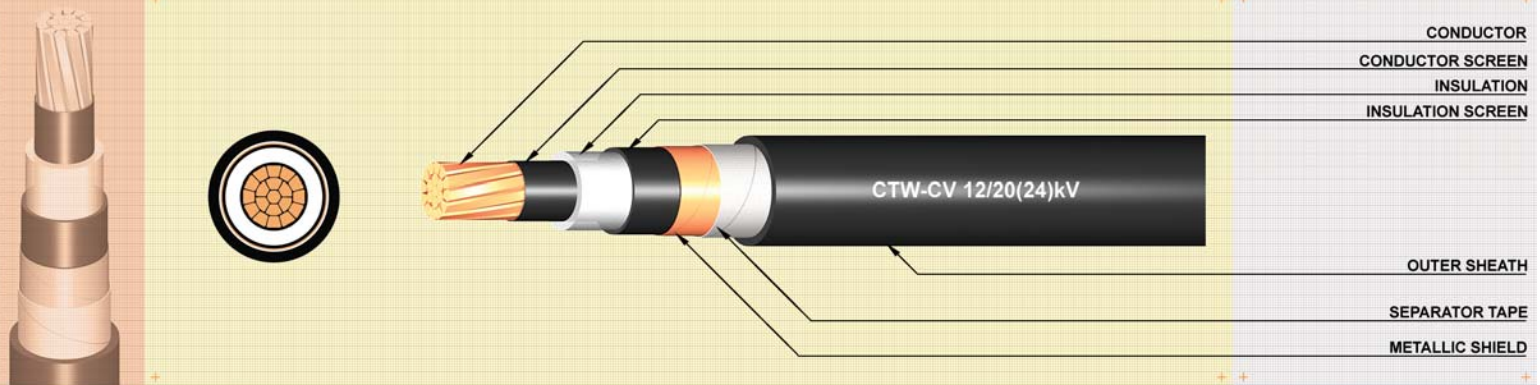




# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV SINGLE CORE CU/XLPE/PVC 12/20 (24) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE INSULATED, COPPER CONDUCTOR WITH TAPE SHIELD



### CONSTRUCTION

Conductor	Compact round stranded annealed copper.
Conductor Screen	Semi-conducting cross-linked polyethylene.
Insulation	Cross-linked polyethylene. (XLPE)
Insulation Screen	Semi-conducting cross-linked polyethylene.
Metallic Shield	Annealed copper tape.
Separator Tape	Polyester and/or Spunbond tape.
Outer Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)

### APPLICATION

Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.

### CLASSIFICATION

Maximum Conductor Temperature 90 °C (Normal Operation)  
Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)

### REFERENCE

IEC 60228 & IEC 60502-2  
\*\* AC Test Voltage : 42 kV

### NOTE

A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.

Product code	Conductor			Thickness of insulation mm	Diameter over insulation (Approx.) mm	Thickness of outer sheath mm	Overall diameter (Approx.) mm	Cable weight (Approx.) kg/km	Maximum conductor resistance at 20°C Ω/km	Minimum insulation resistance at 20°C MΩ-km	Ampacities direct burial in ground at 30°C A	Allowable ampacities in free air at 40°C (ambient) A	Standard length m/R
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) mm										
K3G121035	1 x 35	6	6.95	5.5	19.5	1.8	26	890	0.524	3,300	170	200	1,000
K3G121050	1 x 50	6	8.33	5.5	21.0	1.8	27	1,070	0.387	3,100	200	240	1,000
K3G121070	1 x 70	12	9.73	5.5	22.5	1.9	29	1,320	0.268	2,800	250	295	1,000
K3G121095	1 x 95	15	11.45	5.5	24.0	1.9	31	1,600	0.193	2,500	295	365	1,000
K3G121120	1 x 120	18	12.95	5.5	25.5	2.0	32	1,890	0.153	2,300	335	420	1,000
K3G121150	1 x 150	18	14.27	5.5	27.0	2.0	34	2,210	0.124	2,200	375	475	1,000
K3G121185	1 x 185	30	15.98	5.5	28.5	2.1	36	2,600	0.0991	2,000	430	545	1,000
K3G121240	1 x 240	34	18.47	5.5	31.0	2.2	38	3,210	0.0754	1,800	495	640	500
K3G121300	1 x 300	34	20.68	5.5	33.5	2.2	41	3,830	0.0601	1,600	560	740	500
K3G121400	1 x 400	53	23.39	5.5	36.5	2.3	44	4,880	0.0470	1,500	640	850	500
K3G121500	1 x 500	53	26.67	5.5	40.0	2.5	48	5,950	0.0366	1,300	725	975	250
K3G121630	1 x 630	53	30.20	5.5	43.5	2.6	51	7,340	0.0283	1,200	820	1,130	250
K3G121800	1 x 800	53	34.00	5.5	47.5	2.7	55	9,060	0.0221	1,100	985	1,330	250
K3G1211000	1 x 1,000	53	40.00	5.5	53.5	2.9	62	11,180	0.0176	1,000	1,185	1,520	250

\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt, Spacing of cable = 2 x cable overall diameter  
R = Packing in reel



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : **CTW-CV SINGLE CORE CU/XLPE/PVC 18/30 (36) kV**

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE INSULATED, COPPER CONDUCTOR WITH TAPE SHIELD



CONSTRUCTION		APPLICATION	CLASSIFICATION
Conductor	Compact round stranded annealed copper.	Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.	Maximum Conductor Temperature 90 °C (Normal Operation)
Conductor Screen	Semi-conducting cross-linked polyethylene.		Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)
Insulation	Cross-linked polyethylene. (XLPE)	<b>REFERENCE</b> IEC 60228 & IEC 60502-2 ** AC Test Voltage : 63 kV	<b>NOTE</b> A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.
Insulation Screen	Semi-conducting cross-linked polyethylene.		
Metallic Shield	Annealed copper tape.		
Separator Tape	Polyester and/or Spunbond tape.		
Outer Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)		

Product code	Conductor			Thickness of insulation (mm)	Diameter over insulation (Approx.) (mm)	Thickness of outer sheath (mm)	Overall diameter (Approx.) (mm)	Cable weight (Approx.) (kg/km)	Maximum conductor resistance at 20°C (Ω/km)	Minimum insulation resistance at 20°C (MΩ-km)	Ampacities direct burial in ground at 30°C (A)	Allowable ampacities in free air at 40°C (ambient) (A)	Standard length (m/R)
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) (mm)										
K3I121050	1 x 50	6	8.33	8.0	26.0	2.1	33	1,360	0.387	4,000	200	235	1,000
K3I121070	1 x 70	12	9.73	8.0	27.5	2.1	34	1,600	0.268	3,600	250	290	1,000
K3I121095	1 x 95	15	11.45	8.0	29.0	2.2	36	1,910	0.193	3,300	295	360	1,000
K3I121120	1 x 120	18	12.95	8.0	30.5	2.3	38	2,220	0.153	3,000	335	415	1,000
K3I121150	1 x 150	18	14.27	8.0	32.0	2.3	39	2,550	0.124	2,800	375	470	1,000
K3I121185	1 x 185	30	15.98	8.0	34.0	2.4	41	2,960	0.0991	2,700	430	540	1,000
K3I121240	1 x 240	34	18.47	8.0	36.5	2.4	44	3,570	0.0754	2,400	495	635	500
K3I121300	1 x 300	34	20.68	8.0	38.5	2.5	46	4,230	0.0601	2,200	560	735	500
K3I121400	1 x 400	53	23.39	8.0	41.5	2.6	49	5,300	0.0470	2,000	640	845	500
K3I121500	1 x 500	53	26.67	8.0	45.0	2.7	53	6,380	0.0366	1,800	725	970	250
K3I121630	1 x 630	53	30.20	8.0	48.5	2.9	57	7,830	0.0283	1,600	820	1,125	250
K3I121800	1 x 800	53	34.00	8.0	52.5	3.0	61	9,590	0.0221	1,500	985	1,325	250
K3I1211000	1 x 1,000	53	40.00	8.0	58.5	3.1	68	11,790	0.0176	1,400	1,185	1,515	250

\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt, Spacing of cable = 2 x cable overall diameter



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV-AWA SINGLE CORE CU/XLPE/AWA/PVC 1.8/3 (3.6) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE INSULATED, COPPER CONDUCTOR WITH ALUMINUM WIRE ARMOUR



CONSTRUCTION		APPLICATION	CLASSIFICATION
Conductor	Compact round stranded annealed copper.	Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.	Maximum Conductor Temperature 90 °C (Normal Operation)
Conductor Screen	Semi-conducting cross-linked polyethylene.		Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)
Insulation	Cross-linked polyethylene. (XLPE)	<b>REFERENCE</b> IEC 60228 & IEC 60502-1  ** AC Test Voltage : 6.5 kV	<b>NOTE</b> A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.
Insulation Screen	Semi-conducting cross-linked polyethylene.		
Metallic Shield	Annealed copper tape.		
Separator Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)		
Armour	Aluminum wire.		
Separator Tape	Polyester and/or Spunbond tape.		
Outer Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)		

Product code	Conductor			Thickness of insulation (mm)	Diameter over insulation (Approx.) (mm)	Diameter of armour wire (mm)	Diameter over Armour (Approx.) (mm)	Thickness of outer sheath (mm)	Overall diameter (Approx.) (mm)	Cable weight (Approx.) (kg/km)	Maximum conductor resistance at 20°C (Ω/km)	Minimum insulation resistance at 20°C (MΩ-km)	Ampacities direct burial in ground at 30°C (A)	Allowable ampacities in free air at 40°C (ambient) (A)	Standard length (m/R)
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) (mm)												
K3A621010	1 x 10	6	3.72	2.0	9.0	1.25	15.90	1.8	20	540	1.83	2,700	90	100	1,000
K3A621016	1 x 16	6	4.69	2.0	10.0	1.25	16.90	1.8	21	630	1.15	2,400	115	125	1,000
K3A621025	1 x 25	6	5.90	2.0	11.5	1.6	18.80	1.8	23	800	0.727	2,100	150	165	1,000
K3A621035	1 x 35	6	6.95	2.0	12.5	1.6	19.90	1.8	24	940	0.524	1,800	180	200	1,000
K3A621050	1 x 50	6	8.33	2.0	13.5	1.6	21.20	1.8	26	1,120	0.387	1,600	210	240	1,000
K3A621070	1 x 70	12	9.73	2.0	15.5	1.6	22.70	1.8	27	1,360	0.268	1,400	260	295	1,000
K3A621095	1 x 95	15	11.45	2.0	17.0	1.6	24.40	1.9	29	1,670	0.193	1,200	310	365	1,000
K3A621120	1 x 120	18	12.95	2.0	18.5	1.6	25.90	1.9	30	1,950	0.153	1,100	350	420	1,000
K3A621150	1 x 150	18	14.27	2.0	20.0	1.6	27.30	2.0	32	2,290	0.124	1,100	395	475	1,000
K3A621185	1 x 185	30	15.98	2.0	21.5	2.0	29.80	2.0	34	2,760	0.0991	900	450	545	500
K3A621240	1 x 240	34	18.47	2.0	24.0	2.0	32.30	2.1	37	3,380	0.0754	800	520	640	500
K3A621300	1 x 300	34	20.68	2.0	26.5	2.0	34.50	2.2	40	4,040	0.0601	700	585	740	500
K3A621400	1 x 400	53	23.39	2.0	29.5	2.0	37.50	2.3	43	5,110	0.0470	700	670	850	500
K3A621500	1 x 500	53	26.67	2.2	33.5	2.5	42.50	2.5	48	6,400	0.0366	700	760	975	250
K3A621630	1 x 630	53	30.20	2.4	37.5	2.5	46.60	2.6	53	7,900	0.0283	600	860	1,130	250
K3A621800	1 x 800	53	34.00	2.6	41.5	2.5	51.10	2.8	57	9,780	0.0221	600	1,025	1,330	250
K3A6211000	1 x 1,000	53	40.00	2.8	47.5	2.5	57.80	3.0	64	12,070	0.0176	600	1,215	1,520	200

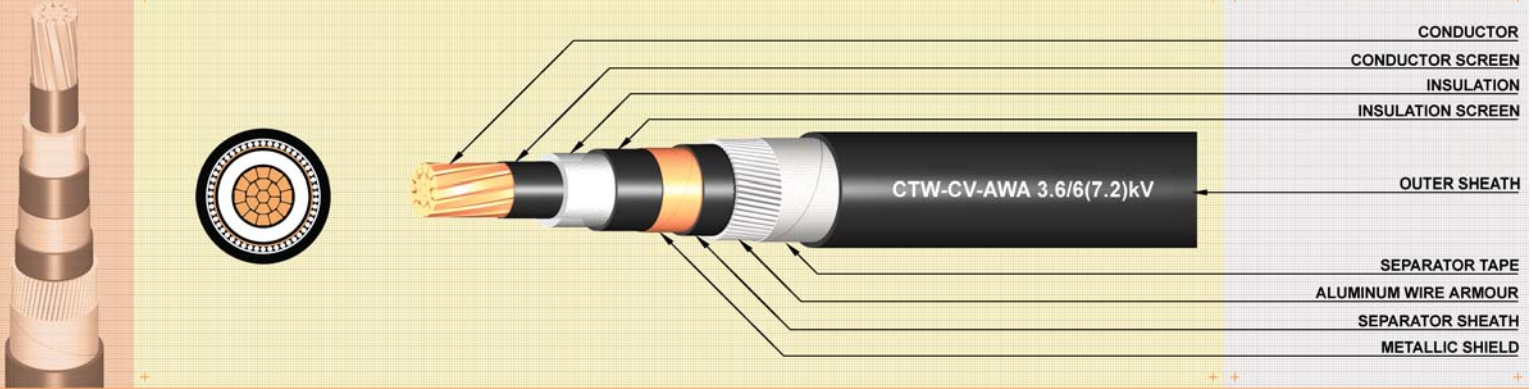
\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt, Spacing of cable = 2 x cable overall diameter  
R = Packing in reel



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV-AWA SINGLE CORE CU/XLPE/AWA/PVC 3.6/6 (7.2) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE INSULATED, COPPER CONDUCTOR WITH ALUMINUM WIRE ARMOUR



CONSTRUCTION		APPLICATION	CLASSIFICATION
Conductor	Compact round stranded annealed copper.	Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.	Maximum Conductor Temperature 90 °C (Normal Operation)
Conductor Screen	Semi-conducting cross-linked polyethylene.		Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)
Insulation	Cross-linked polyethylene. (XLPE)	<b>REFERENCE</b> IEC 60228 & IEC 60502-2  ** AC Test Voltage : 12.5 kV	<b>NOTE</b> A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.
Insulation Screen	Semi-conducting cross-linked polyethylene.		
Metallic Shield	Annealed copper tape.		
Separator Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)		
Armour	Aluminum wire.		
Separator Tape	Polyester and/or Spunbond tape.		
Outer Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)		

Product code	Conductor			Thickness of insulation (mm)	Diameter over insulation (Approx.) (mm)	Diameter of armour wire (mm)	Diameter over Armour (Approx.) (mm)	Thickness of outer sheath (mm)	Overall diameter (Approx.) (mm)	Cable weight (Approx.) (kg/km)	Maximum conductor resistance at 20°C (Ω/km)	Minimum insulation resistance at 20°C (MΩ-km)	Ampacities direct burial in ground at 30°C (A)	Allowable ampacities in free air at 40°C (ambient) (A)	Standard length (m/R)
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) (mm)												
K3B621010	1 x 10	6	3.72	2.5	10.0	1.25	17.0	1.8	22	580	1.83	3,100	90	100	1,000
K3B621016	1 x 16	6	4.69	2.5	11.0	1.6	18.5	1.8	24	720	1.15	2,800	115	125	1,000
K3B621025	1 x 25	6	5.90	2.5	12.5	1.6	19.5	1.8	25	860	0.727	2,400	150	165	1,000
K3B621035	1 x 35	6	6.95	2.5	13.5	1.6	21.0	1.8	26	990	0.524	2,100	180	200	1,000
K3B621050	1 x 50	6	8.33	2.5	14.5	1.6	22.5	1.8	28	1,180	0.387	1,900	210	240	1,000
K3B621070	1 x 70	12	9.73	2.5	16.5	1.6	24.0	1.8	29	1,420	0.268	1,700	260	295	1,000
K3B621095	1 x 95	15	11.45	2.5	18.0	1.6	25.5	1.9	31	1,730	0.193	1,500	310	365	1,000
K3B621120	1 x 120	18	12.95	2.5	19.5	1.6	27.0	2.0	33	2,030	0.153	1,300	350	420	1,000
K3B621150	1 x 150	18	14.27	2.5	21.0	2.0	29.5	2.0	35	2,440	0.124	1,200	395	475	1,000
K3B621185	1 x 185	30	15.98	2.5	22.5	2.0	31.0	2.1	37	2,850	0.0991	1,100	450	545	500
K3B621240	1 x 240	34	18.47	2.6	25.5	2.0	33.5	2.2	40	3,490	0.0754	1,000	520	640	500
K3B621300	1 x 300	34	20.68	2.8	28.0	2.0	36.5	2.3	43	4,190	0.0601	1,000	585	740	500
K3B621400	1 x 400	53	23.39	3.0	31.5	2.5	41.0	2.4	47	5,450	0.0470	900	670	850	250
K3B621500	1 x 500	53	26.67	3.2	35.5	2.5	44.5	2.6	51	6,620	0.0366	900	760	975	250
K3B621630	1 x 630	53	30.20	3.2	38.5	2.5	48.5	2.7	55	8,080	0.0283	800	860	1,130	250
K3B621800	1 x 800	53	34.00	3.2	42.5	2.5	52.5	2.8	60	9,900	0.0221	700	1,025	1,330	250
K3B6211000	1 x 1,000	53	40.00	3.2	48.5	2.5	58.5	3.1	67	12,190	0.0176	600	1,215	1,520	200

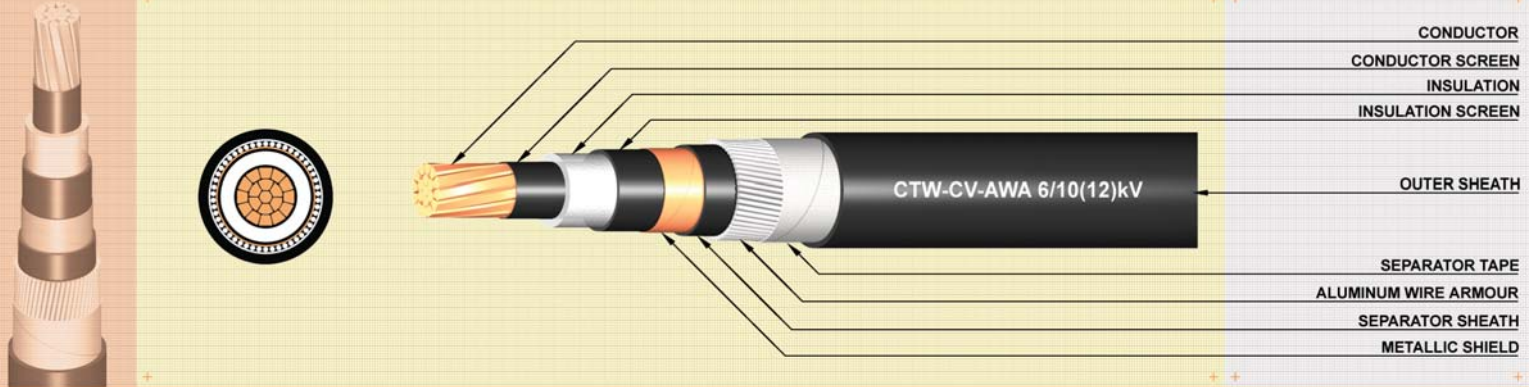
\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt, Spacing of cable = 2 x cable overall diameter



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV-AWA SINGLE CORE CU/XLPE/AWA/PVC 6/10 (12) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE INSULATED, COPPER CONDUCTOR WITH ALUMINUM WIRE ARMOUR



### CONSTRUCTION

Conductor	Compact round stranded annealed copper.
Conductor Screen	Semi-conducting cross-linked polyethylene.
Insulation	Cross-linked polyethylene. (XLPE)
Insulation Screen	Semi-conducting cross-linked polyethylene.
Metallic Shield	Annealed copper tape.
Separator Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)
Armour	Aluminum wire.
Separator Tape	Polyester and/or Spunbond tape.
Outer Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)

### APPLICATION

Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.

### CLASSIFICATION

Maximum Conductor Temperature 90 °C (Normal Operation)  
Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)

### REFERENCE

IEC 60228 & IEC 60502-2  
\*\* AC Test Voltage : 21 kV

### NOTE

A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.

Product code	Conductor			Thickness of insulation (mm)	Diameter over insulation (Approx.) (mm)	Diameter of armour wire (mm)	Diameter over armour (Approx.) (mm)	Thickness of outer sheath (mm)	Overall diameter (Approx.) (mm)	Cable weight (Approx.) (kg/km)	Maximum conductor resistance at 20°C (Ω/km)	Minimum insulation resistance at 20°C (MΩ-km)	Ampacities direct burial in ground at 30°C (A)	Allowable ampacities in free air at 40°C (ambient) (A)	Standard length (m/R)
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) (mm)												
K3E621016	1 x 16	6	4.69	3.4	13.0	1.6	21.0	1.8	25	810	1.15	3,000	110	120	1,000
K3E621025	1 x 25	6	5.90	3.4	14.0	1.6	22.0	1.8	26	940	0.727	2,700	140	160	1,000
K3E621035	1 x 35	6	6.95	3.4	15.0	1.6	23.0	1.8	27	1,080	0.524	2,400	170	195	1,000
K3E621050	1 x 50	6	8.33	3.4	16.5	1.6	24.5	1.9	29	1,290	0.387	2,200	200	235	1,000
K3E621070	1 x 70	12	9.73	3.4	18.0	1.6	26.0	1.9	30	1,530	0.268	1,900	250	290	1,000
K3E621095	1 x 95	15	11.45	3.4	19.5	1.6	28.0	2.0	32	1,850	0.193	1,700	295	360	1,000
K3E621120	1 x 120	18	12.95	3.4	21.0	2.0	30.0	2.0	35	2,230	0.153	1,600	335	415	1,000
K3E621150	1 x 150	18	14.27	3.4	22.5	2.0	31.5	2.1	36	2,580	0.124	1,500	375	470	1,000
K3E621185	1 x 185	30	15.98	3.4	24.5	2.0	33.0	2.2	38	2,990	0.0991	1,400	430	540	500
K3E621240	1 x 240	34	18.47	3.4	27.0	2.0	36.0	2.2	41	3,610	0.0754	1,200	495	635	500
K3E621300	1 x 300	34	20.68	3.4	29.0	2.0	38.0	2.3	43	4,270	0.0601	1,100	560	735	500
K3E621400	1 x 400	53	23.39	3.4	32.0	2.5	42.0	2.5	48	5,540	0.0470	1,000	640	845	250
K3E621500	1 x 500	53	26.67	3.4	35.5	2.5	46.0	2.6	52	6,650	0.0366	900	725	970	250
K3E621630	1 x 630	53	30.20	3.4	39.0	2.5	49.5	2.7	56	8,130	0.0283	800	820	1,125	250
K3E621800	1 x 800	53	34.00	3.4	43.0	2.5	54.0	2.9	60	9,980	0.0221	700	985	1,325	250
K3E6211000	1 x 1,000	53	40.00	3.4	49.0	2.5	60.0	3.1	67	12,230	0.0176	600	1,185	1,515	200

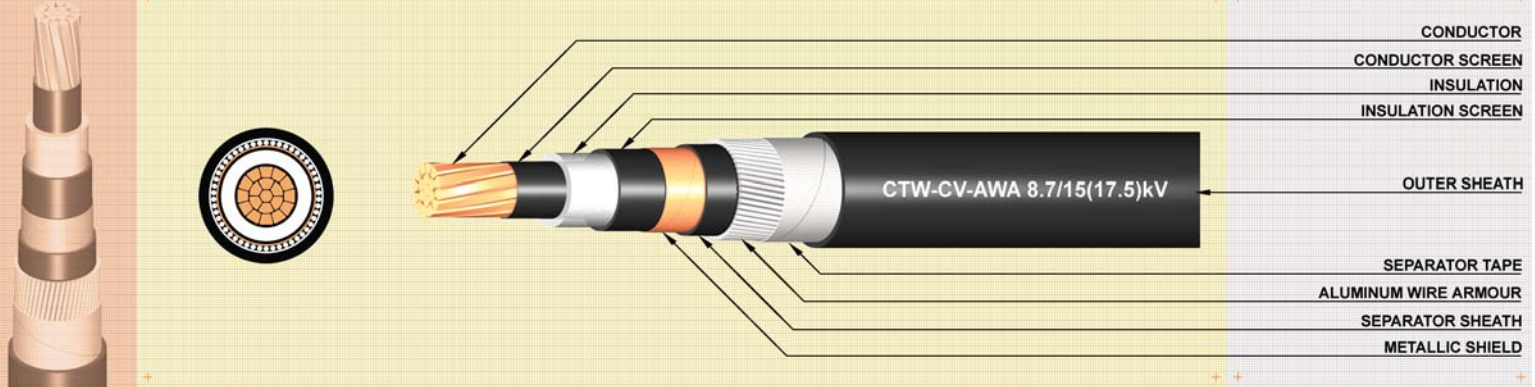
\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt, Spacing of cable = 2 x cable overall diameter  
R = Packing in reel



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV-AWA SINGLE CORE CU/XLPE/AWA/PVC 8.7/15 (17.5) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE INSULATED, COPPER CONDUCTOR WITH ALUMINUM WIRE ARMOUR



### CONSTRUCTION

Conductor	Compact round stranded annealed copper.
Conductor Screen	Semi-conducting cross-linked polyethylene.
Insulation	Cross-linked polyethylene. (XLPE)
Insulation Screen	Semi-conducting cross-linked polyethylene.
Metallic Shield	Annealed copper tape.
Separator Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)
Armour	Aluminum wire.
Separator Tape	Polyester and/or Spunbond tape.
Outer Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)

### APPLICATION

Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.

### CLASSIFICATION

Maximum Conductor Temperature 90 °C (Normal Operation)  
Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)

### REFERENCE

IEC 60228 & IEC 60502-2  
\*\* AC Test Voltage : 30.5 kV

### NOTE

A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.

Product code	Conductor			Thickness of insulation mm	Diameter over insulation (Approx.) mm	Diameter of armour wire mm	Diameter over armour (Approx.) mm	Thickness of outer sheath mm	Overall diameter (Approx.) mm	Cable weight (Approx.) kg/km	Maximum conductor resistance at 20°C Ω/km	Minimum insulation resistance at 20°C MΩ-km	Ampacities direct burial in ground at 30°C A	Allowable ampacities in free air at 40°C (ambient) A	Standard length m/R
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) mm												
K3F621025	1 x 25	6	5.90	4.5	16.0	1.6	24.5	1.8	28	1,070	0.727	3,200	140	155	1,000
K3F621035	1 x 35	6	6.95	4.5	17.0	1.6	25.5	1.9	30	1,220	0.524	2,900	170	190	1,000
K3F621050	1 x 50	6	8.33	4.5	18.5	1.6	27.0	1.9	31	1,425	0.387	2,700	200	230	1,000
K3F621070	1 x 70	12	9.73	4.5	20.0	1.6	28.5	2.0	33	1,690	0.268	2,400	250	285	1,000
K3F621095	1 x 95	15	11.45	4.5	22.0	2.0	31.0	2.1	36	2,095	0.193	2,200	295	355	1,000
K3F621120	1 x 120	18	12.95	4.5	23.5	2.0	32.5	2.1	37	2,395	0.153	2,000	335	410	1,000
K3F621150	1 x 150	18	14.27	4.5	25.0	2.0	34.0	2.2	39	2,755	0.124	1,800	375	455	500
K3F621185	1 x 185	30	15.98	4.5	26.5	2.0	36.0	2.2	41	3,160	0.0991	1,700	430	525	500
K3F621240	1 x 240	34	18.47	4.5	29.0	2.0	38.0	2.3	43	3,810	0.0754	1,500	495	620	500
K3F621300	1 x 300	34	20.68	4.5	31.5	2.5	41.0	2.4	47	4,640	0.0601	1,400	560	720	500
K3F621400	1 x 400	53	23.39	4.5	34.5	2.5	45.0	2.5	50	5,755	0.0470	1,300	640	825	250
K3F621500	1 x 500	53	26.67	4.5	38.0	2.5	48.0	2.7	54	6,919	0.0366	1,100	725	950	250
K3F621630	1 x 630	53	30.20	4.5	41.5	2.5	52.0	2.8	58	8,420	0.0283	1,000	820	1,120	250
K3F621800	1 x 800	53	34.00	4.5	45.0	2.5	56.0	2.9	62	10,220	0.0221	900	985	1,305	250
K3F6211000	1 x 1,000	53	40.00	4.5	51.5	2.5	62.0	3.2	69	12,560	0.0176	800	1,185	1,495	200

\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt, Spacing of cable = 2 x cable overall diameter



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV-AWA SINGLE CORE CU/XLPE/AWA/PVC 12/20 (24) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE INSULATED, COPPER CONDUCTOR WITH ALUMINUM WIRE ARMOUR



### CONSTRUCTION

Conductor	Compact round stranded annealed copper.
Conductor Screen	Semi-conducting cross-linked polyethylene.
Insulation	Cross-linked polyethylene. (XLPE)
Insulation Screen	Semi-conducting cross-linked polyethylene.
Metallic Shield	Annealed copper tape.
Separator Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)
Armour	Aluminum wire.
Separator Tape	Polyester and/or Spunbond tape.
Outer Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)

### APPLICATION

Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.

### CLASSIFICATION

Maximum Conductor Temperature 90 °C (Normal Operation)  
Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)

### REFERENCE

IEC 60228 & IEC 60502-2  
\*\* AC Test Voltage : 42 kV

### NOTE

A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.

Product code	Conductor			Thickness of insulation (mm)	Diameter over insulation (Approx.) (mm)	Diameter of armour wire (mm)	Diameter over armour (Approx.) (mm)	Thickness of outer sheath (mm)	Overall diameter (Approx.) (mm)	Cable weight (Approx.) (kg/km)	Maximum conductor resistance at 20°C (Ω/km)	Minimum insulation resistance at 20°C (MΩ-km)	Ampacities direct burial in ground at 30°C (A)	Allowable ampacities in free air at 40°C (ambient) (A)	Standard length (m/R)
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) (mm)												
K3G621035	1 x 35	6	6.95	5.5	19.5	1.6	27.50	2.0	32	1,360	0.524	3,300	170	200	1,000
K3G621050	1 x 50	6	8.33	5.5	21.0	2.0	29.00	2.0	34	1,645	0.387	3,100	200	240	1,000
K3G621070	1 x 70	12	9.73	5.5	22.5	2.0	31.00	2.1	36	1,925	0.268	2,800	250	295	1,000
K3G621095	1 x 95	15	11.45	5.5	24.0	2.0	33.00	2.1	38	2,240	0.193	2,500	295	365	1,000
K3G621120	1 x 120	18	12.95	5.5	25.5	2.0	34.50	2.2	39	2,560	0.153	2,300	335	420	1,000
K3G621150	1 x 150	18	14.27	5.5	27.0	2.0	36.00	2.2	41	2,905	0.124	2,200	375	475	500
K3G621185	1 x 185	30	15.98	5.5	28.5	2.0	37.50	2.3	43	3,340	0.0991	2,000	430	545	500
K3G621240	1 x 240	34	18.47	5.5	31.0	2.5	41.00	2.4	47	4,150	0.0754	1,800	495	640	500
K3G621300	1 x 300	34	20.68	5.5	33.5	2.5	43.50	2.5	49	4,850	0.0601	1,600	560	740	500
K3G621400	1 x 400	53	23.39	5.5	36.5	2.5	47.00	2.6	53	6,000	0.0470	1,500	640	850	250
K3G621500	1 x 500	53	26.67	5.5	40.0	2.5	50.50	2.7	57	7,130	0.0366	1,300	725	975	250
K3G621630	1 x 630	53	30.20	5.5	43.5	2.5	54.50	2.9	61	8,655	0.0283	1,200	820	1,130	250
K3G621800	1 x 800	53	34.00	5.5	47.5	2.5	58.00	3.0	65	10,510	0.0221	1,100	985	1,330	250
K3G621000	1 x 1,000	53	40.00	5.5	53.5	2.5	64.00	3.2	72	12,820	0.0176	1,000	1,185	1,520	200

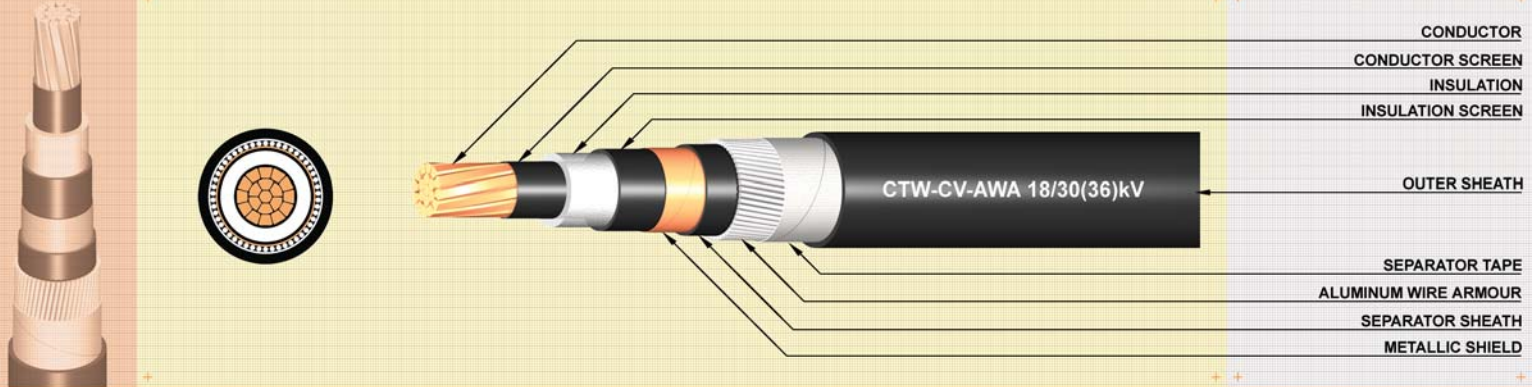
\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt, Spacing of cable = 2 x cable overall diameter  
R = Packing in reel



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV-AWA SINGLE CORE CU/XLPE/AWA/PVC 18/30 (36) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE INSULATED, COPPER CONDUCTOR WITH ALUMINUM WIRE ARMOUR



### CONSTRUCTION

Conductor	Compact round stranded annealed copper.
Conductor Screen	Semi-conducting cross-linked polyethylene.
Insulation	Cross-linked polyethylene. (XLPE)
Insulation Screen	Semi-conducting cross-linked polyethylene.
Metallic Shield	Annealed copper tape.
Separator Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)
Armour	Aluminum wire.
Separator Tape	Polyester and/or Spunbond tape.
Outer Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)

### APPLICATION

Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.

### CLASSIFICATION

Maximum Conductor Temperature 90 °C (Normal Operation)  
Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)

### REFERENCE

IEC 60228 & IEC 60502-2  
\*\* AC Test Voltage : 63 kV

### NOTE

A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.

Product code	Conductor			Thickness of insulation (mm)	Diameter over insulation (Approx.) (mm)	Diameter of armour wire (mm)	Diameter over armour (Approx.) (mm)	Thickness of outer sheath (mm)	Overall diameter (Approx.) (mm)	Cable weight (Approx.) (kg/km)	Maximum conductor resistance at 20°C (Ω/km)	Minimum insulation resistance at 20°C (MΩ-km)	Ampacities direct burial in ground at 30°C (A)	Allowable ampacities in free air at 40°C (ambient) (A)	Standard length (m/R)
	Nominal cross-sectional area core x mm²	Minimum number of wire No./mm	Diameter (Approx.) (mm)												
K3I621050	1 x 50	6	8.33	8.0	26.0	2.0	34.5	2.2	40	2,030	0.387	4,000	200	235	1,000
K3I621070	1 x 70	12	9.73	8.0	27.5	2.0	36.5	2.3	42	2,320	0.268	3,600	250	290	1,000
K3I621095	1 x 95	15	11.45	8.0	29.0	2.0	38.0	2.3	43	2,660	0.193	3,300	295	360	1,000
K3I621120	1 x 120	18	12.95	8.0	30.5	2.5	40.5	2.4	46	3,160	0.153	3,000	335	415	500
K3I621150	1 x 150	18	14.27	8.0	32.0	2.5	42.5	2.5	48	3,530	0.124	2,800	375	470	500
K3I621185	1 x 185	30	15.98	8.0	34.0	2.5	44.0	2.5	50	3,980	0.0991	2,700	430	540	500
K3I621240	1 x 240	34	18.47	8.0	36.5	2.5	47.0	2.6	53	4,690	0.0754	2,400	495	635	500
K3I621300	1 x 300	34	20.68	8.0	38.5	2.5	49.0	2.7	56	5,400	0.0601	2,200	560	735	250
K3I621400	1 x 400	53	23.39	8.0	41.5	2.5	52.5	2.8	59	6,580	0.0470	2,000	640	845	250
K3I621500	1 x 500	53	26.67	8.0	45.0	2.5	55.5	2.9	63	7,740	0.0366	1,800	725	970	250
K3I621630	1 x 630	53	30.20	8.0	48.5	2.5	59.5	3.1	67	9,320	0.0283	1,600	820	1,125	250
K3I621800	1 x 800	53	34.00	8.0	52.5	2.5	63.5	3.2	71	11,220	0.0221	1,500	985	1,325	250
K3I6211000	1 x 1,000	53	40.00	8.0	58.5	3.15	71.5	3.5	80	13,920	0.0176	1,400	1,185	1,515	200

\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt, Spacing of cable = 2 x cable overall diameter

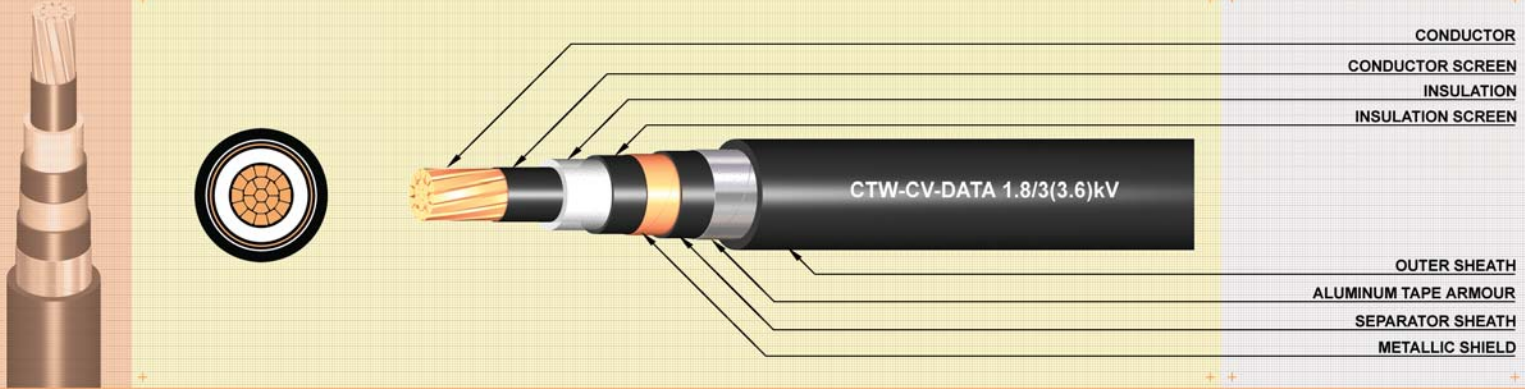




# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV-DATA SINGLE CORE CU/XLPE/DATA/PVC 1.8/3 (3.6) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE INSULATED, COPPER CONDUCTOR WITH DOUBLE ALUMINUM TAPE ARMOUR



CONSTRUCTION		APPLICATION	CLASSIFICATION
Conductor	Compact round stranded annealed copper.	Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.	Maximum Conductor Temperature 90 °C (Normal Operation)
Conductor Screen	Semi-conducting cross-linked polyethylene.		Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)
Insulation	Cross-linked polyethylene. (XLPE)	<b>REFERENCE</b> IEC 60228 & IEC 60502-1 ** AC Test Voltage : 6.5 kV	<b>NOTE</b> A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.
Insulation Screen	Semi-conducting cross-linked polyethylene.		
Metallic Shield	Annealed copper tape.		
Separator Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)		
Armour	Double aluminum tape.		
Outer Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)		

Product code	Conductor			Thickness of insulation (mm)	Diameter over insulation (Approx.) (mm)	Thickness of armour tape (mm)	Diameter over armour (Approx.) (mm)	Thickness of outer sheath (mm)	Overall diameter (Approx.) (mm)	Cable weight (Approx.) (kg/km)	Maximum conductor resistance at 20°C (Ω/km)	Minimum insulation resistance at 20°C (MΩ-km)	Ampacities direct burial in ground at 30°C (A)	Allowable ampacities in free air at 40°C (ambient) (A)	Standard length (m/R)
	Nominal cross-sectional area core x mm²	Minimum number of wire No./mm	Diameter (Approx.) (mm)												
K3A521010	1 x 10	6	3.72	2.0	9.0	2 x 0.5	16.0	1.8	20	500	1.83	2,700	90	100	1,000
K3A521016	1 x 16	6	4.69	2.0	10.0	2 x 0.5	17.0	1.8	21	590	1.15	2,400	115	125	1,000
K3A521025	1 x 25	6	5.90	2.0	11.5	2 x 0.5	18.0	1.8	22	710	0.727	2,100	150	165	1,000
K3A521035	1 x 35	6	6.95	2.0	12.5	2 x 0.5	19.0	1.8	23	840	0.524	1,800	180	200	1,000
K3A521050	1 x 50	6	8.33	2.0	13.5	2 x 0.5	20.5	1.8	25	1,020	0.387	1,600	210	240	1,000
K3A521070	1 x 70	12	9.73	2.0	15.5	2 x 0.5	22.0	1.8	26	1,250	0.268	1,400	260	295	1,000
K3A521095	1 x 95	15	11.45	2.0	17.0	2 x 0.5	23.5	1.8	28	1,540	0.193	1,200	310	365	1,000
K3A521120	1 x 120	18	12.95	2.0	18.5	2 x 0.5	25.5	1.9	30	1,830	0.153	1,100	350	420	1,000
K3A521150	1 x 150	18	14.27	2.0	20.0	2 x 0.5	26.5	1.9	31	2,150	0.124	1,100	395	475	1,000
K3A521185	1 x 185	30	15.98	2.0	21.5	2 x 0.5	28.5	2.0	33	2,540	0.0991	900	450	545	1,000
K3A521240	1 x 240	34	18.47	2.0	24.0	2 x 0.5	30.5	2.1	36	3,150	0.0754	800	520	640	500
K3A521300	1 x 300	34	20.68	2.0	26.5	2 x 0.5	33.0	2.1	38	3,770	0.0601	700	585	740	500
K3A521400	1 x 400	53	23.39	2.0	29.5	2 x 0.5	36.0	2.3	41	4,830	0.0470	700	670	850	500
K3A521500	1 x 500	53	26.67	2.2	33.5	2 x 0.5	40.0	2.4	45	5,940	0.0366	700	760	975	250
K3A521630	1 x 630	53	30.20	2.4	37.5	2 x 0.5	44.0	2.5	50	7,390	0.0283	600	860	1,130	250
K3A521800	1 x 800	53	34.00	2.6	41.5	2 x 0.5	48.5	2.7	55	9,210	0.0221	600	1,025	1,330	250
K3A5211000	1 x 1,000	53	40.00	2.8	47.5	2 x 0.5	55.0	2.9	62	11,420	0.0176	600	1,215	1,520	200

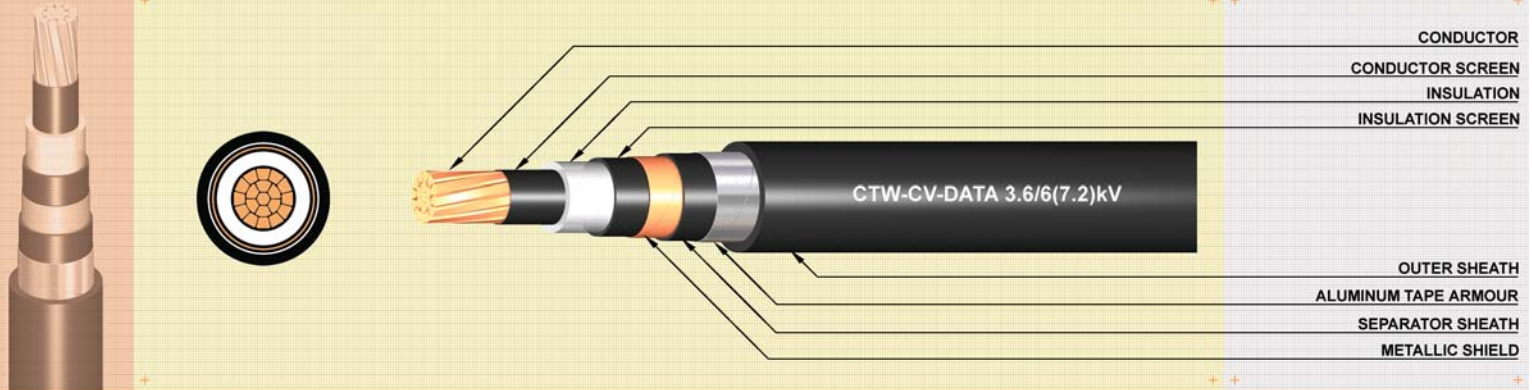
\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt, Spacing of cable = 2 x cable overall diameter  
R = Packing in reel



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV-DATA SINGLE CORE CU/XLPE/DATA/PVC 3.6/6 (7.2) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE INSULATED, COPPER CONDUCTOR WITH DOUBLE ALUMINUM TAPE ARMOUR



### CONSTRUCTION

Conductor	Compact round stranded annealed copper.
Conductor Screen	Semi-conducting cross-linked polyethylene.
Insulation	Cross-linked polyethylene. (XLPE)
Insulation Screen	Semi-conducting cross-linked polyethylene.
Metallic Shield	Annealed copper tape.
Separator Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)
Armour	Double aluminum tape.
Outer Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)

### APPLICATION

Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.

### CLASSIFICATION

Maximum Conductor Temperature 90 °C (Normal Operation)  
Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)

### REFERENCE

IEC 60228 & IEC 60502-2  
\*\* AC Test Voltage : 12.5 kV

### NOTE

A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.

Product code	Conductor			Thickness of insulation mm	Diameter over insulation (Approx.) mm	Thickness of armour tape mm	Diameter over armour (Approx.) mm	Thickness of outer sheath mm	Overall diameter (Approx.) mm	Cable weight (Approx.) kg/km	Maximum conductor resistance at 20°C Ω/km	Minimum insulation resistance at 20°C MΩ-km	Ampacities direct burial in ground at 30°C A	Allowable ampacities in free air at 40°C (ambient) A	Standard length m/R
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) mm												
K3B521010	1 x 10	6	3.72	2.5	10.0	2 x 0.5	17.0	1.8	21	540	1.83	3,100	90	100	1,000
K3B521016	1 x 16	6	4.69	2.5	11.0	2 x 0.5	18.0	1.8	22	630	1.15	2,800	115	125	1,000
K3B521025	1 x 25	6	5.90	2.5	12.5	2 x 0.5	19.0	1.8	23	760	0.727	2,400	150	165	1,000
K3B521035	1 x 35	6	6.95	2.5	13.5	2 x 0.5	20.5	1.8	24	890	0.524	2,100	180	200	1,000
K3B521050	1 x 50	6	8.33	2.5	14.5	2 x 0.5	21.5	1.8	26	1,070	0.387	1,900	210	240	1,000
K3B521070	1 x 70	12	9.73	2.5	16.5	2 x 0.5	23.0	1.8	27	1,310	0.268	1,700	260	295	1,000
K3B521095	1 x 95	15	11.45	2.5	18.0	2 x 0.5	24.5	1.9	29	1,610	0.193	1,500	310	365	1,000
K3B521120	1 x 120	18	12.95	2.5	19.5	2 x 0.5	26.5	1.9	31	1,890	0.153	1,300	350	420	1,000
K3B521150	1 x 150	18	14.27	2.5	21.0	2 x 0.5	27.5	2.0	32	2,220	0.124	1,200	395	475	1,000
K3B521185	1 x 185	30	15.98	2.5	22.5	2 x 0.5	29.5	2.0	34	2,610	0.0991	1,100	450	545	1,000
K3B521240	1 x 240	34	18.47	2.6	25.5	2 x 0.5	32.0	2.1	37	3,230	0.0754	1,000	520	640	500
K3B521300	1 x 300	34	20.68	2.8	28.0	2 x 0.5	35.0	2.2	40	3,900	0.0601	1,000	585	740	500
K3B521400	1 x 400	53	23.39	3.0	31.5	2 x 0.5	38.5	2.3	44	5,000	0.0470	900	670	850	500
K3B521500	1 x 500	53	26.67	3.2	35.5	2 x 0.5	42.5	2.5	48	6,120	0.0366	900	760	975	250
K3B521630	1 x 630	53	30.20	3.2	38.5	2 x 0.5	46.5	2.6	52	7,550	0.0283	800	860	1,130	250
K3B521800	1 x 800	53	34.00	3.2	42.5	2 x 0.5	50.5	2.7	57	9,320	0.0221	700	1,025	1,330	250
K3B5211000	1 x 1,000	53	40.00	3.2	48.5	2 x 0.5	56.5	3.0	63	11,530	0.0176	600	1,215	1,520	200

\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt, Spacing of cable = 2 x cable overall diameter

26 Medium & High Voltage Power Cable

R = Packing in reel



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV-DATA SINGLE CORE CU/XLPE/DATA/PVC 6/10 (12) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE INSULATED, COPPER CONDUCTOR WITH DOUBLE ALUMINUM TAPE ARMOUR



### CONSTRUCTION

Conductor	Compact round stranded annealed copper.
Conductor Screen	Semi-conducting cross-linked polyethylene.
Insulation	Cross-linked polyethylene. (XLPE)
Insulation Screen	Semi-conducting cross-linked polyethylene.
Metallic Shield	Annealed copper tape.
Separator Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)
Armour	Double aluminum tape.
Outer Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)

### APPLICATION

Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.

### CLASSIFICATION

Maximum Conductor Temperature 90 °C (Normal Operation)  
Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)

### REFERENCE

IEC 60228 & IEC 60502-2  
\*\* AC Test Voltage : 21 kV

### NOTE

A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.

Product code	Conductor			Thickness of insulation (mm)	Diameter over insulation (Approx.) (mm)	Thickness of armour tape (mm)	Diameter over armour (Approx.) (mm)	Thickness of outer sheath (mm)	Overall diameter (Approx.) (mm)	Cable weight (Approx.) (kg/km)	Maximum conductor resistance at 20°C (Ω/km)	Minimum insulation resistance at 20°C (MΩ-km)	Ampacities direct burial in ground at 30°C (A)	Allowable ampacities in free air at 40°C (ambient) (A)	Standard length (m/R)
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) (mm)												
K3E521016	1 x 16	6	4.69	3.4	13.0	2 x 0.5	20.0	1.8	24	720	1.15	3,000	110	120	1,000
K3E521025	1 x 25	6	5.90	3.4	14.0	2 x 0.5	21.0	1.8	25	840	0.727	2,700	140	160	1,000
K3E521035	1 x 35	6	6.95	3.4	15.0	2 x 0.5	22.0	1.8	26	980	0.524	2,400	170	195	1,000
K3E521050	1 x 50	6	8.33	3.4	16.5	2 x 0.5	23.5	1.8	28	1,170	0.387	2,200	200	235	1,000
K3E521070	1 x 70	12	9.73	3.4	18.0	2 x 0.5	25.0	1.9	29	1,420	0.268	1,900	250	290	1,000
K3E521095	1 x 95	15	11.45	3.4	19.5	2 x 0.5	26.5	1.9	31	1,710	0.193	1,700	295	360	1,000
K3E521120	1 x 120	18	12.95	3.4	21.0	2 x 0.5	28.5	2.0	33	2,010	0.153	1,600	335	415	1,000
K3E521150	1 x 150	18	14.27	3.4	22.5	2 x 0.5	29.5	2.0	34	2,330	0.124	1,500	375	470	1,000
K3E521185	1 x 185	30	15.98	3.4	24.5	2 x 0.5	31.5	2.1	36	2,740	0.0991	1,400	430	540	1,000
K3E521240	1 x 240	34	18.47	3.4	27.0	2 x 0.5	34.0	2.2	39	3,350	0.0754	1,200	495	635	500
K3E521300	1 x 300	34	20.68	3.4	29.0	2 x 0.5	36.5	2.2	41	3,990	0.0601	1,100	560	735	500
K3E521400	1 x 400	53	23.39	3.4	32.0	2 x 0.5	39.5	2.4	45	5,090	0.0470	1,000	640	845	500
K3E521500	1 x 500	53	26.67	3.4	35.5	2 x 0.5	43.0	2.5	48	6,160	0.0366	900	725	970	250
K3E521630	1 x 630	53	30.20	3.4	39.0	2 x 0.5	47.0	2.6	53	7,590	0.0283	800	820	1,125	250
K3E521800	1 x 800	53	34.00	3.4	43.0	2 x 0.5	51.0	2.7	57	9,360	0.0221	700	985	1,325	250
K3E5211000	1 x 1,000	53	40.00	3.4	49.0	2 x 0.5	57.5	3.0	64	11,580	0.0176	600	1,185	1,515	200

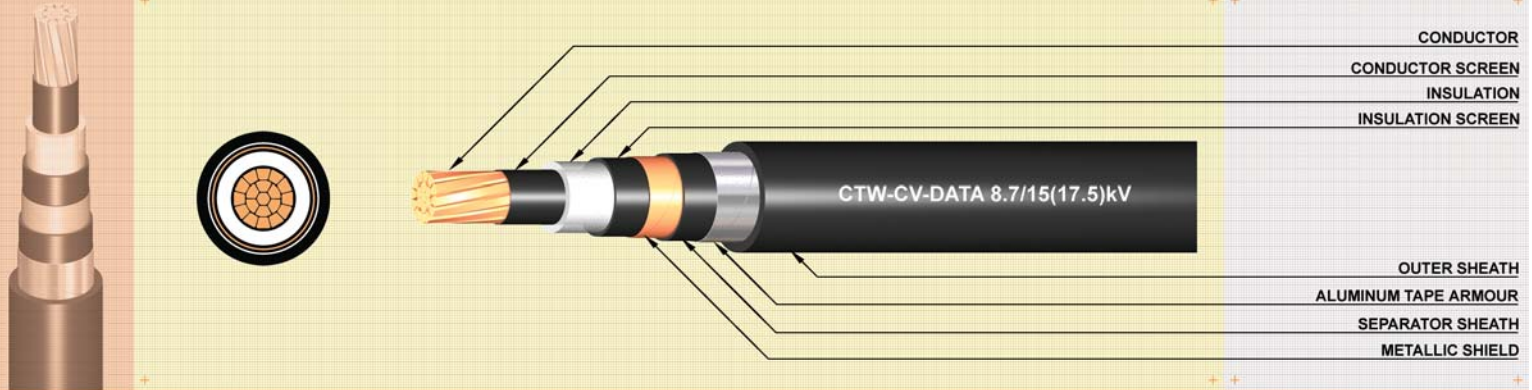
\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt, Spacing of cable = 2 x cable overall diameter  
R = Packing in reel



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV-DATA SINGLE CORE CU/XLPE/DATA/PVC 8.7/15 (17.5) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE INSULATED, COPPER CONDUCTOR WITH DOUBLE ALUMINUM TAPE ARMOUR



### CONSTRUCTION

Conductor	Compact round stranded annealed copper.
Conductor Screen	Semi-conducting cross-linked polyethylene.
Insulation	Cross-linked polyethylene. (XLPE)
Insulation Screen	Semi-conducting cross-linked polyethylene.
Metallic Shield	Annealed copper tape.
Separator Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)
Armour	Double aluminum tape.
Outer Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)

### APPLICATION

Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.

### CLASSIFICATION

Maximum Conductor Temperature 90 °C (Normal Operation)  
Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)

### REFERENCE

IEC 60228 & IEC 60502-2  
\*\* AC Test Voltage : 30.5 kV

### NOTE

A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.

Product code	Conductor			Thickness of insulation (mm)	Diameter over insulation (Approx.) (mm)	Thickness of armour tape (mm)	Diameter over armour (Approx.) (mm)	Thickness of outer sheath (mm)	Overall diameter (Approx.) (mm)	Cable weight (Approx.) (kg/km)	Maximum conductor resistance at 20°C (Ω/km)	Minimum insulation resistance at 20°C (MΩ·km)	Ampacities direct burial in ground at 30°C (A)	Allowable ampacities in free air at 40°C (ambient) (A)	Standard length (m/R)
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) (mm)												
K3F521025	1 x 25	6	5.90	4.5	16.0	2 x 0.5	22.5	1.8	27	960	0.727	3,200	140	155	1,000
K3F521035	1 x 35	6	6.95	4.5	17.0	2 x 0.5	24.5	1.8	29	1,090	0.524	2,900	170	190	1,000
K3F521050	1 x 50	6	8.33	4.5	18.5	2 x 0.5	25.5	1.9	30	1,300	0.387	2,700	200	230	1,000
K3F521070	1 x 70	12	9.73	4.5	20.0	2 x 0.5	27.5	1.9	32	1,540	0.268	2,400	250	285	1,000
K3F521095	1 x 95	15	11.45	4.5	22.0	2 x 0.5	29.0	2.0	33	1,860	0.193	2,200	295	355	1,000
K3F521120	1 x 120	18	12.95	4.5	23.5	2 x 0.5	30.5	2.1	35	2,160	0.153	2,000	335	410	1,000
K3F521150	1 x 150	18	14.27	4.5	25.0	2 x 0.5	32.0	2.1	37	2,490	0.124	1,800	375	455	1,000
K3F521185	1 x 185	30	15.98	4.5	26.5	2 x 0.5	34.0	2.2	38	2,900	0.0991	1,700	430	525	500
K3F521240	1 x 240	34	18.47	4.5	29.0	2 x 0.5	36.5	2.3	41	3,530	0.0754	1,500	495	620	500
K3F521300	1 x 300	34	20.68	4.5	31.5	2 x 0.5	38.5	2.3	44	4,190	0.0601	1,400	560	720	500
K3F521400	1 x 400	53	23.39	4.5	34.5	2 x 0.5	42.0	2.4	47	5,270	0.0470	1,300	640	825	500
K3F521500	1 x 500	53	26.67	4.5	38.0	2 x 0.5	45.5	2.6	51	6,390	0.0366	1,100	725	950	250
K3F521630	1 x 630	53	30.20	4.5	41.5	2 x 0.5	49.5	2.7	55	7,840	0.0283	1,000	820	1,120	250
K3F521800	1 x 800	53	34.00	4.5	45.0	2 x 0.5	53.5	2.8	59	9,610	0.0221	900	985	1,305	250
K3F5211000	1 x 1,000	53	40.00	4.5	51.5	2 x 0.5	59.5	3.1	67	11,880	0.0176	800	1,185	1,495	200

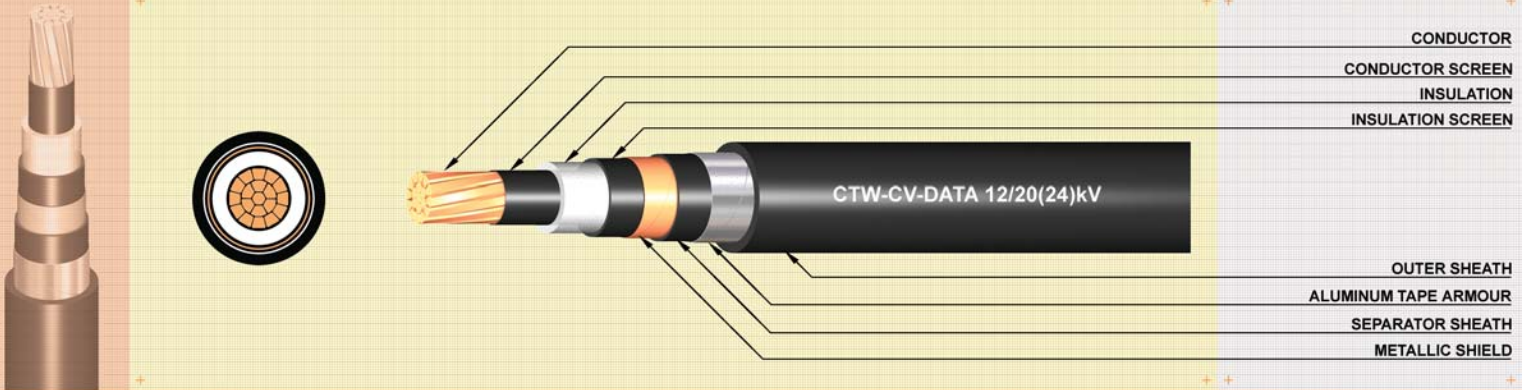
\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt, Spacing of cable = 2 x cable overall diameter



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV-DATA SINGLE CORE CU/XLPE/DATA/PVC 12/20 (24) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE INSULATED, COPPER CONDUCTOR WITH DOUBLE ALUMINUM TAPE ARMOUR



### CONSTRUCTION

Conductor	Compact round stranded annealed copper.
Conductor Screen	Semi-conducting cross-linked polyethylene.
Insulation	Cross-linked polyethylene. (XLPE)
Insulation Screen	Semi-conducting cross-linked polyethylene.
Metallic Shield	Annealed copper tape.
Separator Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)
Armour	Double aluminum tape.
Outer Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)

### APPLICATION

Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.

### CLASSIFICATION

Maximum Conductor Temperature 90 °C (Normal Operation)  
Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)

### REFERENCE

IEC 60228 & IEC 60502-2  
\*\* AC Test Voltage : 42 kV

### NOTE

A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.

Product code	Conductor			Thickness of insulation mm	Diameter over insulation (Approx.) mm	Thickness of armour tape mm	Diameter over armour (Approx.) mm	Thickness of outer sheath mm	Overall diameter (Approx.) mm	Cable weight (Approx.) kg/km	Maximum conductor resistance at 20°C Ω/km	Minimum insulation resistance at 20°C MΩ-km	Ampacities direct burial in ground at 30°C A	Allowable ampacities in free air at 40°C (ambient) A	Standard length m/R
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) mm												
K3G521035	1 x 35	6	6.95	5.5	19.5	2 x 0.5	26.5	1.9	31	1,220	0.524	3,300	170	200	1,000
K3G521050	1 x 50	6	8.33	5.5	21.0	2 x 0.5	27.5	2.0	32	1,430	0.387	3,100	200	240	1,000
K3G521070	1 x 70	12	9.73	5.5	22.5	2 x 0.5	29.5	2.0	34	1,680	0.268	2,800	250	295	1,000
K3G521095	1 x 95	15	11.45	5.5	24.0	2 x 0.5	31.0	2.1	36	2,000	0.193	2,500	295	365	1,000
K3G521120	1 x 120	18	12.95	5.5	25.5	2 x 0.5	32.5	2.1	37	2,300	0.153	2,300	335	420	1,000
K3G521150	1 x 150	18	14.27	5.5	27.0	2 x 0.5	34.0	2.2	39	2,650	0.124	2,200	375	475	1,000
K3G521185	1 x 185	30	15.98	5.5	28.5	2 x 0.5	36.0	2.2	41	3,050	0.0991	2,000	430	545	500
K3G521240	1 x 240	34	18.47	5.5	31.0	2 x 0.5	38.5	2.3	44	3,700	0.0754	1,800	495	640	500
K3G521300	1 x 300	34	20.68	5.5	33.5	2 x 0.5	41.0	2.4	46	4,370	0.0601	1,600	560	740	500
K3G521400	1 x 400	53	23.39	5.5	36.5	2 x 0.5	44.0	2.5	50	5,480	0.0470	1,500	640	850	250
K3G521500	1 x 500	53	26.67	5.5	40.0	2 x 0.5	47.5	2.6	53	6,580	0.0366	1,300	725	975	250
K3G521630	1 x 630	53	30.20	5.5	43.5	2 x 0.5	51.5	2.8	58	8,060	0.0283	1,200	820	1,130	250
K3G521800	1 x 800	53	34.00	5.5	47.5	2 x 0.5	55.5	2.9	62	9,870	0.0221	1,100	985	1,330	250
K3G5211000	1 x 1,000	53	40.00	5.5	53.5	2 x 0.5	61.5	3.1	68	12,110	0.0176	1,000	1,185	1,520	200

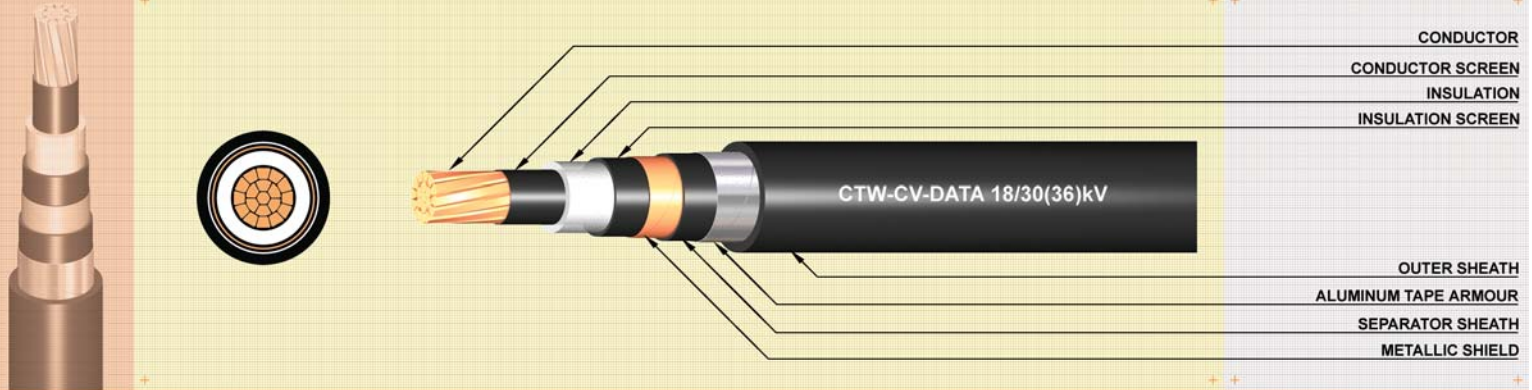
\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt, Spacing of cable = 2 x cable overall diameter  
R = Packing in reel



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV-DATA SINGLE CORE CU/XLPE/DATA/PVC 18/30 (36) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE INSULATED, COPPER CONDUCTOR WITH DOUBLE ALUMINUM TAPE ARMOUR



### CONSTRUCTION

Conductor	Compact round stranded annealed copper.
Conductor Screen	Semi-conducting cross-linked polyethylene.
Insulation	Cross-linked polyethylene. (XLPE)
Insulation Screen	Semi-conducting cross-linked polyethylene.
Metallic Shield	Annealed copper tape.
Separator Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)
Armour	Double aluminum tape.
Outer Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)

### APPLICATION

Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.

### CLASSIFICATION

Maximum Conductor Temperature 90 °C (Normal Operation)  
Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)

### REFERENCE

IEC 60228 & IEC 60502-2  
\*\* AC Test Voltage : 63 kV

### NOTE

A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.

Product code	Conductor			Thickness of insulation (mm)	Diameter over insulation (Approx.) (mm)	Thickness of armour tape (mm)	Diameter over armour (Approx.) (mm)	Thickness of outer sheath (mm)	Overall diameter (Approx.) (mm)	Cable weight (Approx.) (kg/km)	Maximum conductor resistance at 20°C (Ω/km)	Minimum insulation resistance at 20°C (MΩ-km)	Ampacities direct burial in ground at 30°C (A)	Allowable ampacities in free air at 40°C (ambient) (A)	Standard length (m/R)
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) (mm)												
K3I521050	1 x 50	6	8.33	8.0	26.0	2 x 0.5	32.5	2.1	38	1,770	0.387	4,000	200	235	1,000
K3I521070	1 x 70	12	9.73	8.0	27.5	2 x 0.5	34.5	2.2	40	2,040	0.268	3,600	250	290	1,000
K3I521095	1 x 95	15	11.45	8.0	29.0	2 x 0.5	36.5	2.3	41	2,380	0.193	3,300	295	360	1,000
K3I521120	1 x 120	18	12.95	8.0	30.5	2 x 0.5	38.0	2.3	43	2,710	0.153	3,000	335	415	1,000
K3I521150	1 x 150	18	14.27	8.0	32.0	2 x 0.5	39.5	2.4	45	3,080	0.124	2,800	375	470	500
K3I521185	1 x 185	30	15.98	8.0	34.0	2 x 0.5	41.5	2.4	47	3,490	0.0991	2,700	430	540	500
K3I521240	1 x 240	34	18.47	8.0	36.5	2 x 0.5	44.0	2.5	50	4,170	0.0754	2,400	495	635	500
K3I521300	1 x 300	34	20.68	8.0	38.5	2 x 0.5	46.0	2.6	52	4,870	0.0601	2,200	560	735	500
K3I521400	1 x 400	53	23.39	8.0	41.5	2 x 0.5	49.5	2.7	56	6,010	0.0470	2,000	640	845	250
K3I521500	1 x 500	53	26.67	8.0	45.0	2 x 0.5	53.0	2.8	59	7,140	0.0366	1,800	725	970	250
K3I521630	1 x 630	53	30.20	8.0	48.5	2 x 0.5	56.5	3.0	64	8,670	0.0283	1,600	820	1,125	250
K3I521800	1 x 800	53	34.00	8.0	52.5	2 x 0.5	60.5	3.1	68	10,510	0.0221	1,500	985	1,325	250
K3I5211000	1 x 1,000	53	40.00	8.0	58.5	2 x 0.5	67.0	3.3	75	12,810	0.0176	1,400	1,185	1,515	200

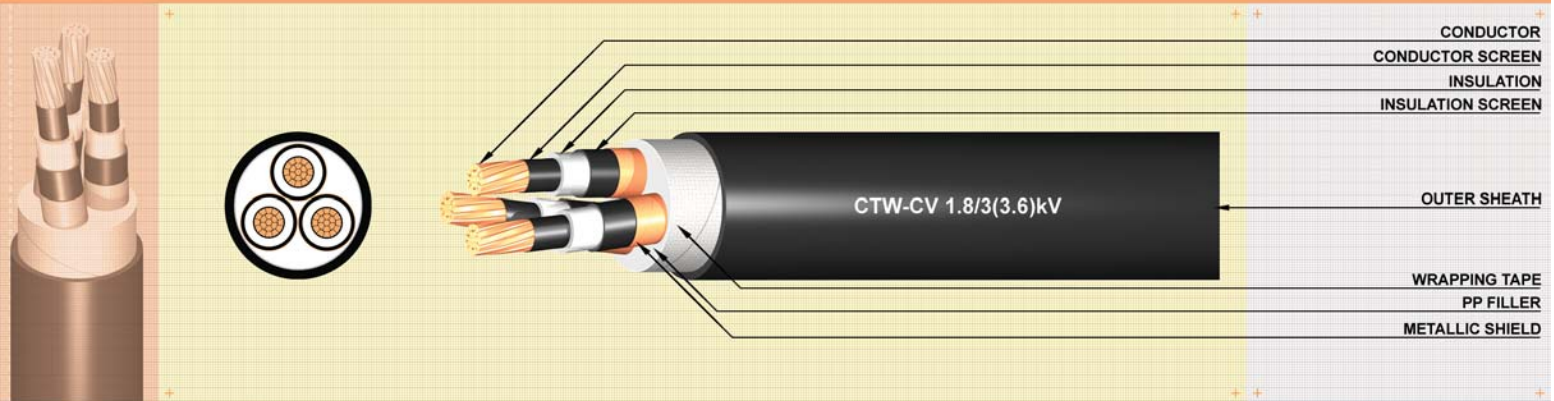
\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt, Spacing of cable = 2 x cable overall diameter



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW - CV THREE CORES CU/XLPE/PVC 1.8/3 (3.6) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE INSULATED, COPPER CONDUCTOR WITHOUT ARMOUR



### CONSTRUCTION

Conductor	Compact round stranded annealed copper.
Conductor Screen	Semi-conducting cross-linked polyethylene.
Insulation	Cross-linked polyethylene. (XLPE)
Insulation Screen	Semi-conducting cross-linked polyethylene.
Metallic Shield	Annealed copper tape.
Filler	Polypropylene (Nonhygroscopic material)
Wrapping Tape	Polyester and/or Spunbond tape.
Outer Sheath	Black Polyvinyl chloride (ST2) ; Option : Polyethylene (ST7)

### APPLICATION

Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.

### CLASSIFICATION

Maximum Conductor Temperature 90 °C (Normal Operation)  
Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)

### REFERENCE

IEC 60228 & IEC 60502-1  
\*\* AC Test Voltage : 6.5 kV

### NOTE

A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.

Product code	Conductor			Thickness of insulation mm	Diameter over insulation (Approx.) mm	Thickness of outer sheath mm	Overall diameter (Approx.) mm	Cable weight (Approx.) kg/km	Maximum conductor resistance at 20°C Ω/km	Minimum insulation resistance at 20°C MΩ-km	Ampacities direct burial in ground at 30°C A	Allowable ampacities in free air at 40°C (ambient) A	Standard length m/R
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) mm										
K4A123010	3 x 10	6	3.72	2.0	9.0	1.8	27	900	1.83	2,700	85	80	1,000
K4A123016	3 x 16	6	4.69	2.0	10.0	1.9	30	1,150	1.15	2,400	105	105	1,000
K4A123025	3 x 25	6	5.90	2.0	11.5	2.0	33	1,510	0.727	2,100	135	140	1,000
K4A123035	3 x 35	6	6.95	2.0	12.5	2.1	36	1,880	0.524	1,800	165	170	1,000
K4A123050	3 x 50	6	8.33	2.0	13.5	2.2	39	2,430	0.387	1,600	195	205	1,000
K4A123070	3 x 70	12	9.73	2.0	15.5	2.3	43	3,120	0.268	1,400	235	250	500
K4A123095	3 x 95	15	11.45	2.0	17.0	2.4	47	3,990	0.193	1,200	280	305	500
K4A123120	3 x 120	18	12.95	2.0	18.5	2.5	50	4,840	0.153	1,100	315	345	500
K4A123150	3 x 150	18	14.27	2.0	20.0	2.6	53	5,820	0.124	1,100	350	390	250
K4A123185	3 x 185	30	15.98	2.0	21.5	2.7	57	6,980	0.0991	900	395	445	250
K4A123240	3 x 240	34	18.47	2.0	24.0	2.9	63	8,800	0.0754	800	450	520	250
K4A123300	3 x 300	34	20.68	2.0	26.5	3.1	68	10,790	0.0601	700	495	580	250
K4A123400	3 x 400	53	23.39	2.0	29.5	3.3	75	14,000	0.0470	700	545	655	200

\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt  
R = Packing in reel



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW - CV THREE CORES CU/XLPE/PVC 3.6/6 (7.2) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE INSULATED, COPPER CONDUCTOR WITHOUT ARMOUR



### CONSTRUCTION

Conductor	Compact round stranded annealed copper.
Conductor Screen	Semi-conducting cross-linked polyethylene.
Insulation	Cross-linked polyethylene. (XLPE)
Insulation Screen	Semi-conducting cross-linked polyethylene.
Metallic Shield	Annealed copper tape.
Filler	Polypropylene (Nonhygroscopic material)
Wrapping Tape	Polyester and/or Spunbond tape.
Outer Sheath	Black Polyvinyl chloride (ST2) ; Option : Polyethylene (ST7)

### APPLICATION

Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.

### CLASSIFICATION

Maximum Conductor Temperature 90 °C (Normal Operation)  
Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)

### REFERENCE

IEC 60228 & IEC 60502-2  
\*\* AC Test Voltage : 12.5 kV

### NOTE

A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.

Product code	Conductor			Thickness of insulation mm	Diameter over insulation (Approx.) mm	Thickness of outer sheath mm	Overall diameter (Approx.) mm	Cable weight (Approx.) kg/km	Maximum conductor resistance at 20°C Ω/km	Minimum insulation resistance at 20°C MΩ-km	Ampacities direct burial in ground at 30°C A	Allowable ampacities in free air at 40°C (ambient) A	Standard length m/R
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) mm										
K4B123010	3 x 10	6	3.72	2.5	10.0	2.0	32	1,010	1.83	3,100	85	80	1,000
K4B123016	3 x 16	6	4.69	2.5	11.0	2.0	33	1,270	1.15	2,800	105	105	1,000
K4B123025	3 x 25	6	5.90	2.5	12.5	2.1	36	1,640	0.727	2,400	135	140	1,000
K4B123035	3 x 35	6	6.95	2.5	13.5	2.1	38	2,000	0.524	2,100	165	170	1,000
K4B123050	3 x 50	6	8.33	2.5	14.5	2.2	42	2,560	0.387	1,900	195	205	1,000
K4B123070	3 x 70	12	9.73	2.5	16.5	2.3	45	3,260	0.268	1,700	235	250	500
K4B123095	3 x 95	15	11.45	2.5	18.0	2.5	49	4,160	0.193	1,500	280	305	500
K4B123120	3 x 120	18	12.95	2.5	19.5	2.6	52	5,020	0.153	1,300	315	345	500
K4B123150	3 x 150	18	14.27	2.5	21.0	2.7	56	6,010	0.124	1,200	350	390	250
K4B123185	3 x 185	30	15.98	2.5	22.5	2.8	59	7,180	0.0991	1,100	395	445	250
K4B123240	3 x 240	34	18.47	2.6	25.5	3.0	66	9,100	0.0754	1,000	450	520	250
K4B123300	3 x 300	34	20.68	2.8	28.0	3.2	72	11,160	0.0601	1,000	495	580	250
K4B123400	3 x 400	53	23.39	3.0	31.5	3.4	85	14,000	0.0470	900	545	655	200

\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt





# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV THREE CORES CU/XLPE/PVC 6/10 (12) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE INSULATED, COPPER CONDUCTOR WITHOUT ARMOUR



CONSTRUCTION		APPLICATION	CLASSIFICATION
Conductor	Compact round stranded annealed copper.	Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.	Maximum Conductor Temperature 90 °C (Normal Operation)
Conductor Screen	Semi-conducting cross-linked polyethylene.		Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)
Insulation	Cross-linked polyethylene. (XLPE)		
Insulation Screen	Semi-conducting cross-linked polyethylene.		
Metallic Shield	Annealed copper tape.	IEC 60228 & IEC 60502-2 ** AC Test Voltage : 21 kV	A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.
Filler	Polypropylene (Nonhygroscopic material)		
Wrapping Tape	Polyester and/or Spunbond tape.		
Outer Sheath	Black Polyvinyl chloride (ST2) ; Option : Polyethylene (ST7)		
		REFERENCE	NOTE

Product code	Conductor			Thickness of insulation mm	Diameter over insulation (Approx.) mm	Thickness of outer sheath mm	Overall diameter (Approx.) mm	Cable weight (Approx.) kg/km	Maximum conductor resistance at 20°C Ω/km	Minimum insulation resistance at 20°C MΩ-km	Ampacities direct burial in ground at 30°C A	Allowable ampacities in free air at 40°C (ambient) A	Standard length m/R
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) mm										
K4E123016	3 x 16	6	4.69	3.4	13.0	2.1	38	1,490	1.15	3,000	105	105	1,000
K4E123025	3 x 25	6	5.90	3.4	14.0	2.2	40	1,870	0.727	2,700	135	140	1,000
K4E123035	3 x 35	6	6.95	3.4	15.0	2.3	43	2,270	0.524	2,400	165	170	1,000
K4E123050	3 x 50	6	8.33	3.4	16.5	2.4	46	2,850	0.387	2,200	195	210	1,000
K4E123070	3 x 70	12	9.73	3.4	18.0	2.5	49	3,570	0.268	1,900	235	255	500
K4E123095	3 x 95	15	11.45	3.4	19.5	2.6	53	4,470	0.193	1,700	280	310	500
K4E123120	3 x 120	18	12.95	3.4	21.0	2.7	57	5,360	0.153	1,600	315	350	500
K4E123150	3 x 150	18	14.27	3.4	22.5	2.8	60	6,360	0.124	1,500	350	395	250
K4E123185	3 x 185	30	15.98	3.4	24.5	3.0	64	7,590	0.0991	1,400	395	450	250
K4E123240	3 x 240	34	18.47	3.4	27.0	3.2	70	9,480	0.0754	1,200	450	525	250
K4E123300	3 x 300	34	20.68	3.4	29.0	3.3	75	11,450	0.0601	1,100	495	585	250
K4E123400	3 x 400	53	23.39	3.4	32.0	3.6	82	14,760	0.0470	1,000	545	660	200

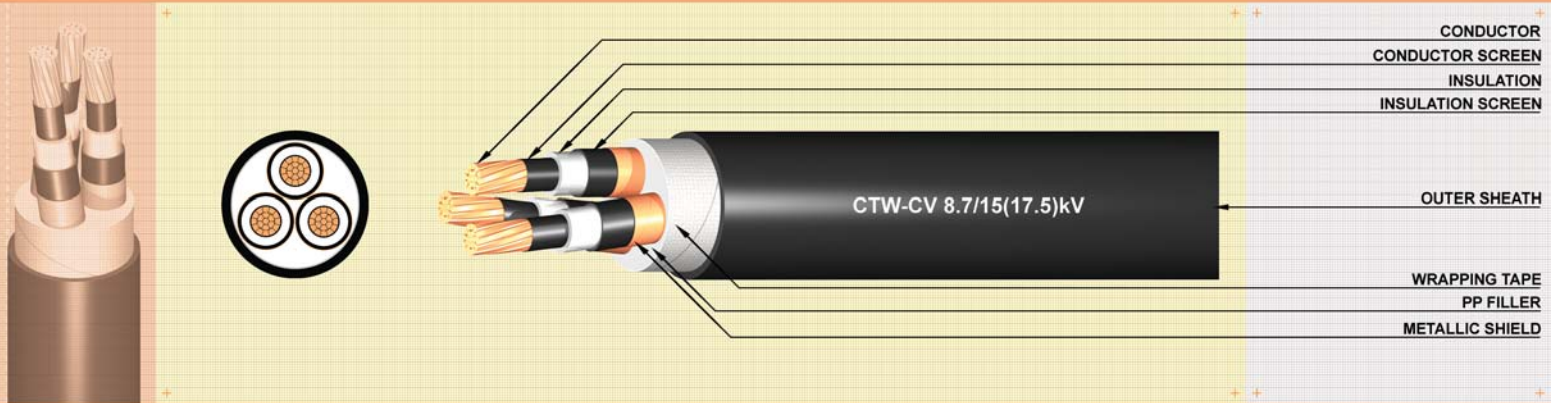
\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt  
R = Packing in reel



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW - CV THREE CORES CU/XLPE/PVC 8.7/15 (17.5) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE INSULATED, COPPER CONDUCTOR WITHOUT ARMOUR



### CONSTRUCTION

Conductor	Compact round stranded annealed copper.
Conductor Screen	Semi-conducting cross-linked polyethylene.
Insulation	Cross-linked polyethylene. (XLPE)
Insulation Screen	Semi-conducting cross-linked polyethylene.
Metallic Shield	Annealed copper tape.
Filler	Polypropylene (Nonhygroscopic material)
Wrapping Tape	Polyester and/or Spunbond tape.
Outer Sheath	Black Polyvinyl chloride (ST2) ; Option : Polyethylene (ST7)

### APPLICATION

Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.

### CLASSIFICATION

Maximum Conductor Temperature 90 °C (Normal Operation)  
Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)

### REFERENCE

IEC 60228 & IEC 60502-2  
\*\* AC Test Voltage : 30.5 kV

### NOTE

A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.

Product code	Conductor			Thickness of insulation mm	Diameter over insulation (Approx.) mm	Thickness of outer sheath mm	Overall diameter (Approx.) mm	Cable weight (Approx.) kg/km	Maximum conductor resistance at 20°C Ω/km	Minimum insulation resistance at 20°C MΩ-km	Ampacities direct burial in ground at 30°C A	Allowable ampacities in free air at 40°C (ambient) A	Standard length m/R
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) mm										
K4F123025	3 x 25	6	5.90	4.5	16.0	2.4	46	2,210	0.727	3,200	135	140	1,000
K4F123035	3 x 35	6	6.95	4.5	17.0	2.5	48	2,630	0.524	2,900	165	170	1,000
K4F123050	3 x 50	6	8.33	4.5	18.5	2.6	52	3,230	0.387	2,700	195	210	500
K4F123070	3 x 70	12	9.73	4.5	20.0	2.7	55	3,980	0.268	2,400	235	255	500
K4F123095	3 x 95	15	11.45	4.5	22.0	2.8	59	4,900	0.193	2,200	280	310	500
K4F123120	3 x 120	18	12.95	4.5	23.5	2.9	62	5,810	0.153	2,000	315	350	250
K4F123150	3 x 150	18	14.27	4.5	25.0	3.0	65	6,840	0.124	1,800	350	395	250
K4F123185	3 x 185	30	15.98	4.5	26.5	3.1	70	8,070	0.0991	1,700	390	450	500
K4F123240	3 x 240	34	18.47	4.5	29.0	3.3	76	10,000	0.0754	1,500	445	525	250
K4F123300	3 x 300	34	20.68	4.5	31.5	3.5	81	12,040	0.0601	1,400	490	585	200
K4F123400	3 x 400	53	23.39	4.5	34.5	3.7	88	15,370	0.0470	1,300	540	660	200

\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW - CV THREE CORES CU/XLPE/PVC 12/20 (24) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE INSULATED, COPPER CONDUCTOR WITHOUT ARMOUR



### CONSTRUCTION

Conductor	Compact round stranded annealed copper.
Conductor Screen	Semi-conducting cross-linked polyethylene.
Insulation	Cross-linked polyethylene. (XLPE)
Insulation Screen	Semi-conducting cross-linked polyethylene.
Metallic Shield	Annealed copper tape.
Filler	Polypropylene (Nonhygroscopic material)
Wrapping Tape	Polyester and/or Spunbond tape.
Outer Sheath	Black Polyvinyl chloride (ST2) ; Option : Polyethylene (ST7)

### APPLICATION

Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.

### REFERENCE

IEC 60228 & IEC 60502-2  
 \*\* AC Test Voltage : 42 kV

### CLASSIFICATION

Maximum Conductor Temperature 90 °C (Normal Operation)  
 Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)

### NOTE

A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.

Product code	Conductor			Thickness of insulation (mm)	Diameter over insulation (Approx.) (mm)	Thickness of outer sheath (mm)	Overall diameter (Approx.) (mm)	Cable weight (Approx.) (kg/km)	Maximum conductor resistance at 20°C (Ω/km)	Minimum insulation resistance at 20°C (MΩ-km)	Ampacities direct burial in ground at 30°C (A)	Allowable ampacities in free air at 40°C (ambient) (A)	Standard length (m/R)
	Nominal cross-sectional area core x mm²	Minimum number of wire No./mm	Diameter (Approx.) (mm)										
K4G123035	3 x 35	6	6.95	5.5	19.5	2.6	53	2,970	0.524	3,300	165	175	500
K4G123050	3 x 50	6	8.33	5.5	21.0	2.7	56	3,590	0.387	3,100	195	215	500
K4G123070	3 x 70	12	9.73	5.5	22.5	2.8	60	4,350	0.268	2,800	235	260	500
K4G123095	3 x 95	15	11.45	5.5	24.0	3.0	64	5,340	0.193	2,500	280	315	500
K4G123120	3 x 120	18	12.95	5.5	25.5	3.1	67	6,270	0.153	2,300	315	355	250
K4G123150	3 x 150	18	14.27	5.5	27.0	3.2	71	7,320	0.124	2,200	350	400	250
K4G123185	3 x 185	30	15.98	5.5	28.5	3.3	75	8,570	0.0991	2,000	390	455	250
K4G123240	3 x 240	34	18.47	5.5	31.0	3.5	81	10,540	0.0754	1,800	445	525	250
K4G123300	3 x 300	34	20.68	5.5	33.5	3.7	86	12,620	0.0601	1,600	490	585	200
K4G123400	3 x 400	53	23.39	5.5	36.5	3.9	93	15,990	0.0470	1,500	540	660	200

\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt  
 R = Packing in reel



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : **CTW - CV THREE CORES CU/XLPE/PVC 18/30 (36) kV**

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE INSULATED, COPPER CONDUCTOR WITHOUT ARMOUR



### CONSTRUCTION

Conductor	Compact round stranded annealed copper.
Conductor Screen	Semi-conducting cross-linked polyethylene.
Insulation	Cross-linked polyethylene. (XLPE)
Insulation Screen	Semi-conducting cross-linked polyethylene.
Metallic Shield	Annealed copper tape.
Filler	Polypropylene (Nonhygroscopic material)
Wrapping Tape	Polyester and/or Spunbond tape.
Outer Sheath	Black Polyvinyl chloride (ST2) ; Option : Polyethylene (ST7)

### APPLICATION

Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.

### CLASSIFICATION

Maximum Conductor Temperature 90 °C (Normal Operation)  
Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)

### REFERENCE

IEC 60228 & IEC 60502-2  
\*\* AC Test Voltage : 63 kV

### NOTE

A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.

Product code	Conductor			Thickness of insulation mm	Diameter over insulation (Approx.) mm	Thickness of outer sheath mm	Overall diameter (Approx.) mm	Cable weight (Approx.) kg/km	Maximum conductor resistance at 20°C Ω/km	Minimum insulation resistance at 20°C MΩ-km	Ampacities direct burial in ground at 30°C A	Allowable ampacities in free air at 40°C (ambient) A	Standard length m/R
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) mm										
K4I123050	3 x 50	6	8.33	8.0	26.0	3.1	68	4,660	0.387	4,000	195	215	250
K4I123070	3 x 70	12	9.73	8.0	27.5	3.2	72	5,470	0.268	3,600	235	260	250
K4I123095	3 x 95	15	11.45	8.0	29.0	3.4	77	6,530	0.193	3,300	275	315	250
K4I123120	3 x 120	18	12.95	8.0	30.5	3.5	80	7,520	0.153	3,000	310	355	250
K4I123150	3 x 150	18	14.27	8.0	32.0	3.6	83	8,620	0.124	2,800	345	400	250
K4I123185	3 x 185	30	15.98	8.0	34.0	3.7	87	9,930	0.0991	2,700	390	455	250
K4I123240	3 x 240	34	18.47	8.0	36.5	3.9	93	11,990	0.0754	2,400	445	525	250
K4I123300	3 x 300	34	20.68	8.0	38.5	4.1	98	14,160	0.0601	2,200	490	585	200
K4I123400	3 x 400	53	23.39	8.0	41.5	4.3	105	17,640	0.0470	2,000	540	660	200

\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV-SWA THREE CORES CU/XLPE/SWA/PVC 1.8/3 (3.6) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE INSULATED, COPPER CONDUCTOR WITH STEEL WIRE ARMOUR



### CONSTRUCTION

Conductor	Compact round stranded annealed copper.
Conductor Screen	Semi-conducting cross-linked polyethylene.
Insulation	Cross-linked polyethylene. (XLPE)
Insulation Screen	Semi-conducting cross-linked polyethylene.
Metallic Shield	Annealed copper tape.
Filler	Polypropylene (Nonhygroscopic material)
Wrapping Tape	Polyester and/or Spunbond tape.
Separator Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)
Armour	Galvanized steel wire.
Separator Tape	Polyester and/or Spunbond tape.
Outer Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)

### APPLICATION

Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.

### CLASSIFICATION

Maximum Conductor Temperature 90 °C (Normal Operation)  
Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)

### REFERENCE

IEC 60228 & IEC 60502-1

\*\* AC Test Voltage : 6.5 kV

### NOTE

A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.

Product code	Conductor			Thickness of insulation (mm)	Diameter over insulation (Approx.) (mm)	Diameter of armour wire (mm)	Diameter over armour (Approx.) (mm)	Thickness of outer sheath (mm)	Overall diameter (Approx.) (mm)	Cable weight (Approx.) (kg/km)	Maximum conductor resistance at 20°C (Ω/km)	Minimum insulation resistance at 20°C (MΩ-km)	Ampacities direct burial in ground at 30°C (A)	Allowable ampacities in free air at 40°C (ambient) (A)	Standard length (m/R)
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) (mm)												
K4A423010	3 x 10	6	3.72	2.0	9.0	2.0	30.0	2.0	35	2,160	1.83	2,700	85	80	1,000
K4A423016	3 x 16	6	4.69	2.0	10.0	2.0	32.0	2.1	38	2,500	1.15	2,400	105	105	1,000
K4A423025	3 x 25	6	5.90	2.0	11.5	2.0	35.0	2.2	40	2,980	0.727	2,100	135	140	500
K4A423035	3 x 35	6	6.95	2.0	12.5	2.0	37.0	2.3	43	3,450	0.524	1,800	165	170	500
K4A423050	3 x 50	6	8.33	2.0	13.5	2.5	41.0	2.4	47	4,540	0.387	1,600	195	205	500
K4A423070	3 x 70	12	9.73	2.0	15.5	2.5	44.0	2.5	51	5,420	0.268	1,400	235	250	250
K4A423095	3 x 95	15	11.45	2.0	17.0	2.5	48.0	2.7	55	6,560	0.193	1,200	280	305	250
K4A423120	3 x 120	18	12.95	2.0	18.5	2.5	51.5	2.8	59	7,620	0.153	1,100	315	345	250
K4A423150	3 x 150	18	14.27	2.0	20.0	2.5	54.5	2.9	62	8,740	0.124	1,100	350	390	250
K4A423185	3 x 185	30	15.98	2.0	21.5	2.5	58.5	3.0	66	10,160	0.0991	900	395	445	250
K4A423240	3 x 240	34	18.47	2.0	24.0	2.5	64.0	3.2	72	12,350	0.0754	800	450	520	200
K4A423300	3 x 300	34	20.68	2.0	26.5	3.15	70.5	3.5	80	15,520	0.0601	700	495	580	200
K4A423400	3 x 400	53	23.39	2.0	29.5	3.15	77.0	3.7	87	19,220	0.0470	700	545	655	200

\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt  
R = Packing in reel



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV-SWA THREE CORES CU/XLPE/SWA/PVC 3.6/6 (7.2) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE INSULATED, COPPER CONDUCTOR WITH STEEL WIRE ARMOUR



### CONSTRUCTION

Conductor	Compact round stranded annealed copper.
Conductor Screen	Semi-conducting cross-linked polyethylene.
Insulation	Cross-linked polyethylene. (XLPE)
Insulation Screen	Semi-conducting cross-linked polyethylene.
Metallic Shield	Annealed copper tape.
Filler	Polypropylene (Nonhygroscopic material)
Wrapping Tape	Polyester and/or Spunbond tape.
Separator Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)
Armour	Galvanized steel wire.
Separator Tape	Polyester and/or Spunbond tape.
Outer Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)

### APPLICATION

Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.

### CLASSIFICATION

Maximum Conductor Temperature 90 °C (Normal Operation)  
Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)

### REFERENCE

IEC 60228 & IEC 60502-2  
\*\* AC Test Voltage : 12.5 kV

### NOTE

A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.

Product code	Conductor			Thickness of insulation mm	Diameter over insulation (Approx.) mm	Diameter of armour wire mm	Diameter over armour (Approx.) mm	Thickness of outer sheath mm	Overall diameter (Approx.) mm	Cable weight (Approx.) kg/km	Maximum conductor resistance at 20°C Ω/km	Minimum insulation resistance at 20°C MΩ-km	Ampacities direct burial in ground at 30°C A	Allowable ampacities in free air at 40°C (ambient) A	Standard length m/R
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) mm												
K4B423010	3 x 10	6	3.72	2.5	10.0	2.0	32.0	2.1	38	2,360	1.83	3,100	85	80	1,000
K4B423016	3 x 16	6	4.69	2.5	11.0	2.0	34.5	2.2	40	2,720	1.15	2,800	105	105	500
K4B423025	3 x 25	6	5.90	2.5	12.5	2.0	37.0	2.3	43	3,200	0.727	2,400	135	140	500
K4B423035	3 x 35	6	6.95	2.5	13.5	2.5	40.5	2.4	47	4,090	0.524	2,100	165	170	500
K4B423050	3 x 50	6	8.33	2.5	14.5	2.5	43.5	2.5	50	4,830	0.387	1,900	195	205	500
K4B423070	3 x 70	12	9.73	2.5	16.5	2.5	46.5	2.6	53	5,740	0.268	1,700	235	250	250
K4B423095	3 x 95	15	11.45	2.5	18.0	2.5	50.5	2.8	57	6,830	0.193	1,500	280	305	250
K4B423120	3 x 120	18	12.95	2.5	19.5	2.5	54.0	2.9	61	7,900	0.153	1,300	315	345	250
K4B423150	3 x 150	18	14.27	2.5	21.0	2.5	57.0	3.0	64	9,100	0.124	1,200	350	390	250
K4B423185	3 x 185	30	15.98	2.5	22.5	2.5	61.0	3.1	69	10,510	0.0991	1,100	395	445	250
K4B423240	3 x 240	34	18.47	2.6	25.5	3.15	68.0	3.4	77	13,680	0.0754	1,000	450	520	200
K4B423300	3 x 300	34	20.68	2.8	28.0	3.15	74.0	3.6	84	16,160	0.0601	1,000	495	580	200
K4B423400	3 x 400	53	23.39	3.0	31.5	3.15	82.0	3.9	92	20,160	0.0470	900	545	655	200

\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV-SWA THREE CORES CU/XLPE/SWA/PVC 6/10 (12) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE INSULATED, COPPER CONDUCTOR WITH STEEL WIRE ARMOUR



### CONSTRUCTION

Conductor	Compact round stranded annealed copper.
Conductor Screen	Semi-conducting cross-linked polyethylene.
Insulation	Cross-linked polyethylene. (XLPE)
Insulation Screen	Semi-conducting cross-linked polyethylene.
Metallic Shield	Annealed copper tape.
Filler	Polypropylene (Nonhygroscopic material)
Wrapping Tape	Polyester and/or Spunbond tape.
Separator Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)
Armour	Galvanized steel wire.
Separator Tape	Polyester and/or Spunbond tape.
Outer Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)

### APPLICATION

Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.

### CLASSIFICATION

Maximum Conductor Temperature 90 °C (Normal Operation)  
Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)

### REFERENCE

IEC 60228 & IEC 60502-2  
\*\* AC Test Voltage : 21 kV

### NOTE

A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.

Product code	Conductor			Thickness of insulation (mm)	Diameter over insulation (Approx.) (mm)	Diameter of armour wire (mm)	Diameter over armour (Approx.) (mm)	Thickness of outer sheath (mm)	Overall diameter (Approx.) (mm)	Cable weight (Approx.) (kg/km)	Maximum conductor resistance at 20°C (Ω/km)	Minimum insulation resistance at 20°C (MΩ-km)	Ampacities direct burial in ground at 30°C (A)	Allowable ampacities in free air at 40°C (ambient) (A)	Standard length (m/R)
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) (mm)												
K4E423016	3 x 16	6	4.69	3.4	13.0	2.0	38.5	2.3	44	3,120	1.15	3,000	105	105	500
K4E423025	3 x 25	6	5.90	3.4	14.0	2.5	42.0	2.5	49	4,090	0.727	2,700	135	140	500
K4E423035	3 x 35	6	6.95	3.4	15.0	2.5	44.5	2.6	50	4,590	0.524	2,400	165	170	500
K4E423050	3 x 50	6	8.33	3.4	16.5	2.5	47.5	2.7	54	5,370	0.387	2,200	195	210	500
K4E423070	3 x 70	12	9.73	3.4	18.0	2.5	51.0	2.8	58	6,300	0.268	1,900	235	255	250
K4E423095	3 x 95	15	11.45	3.4	19.5	2.5	54.5	2.9	62	7,390	0.193	1,700	280	310	250
K4E423120	3 x 120	18	12.95	3.4	21.0	2.5	58.0	3.0	66	8,530	0.153	1,600	315	350	250
K4E423150	3 x 150	18	14.27	3.4	22.5	2.5	61.0	3.1	69	9,680	0.124	1,500	350	395	250
K4E423185	3 x 185	30	15.98	3.4	24.5	2.5	65.0	3.3	73	11,180	0.0991	1,400	395	450	250
K4E423240	3 x 240	34	18.47	3.4	27.0	3.15	72.0	3.5	81	14,270	0.0754	1,200	450	525	200
K4E423300	3 x 300	34	20.68	3.4	29.0	3.15	77.0	3.7	87	16,680	0.0601	1,100	495	585	200
K4E423400	3 x 400	53	23.39	3.4	32.0	3.15	84.0	3.9	94	20,540	0.0470	1,000	545	660	200

\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt  
R = Packing in reel



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV-SWA THREE CORES CU/XLPE/SWA/PVC 8.7/15 (17.5) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE INSULATED, COPPER CONDUCTOR WITH STEEL WIRE ARMOUR



### CONSTRUCTION

Conductor	Compact round stranded annealed copper.
Conductor Screen	Semi-conducting cross-linked polyethylene.
Insulation	Cross-linked polyethylene. (XLPE)
Insulation Screen	Semi-conducting cross-linked polyethylene.
Metallic Shield	Annealed copper tape.
Filler	Polypropylene (Nonhygroscopic material)
Wrapping Tape	Polyester and/or Spunbond tape.
Separator Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)
Armour	Galvanized steel wire.
Separator Tape	Polyester and/or Spunbond tape.
Outer Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)

### APPLICATION

Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.

### CLASSIFICATION

Maximum Conductor Temperature 90 °C (Normal Operation)  
Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)

### REFERENCE

IEC 60228 & IEC 60502-2  
\*\* AC Test Voltage : 30.5 kV

### NOTE

A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.

Product code	Conductor			Thickness of insulation (mm)	Diameter over insulation (Approx.) (mm)	Diameter of armour wire (mm)	Diameter over armour (Approx.) (mm)	Thickness of outer sheath (mm)	Overall diameter (Approx.) (mm)	Cable weight (Approx.) (kg/km)	Maximum conductor resistance at 20°C (Ω/km)	Minimum insulation resistance at 20°C (MΩ-km)	Ampacities direct burial in ground at 30°C (A)	Allowable ampacities in free air at 40°C (ambient) (A)	Standard length (m/R)
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) (mm)												
K4F423025	3 x 25	6	5.90	4.5	16.0	2.5	47.5	2.7	54	4,730	0.727	3,200	135	140	500
K4F423035	3 x 35	6	6.95	4.5	17.0	2.5	49.5	2.7	56	5,220	0.524	2,900	165	170	500
K4F423050	3 x 50	6	8.33	4.5	18.5	2.5	52.5	2.8	60	6,030	0.387	2,700	195	210	250
K4F423070	3 x 70	12	9.73	4.5	20.0	2.5	56.0	3.0	64	7,020	0.268	2,400	235	255	250
K4F423095	3 x 95	15	11.45	4.5	22.0	2.5	59.5	3.1	68	8,180	0.193	2,200	280	310	250
K4F423120	3 x 120	18	12.95	4.5	23.5	2.5	63.5	3.2	72	9,310	0.153	2,000	315	350	250
K4F423150	3 x 150	18	14.27	4.5	25.0	3.15	67.5	3.4	77	11,340	0.124	1,800	350	395	250
K4F423185	3 x 185	30	15.98	4.5	26.5	3.15	71.5	3.5	81	12,890	0.0991	1,700	390	450	200
K4F423240	3 x 240	34	18.47	4.5	29.0	3.15	77.0	3.7	87	15,220	0.0754	1,500	445	525	200
K4F423300	3 x 300	34	20.68	4.5	31.5	3.15	82.0	3.9	92	17,680	0.0601	1,400	490	585	200
K4F423400	3 x 400	53	23.39	4.5	34.5	3.15	89.0	4.1	100	21,540	0.0470	1,300	540	660	200

\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt





# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV-SWA THREE CORES CU/XLPE/SWA/PVC 12/20 (24) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE INSULATED, COPPER CONDUCTOR WITH STEEL WIRE ARMOUR



### CONSTRUCTION

Conductor	Compact round stranded annealed copper.
Conductor Screen	Semi-conducting cross-linked polyethylene.
Insulation	Cross-linked polyethylene. (XLPE)
Insulation Screen	Semi-conducting cross-linked polyethylene.
Metallic Shield	Annealed copper tape.
Filler	Polypropylene (Nonhygroscopic material)
Wrapping Tape	Polyester and/or Spunbond tape.
Separator Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)
Armour	Galvanized steel wire.
Separator Tape	Polyester and/or Spunbond tape.
Outer Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)

### APPLICATION

Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.

### CLASSIFICATION

Maximum Conductor Temperature 90 °C (Normal Operation)  
Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)

### REFERENCE

IEC 60228 & IEC 60502-2  
\*\* AC Test Voltage : 42 kV

### NOTE

A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.

Product code	Conductor			Thickness of insulation (mm)	Diameter over insulation (Approx.) (mm)	Diameter of armour wire (mm)	Diameter over armour (Approx.) (mm)	Thickness of outer sheath (mm)	Overall diameter (Approx.) (mm)	Cable weight (Approx.) (kg/km)	Maximum conductor resistance at 20°C (Ω/km)	Minimum insulation resistance at 20°C (MΩ-km)	Ampacities direct burial in ground at 30°C (A)	Allowable ampacities in free air at 40°C (ambient) (A)	Standard length (m/R)
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) (mm)												
K4G423035	3 x 35	6	6.95	5.5	19.5	2.5	54.5	2.9	62	5,890	0.524	3,300	165	175	250
K4G423050	3 x 50	6	8.33	5.5	21.0	2.5	57.5	3.0	65	6,720	0.387	3,100	195	215	250
K4G423070	3 x 70	12	9.73	5.5	22.5	2.5	60.5	3.1	69	7,670	0.268	2,800	235	260	250
K4G423095	3 x 95	15	11.45	5.5	24.0	2.5	64.5	3.3	73	8,880	0.193	2,500	280	315	250
K4G423120	3 x 120	18	12.95	5.5	25.5	3.15	69.5	3.4	79	10,910	0.153	2,300	315	355	250
K4G423150	3 x 150	18	14.27	5.5	27.0	3.15	72.5	3.5	82	12,180	0.124	2,200	350	400	200
K4G423185	3 x 185	30	15.98	5.5	28.5	3.15	76.0	3.7	86	13,730	0.0991	2,000	390	455	200
K4G423240	3 x 240	34	18.47	5.5	31.0	3.15	82.0	3.9	92	16,170	0.0754	1,800	445	525	200
K4G423300	3 x 300	34	20.68	5.5	33.5	3.15	87.0	4.0	97	18,560	0.0601	1,600	490	585	200
K4G423400	3 x 400	53	23.39	5.5	36.5	3.15	93.5	4.2	105	22,530	0.0470	1,500	540	660	200

\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt  
R = Packing in reel



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV-SWA THREE CORES CU/XLPE/SWA/PVC 18/30 (36) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE INSULATED, COPPER CONDUCTOR WITH STEEL WIRE ARMOUR



### CONSTRUCTION

Conductor	Compact round stranded annealed copper.
Conductor Screen	Semi-conducting cross-linked polyethylene.
Insulation	Cross-linked polyethylene. (XLPE)
Insulation Screen	Semi-conducting cross-linked polyethylene.
Metallic Shield	Annealed copper tape.
Filler	Polypropylene (Nonhygroscopic material)
Wrapping Tape	Polyester and/or Spunbond tape.
Separator Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)
Armour	Galvanized steel wire.
Separator Tape	Polyester and/or Spunbond tape.
Outer Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)

### APPLICATION

Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.

### CLASSIFICATION

Maximum Conductor Temperature 90 °C (Normal Operation)  
Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)

### REFERENCE

IEC 60228 & IEC 60502-2  
\*\* AC Test Voltage : 63 kV

### NOTE

A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.

Product code	Conductor			Thickness of insulation (mm)	Diameter over insulation (Approx.) (mm)	Diameter of armour wire (mm)	Diameter over armour (Approx.) (mm)	Thickness of outer sheath (mm)	Overall diameter (Approx.) (mm)	Cable weight (Approx.) (kg/km)	Maximum conductor resistance at 20°C (Ω/km)	Minimum insulation resistance at 20°C (MΩ-km)	Ampacities direct burial in ground at 30°C (A)	Allowable ampacities in free air at 40°C (ambient) (A)	Standard length (m/R)
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) (mm)												
K4I423050	3 x 50	6	8.33	8.0	26.0	3.15	70.5	3.5	80	9,400	0.387	4,000	195	215	250
K4I423070	3 x 70	12	9.73	8.0	27.5	3.15	74.0	3.6	83	10,480	0.268	3,600	235	260	250
K4I423095	3 x 95	15	11.45	8.0	29.0	3.15	77.5	3.7	87	11,790	0.193	3,300	275	315	250
K4I423120	3 x 120	18	12.95	8.0	30.5	3.15	81.0	3.8	91	13,040	0.153	3,000	310	355	200
K4I423150	3 x 150	18	14.27	8.0	32.0	3.15	84.0	3.9	95	14,400	0.124	2,800	345	400	200
K4I423185	3 x 185	30	15.98	8.0	34.0	3.15	88.0	4.1	98	15,990	0.0991	2,700	390	455	200
K4I423240	3 x 240	34	18.47	8.0	36.5	3.15	93.5	4.3	105	18,540	0.0754	2,400	445	525	200
K4I423300	3 x 300	34	20.68	8.0	38.5	3.15	98.5	4.4	110	21,080	0.0601	2,200	490	585	200
K4I423400	3 x 400	53	23.39	8.0	41.5	3.15	106.0	4.7	117	25,160	0.0470	2,000	540	660	200

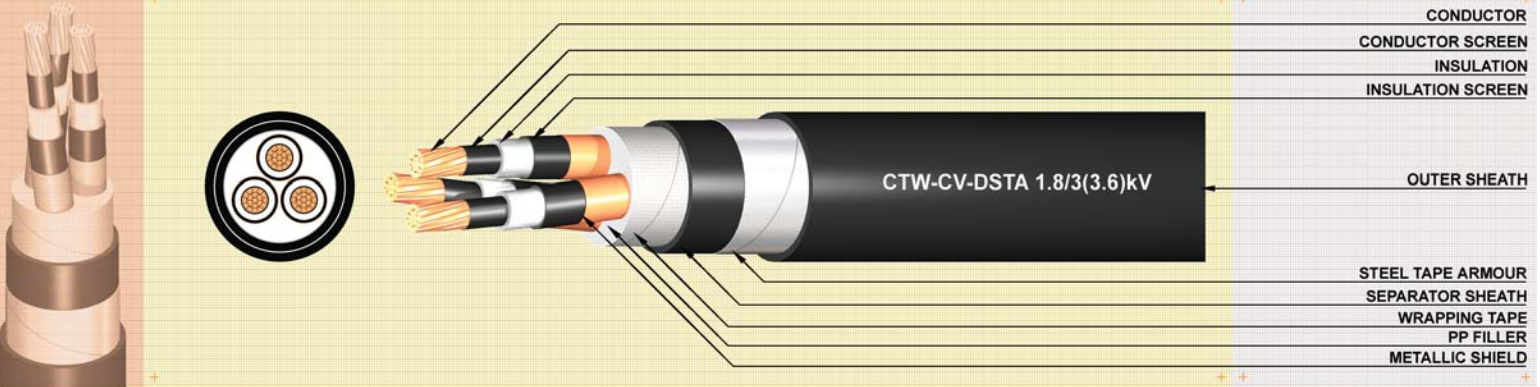
\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV-DSTA THREE CORES CU/XLPE/DSTA/PVC 1.8/3 (3.6) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE INSULATED, COPPER CONDUCTOR WITH DOUBLE STEEL TAPE ARMOUR



### CONSTRUCTION

Conductor	Compact round stranded annealed copper.
Conductor Screen	Semi-conducting cross-linked polyethylene.
Insulation	Cross-linked polyethylene. (XLPE)
Insulation Screen	Semi-conducting cross-linked polyethylene.
Metallic Shield	Annealed copper tape.
Filler	Polypropylene (Nonhygroscopic material)
Wrapping Tape	Polyester and/or Spunbond tape.
Separator Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)
Armour	Double steel tape.
Outer Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)

### APPLICATION

Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.

### CLASSIFICATION

Maximum Conductor Temperature 90 °C (Normal Operation)  
Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)

### REFERENCE

IEC 60228 & IEC 60502-1  
\*\* AC Test Voltage : 6.5 kV

### NOTE

A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.

Product code	Conductor			Thickness of insulation mm	Diameter over insulation (Approx.) mm	Thickness of armour tape mm	Diameter over armour (Approx.) mm	Thickness of outer sheath mm	Overall diameter (Approx.) mm	Cable weight (Approx.) kg/km	Maximum conductor resistance at 20°C Ω/km	Minimum insulation resistance at 20°C MΩ-km	Ampacities direct burial in ground at 30°C A	Allowable ampacities in free air at 40°C (ambient) A	Standard length m/R
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) mm												
K4A323010	3 x 10	6	3.72	2.0	9.0	2 x 0.2	26.5	1.9	32	1,250	1.83	2,700	85	80	1,000
K4A323016	3 x 16	6	4.69	2.0	10.0	2 x 0.2	29.0	2.0	34	1,540	1.15	2,400	105	105	1,000
K4A323025	3 x 25	6	5.90	2.0	11.5	2 x 0.5	32.5	2.1	38	2,280	0.727	2,100	135	140	1,000
K4A323035	3 x 35	6	6.95	2.0	12.5	2 x 0.5	35.0	2.2	40	2,710	0.524	1,800	165	170	500
K4A323050	3 x 50	6	8.33	2.0	13.5	2 x 0.5	38.0	2.3	44	3,350	0.387	1,600	195	205	500
K4A323070	3 x 70	12	9.73	2.0	15.5	2 x 0.5	41.0	2.4	47	4,120	0.268	1,400	235	250	500
K4A323095	3 x 95	15	11.45	2.0	17.0	2 x 0.5	45.0	2.6	52	5,120	0.193	1,200	280	305	500
K4A323120	3 x 120	18	12.95	2.0	18.5	2 x 0.5	48.5	2.7	55	6,080	0.153	1,100	315	345	250
K4A323150	3 x 150	18	14.27	2.0	20.0	2 x 0.5	51.5	2.8	58	7,140	0.124	1,100	350	390	250
K4A323185	3 x 185	30	15.98	2.0	21.5	2 x 0.5	55.5	2.9	63	8,430	0.0991	900	395	445	250
K4A323240	3 x 240	34	18.47	2.0	24.0	2 x 0.5	61.0	3.1	69	10,430	0.0754	800	450	520	250
K4A323300	3 x 300	34	20.68	2.0	26.5	2 x 0.5	66.0	3.3	75	12,550	0.0601	700	495	580	200
K4A323400	3 x 400	53	23.39	2.0	29.5	2 x 0.8	74.0	3.6	83	16,800	0.0470	700	545	655	200

\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt  
R = Packing in reel



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV-DSTA THREE CORES CU/XLPE/DSTA/PVC 3.6/6 (7.2) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE INSULATED, COPPER CONDUCTOR WITH DOUBLE STEEL TAPE ARMOUR



### CONSTRUCTION

Conductor	Compact round stranded annealed copper.
Conductor Screen	Semi-conducting cross-linked polyethylene.
Insulation	Cross-linked polyethylene. (XLPE)
Insulation Screen	Semi-conducting cross-linked polyethylene.
Metallic Shield	Annealed copper tape.
Filler	Polypropylene (Nonhygroscopic material)
Wrapping Tape	Polyester and/or Spunbond tape.
Separator Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)
Armour	Double steel tape.
Outer Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)

### APPLICATION

Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.

### CLASSIFICATION

Maximum Conductor Temperature 90 °C (Normal Operation)  
Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)

### REFERENCE

IEC 60228 & IEC 60502-2  
\*\* AC Test Voltage : 12.5 kV

### NOTE

A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.

Product code	Conductor			Thickness of insulation mm	Diameter over insulation (Approx.) mm	Thickness of armour tape mm	Diameter over armour (Approx.) mm	Thickness of outer sheath mm	Overall diameter (Approx.) mm	Cable weight (Approx.) kg/km	Maximum conductor resistance at 20°C Ω/km	Minimum insulation resistance at 20°C MΩ-km	Ampacities direct burial in ground at 30°C A	Allowable ampacities in free air at 40°C (ambient) A	Standard length m/R
	Nominal cross-sectional area core x mm²	Minimum number of wire No./mm	Diameter (Approx.) mm												
K4B323010	3 x 10	6	3.72	2.5	10.0	2 x 0.2	29.0	2.0	34	1,400	1.83	3,100	85	80	1,000
K4B323016	3 x 16	6	4.69	2.5	11.0	2 x 0.2	31.0	2.1	37	1,690	1.15	2,800	105	105	1,000
K4B323025	3 x 25	6	5.90	2.5	12.5	2 x 0.5	35.0	2.2	41	2,460	0.727	2,400	135	140	1,000
K4B323035	3 x 35	6	6.95	2.5	13.5	2 x 0.5	37.5	2.3	43	2,920	0.524	2,100	165	170	500
K4B323050	3 x 50	6	8.33	2.5	14.5	2 x 0.5	40.5	2.4	47	3,550	0.387	1,900	195	205	500
K4B323070	3 x 70	12	9.73	2.5	16.5	2 x 0.5	43.5	2.5	50	4,360	0.268	1,700	235	250	500
K4B323095	3 x 95	15	11.45	2.5	18.0	2 x 0.5	47.5	2.7	54	5,350	0.193	1,500	280	305	500
K4B323120	3 x 120	18	12.95	2.5	19.5	2 x 0.5	51.0	2.8	58	6,330	0.153	1,300	315	345	250
K4B323150	3 x 150	18	14.27	2.5	21.0	2 x 0.5	54.0	2.9	61	7,420	0.124	1,200	350	390	250
K4B323185	3 x 185	30	15.98	2.5	22.5	2 x 0.5	57.5	3.0	66	8,690	0.0991	1,100	395	445	250
K4B323240	3 x 240	34	18.47	2.6	25.5	2 x 0.5	64.0	3.2	72	10,800	0.0754	1,000	450	520	250
K4B323300	3 x 300	34	20.68	2.8	28.0	2 x 0.5	71.0	3.4	79	13,060	0.0601	1,000	495	580	200
K4B323400	3 x 400	53	23.39	3.0	31.5	2 x 0.8	79.0	3.7	88	17,520	0.0470	900	545	655	200

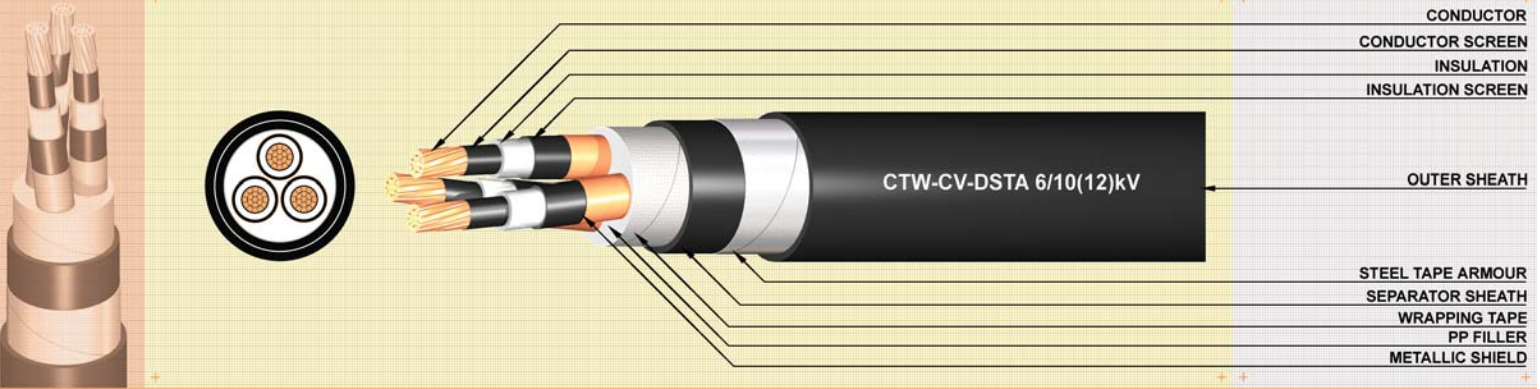
\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV-DSTA THREE CORES CU/XLPE/DSTA/PVC 6/10 (12) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE INSULATED, COPPER CONDUCTOR WITH DOUBLE STEEL TAPE ARMOUR



### CONSTRUCTION

Conductor	Compact round stranded annealed copper.
Conductor Screen	Semi-conducting cross-linked polyethylene.
Insulation	Cross-linked polyethylene. (XLPE)
Insulation Screen	Semi-conducting cross-linked polyethylene.
Metallic Shield	Annealed copper tape.
Filler	Polypropylene (Nonhygroscopic material)
Wrapping Tape	Polyester and/or Spunbond tape.
Separator Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)
Armour	Double steel tape.
Outer Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)

### APPLICATION

Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.

### CLASSIFICATION

Maximum Conductor Temperature 90 °C (Normal Operation)  
Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)

### REFERENCE

IEC 60228 & IEC 60502-2  
\*\* AC Test Voltage : 21 kV

### NOTE

A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.

Product code	Conductor			Thickness of insulation (mm)	Diameter over insulation (Approx.) (mm)	Thickness of armour tape (mm)	Diameter over armour (Approx.) (mm)	Thickness of outer sheath (mm)	Overall diameter (Approx.) (mm)	Cable weight (Approx.) (kg/km)	Maximum conductor resistance at 20°C (Ω/km)	Minimum insulation resistance at 20°C (MΩ-km)	Ampacities direct burial in ground at 30°C (A)	Allowable ampacities in free air at 40°C (ambient) (A)	Standard length (m/R)
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) (mm)												
K4E323016	3 x 16	6	4.69	3.4	13.0	2 x 0.5	36.50	2.3	42	2,360	1.15	3,000	105	105	1,000
K4E323025	3 x 25	6	5.90	3.4	14.0	2 x 0.5	39.00	2.4	45	2,840	0.727	2,700	135	140	500
K4E323035	3 x 35	6	6.95	3.4	15.0	2 x 0.5	41.50	2.4	48	3,270	0.524	2,400	165	170	500
K4E323050	3 x 50	6	8.33	3.4	16.5	2 x 0.5	44.50	2.6	51	3,970	0.387	2,200	195	210	500
K4E323070	3 x 70	12	9.73	3.4	18.0	2 x 0.5	48.00	2.7	55	4,790	0.268	1,900	235	255	500
K4E323095	3 x 95	15	11.45	3.4	19.5	2 x 0.5	51.50	2.8	59	5,790	0.193	1,700	280	310	250
K4E323120	3 x 120	18	12.95	3.4	21.0	2 x 0.5	55.00	2.9	62	6,790	0.153	1,600	315	350	250
K4E323150	3 x 150	18	14.27	3.4	22.5	2 x 0.5	58.00	3.0	66	7,870	0.124	1,500	350	395	250
K4E323185	3 x 185	30	15.98	3.4	24.5	2 x 0.5	62.00	3.2	71	9,230	0.0991	1,400	395	450	250
K4E323240	3 x 240	34	18.47	3.4	27.0	2 x 0.5	68.00	3.4	77	11,290	0.0754	1,200	450	525	250
K4E323300	3 x 300	34	20.68	3.4	29.0	2 x 0.8	74.00	3.6	83	14,260	0.0601	1,100	495	585	200
K4E323400	3 x 400	53	23.39	3.4	32.0	2 x 0.8	81.00	3.8	91	17,870	0.0470	1,000	545	660	200

\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt  
R = Packing in reel



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV-DSTA THREE CORES CU/XLPE/DSTA/PVC 8.7/15 (17.5) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE INSULATED, COPPER CONDUCTOR WITH DOUBLE STEEL TAPE ARMOUR



### CONSTRUCTION

Conductor	Compact round stranded annealed copper.
Conductor Screen	Semi-conducting cross-linked polyethylene.
Insulation	Cross-linked polyethylene. (XLPE)
Insulation Screen	Semi-conducting cross-linked polyethylene.
Metallic Shield	Annealed copper tape.
Filler	Polypropylene (Nonhygroscopic material)
Wrapping Tape	Polyester and/or Spunbond tape.
Separator Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)
Armour	Double steel tape.
Outer Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)

### APPLICATION

Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.

### CLASSIFICATION

Maximum Conductor Temperature 90 °C (Normal Operation)  
Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)

### REFERENCE

IEC 60228 & IEC 60502-2  
\*\* AC Test Voltage : 30.5 kV

### NOTE

A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.

Product code	Conductor			Thickness of insulation mm	Diameter over insulation (Approx.) mm	Thickness of armour tape mm	Diameter over armour (Approx.) mm	Thickness of outer sheath mm	Overall diameter (Approx.) mm	Cable weight (Approx.) kg/km	Maximum conductor resistance at 20°C Ω/km	Minimum insulation resistance at 20°C MΩ-km	Ampacities direct burial in ground at 30°C A	Allowable ampacities in free air at 40°C (ambient) A	Standard length m/R
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) mm												
K4F323025	3 x 25	6	5.90	4.5	16.0	2 x 0.5	44.5	2.5	51	3,300	0.727	3,200	135	140	500
K4F323035	3 x 35	6	6.95	4.5	17.0	2 x 0.5	46.5	2.6	53	3,780	0.524	2,900	165	170	500
K4F323050	3 x 50	6	8.33	4.5	18.5	2 x 0.5	49.5	2.7	57	4,480	0.387	2,700	195	210	500
K4F323070	3 x 70	12	9.73	4.5	20.0	2 x 0.5	53.0	2.9	60	5,360	0.268	2,400	235	255	500
K4F323095	3 x 95	15	11.45	4.5	22.0	2 x 0.5	56.5	3.0	64	6,380	0.193	2,200	280	310	250
K4F323120	3 x 120	18	12.95	4.5	23.5	2 x 0.5	60.5	3.1	68	7,410	0.153	2,000	315	350	250
K4F323150	3 x 150	18	14.27	4.5	25.0	2 x 0.5	63.0	3.2	71	8,520	0.124	1,800	350	395	250
K4F323185	3 x 185	30	15.98	4.5	26.5	2 x 0.5	67.0	3.3	76	9,880	0.0991	1,700	390	450	250
K4F323240	3 x 240	34	18.47	4.5	29.0	2 x 0.8	74.0	3.6	84	12,810	0.0754	1,500	445	525	200
K4F323300	3 x 300	34	20.68	4.5	31.5	2 x 0.8	79.0	3.8	89	15,090	0.0601	1,400	490	585	200
K4F323400	3 x 400	53	23.39	4.5	34.5	2 x 0.8	86.0	4.0	97	18,760	0.0470	1,300	540	660	200

\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV-DSTA THREE CORES CU/XLPE/DSTA/PVC 12/20 (24) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE INSULATED, COPPER CONDUCTOR WITH DOUBLE STEEL TAPE ARMOUR



### CONSTRUCTION

Conductor	Compact round stranded annealed copper.
Conductor Screen	Semi-conducting cross-linked polyethylene.
Insulation	Cross-linked polyethylene. (XLPE)
Insulation Screen	Semi-conducting cross-linked polyethylene.
Metallic Shield	Annealed copper tape.
Filler	Polypropylene (Nonhygroscopic material)
Wrapping Tape	Polyester and/or Spunbond tape.
Separator Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)
Armour	Double steel tape.
Outer Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)

### APPLICATION

Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.

### CLASSIFICATION

Maximum Conductor Temperature 90 °C (Normal Operation)  
Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)

### REFERENCE

IEC 60228 & IEC 60502-2  
\*\* AC Test Voltage : 42 kV

### NOTE

A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.

Product code	Conductor			Thickness of insulation mm	Diameter over insulation (Approx.) mm	Thickness of armour tape mm	Diameter over armour (Approx.) mm	Thickness of outer sheath mm	Overall diameter (Approx.) mm	Cable weight (Approx.) kg/km	Maximum conductor resistance at 20°C Ω/km	Minimum insulation resistance at 20°C MΩ-km	Ampacities direct burial in ground at 30°C A	Allowable ampacities in free air at 40°C (ambient) A	Standard length m/R
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) mm												
K4G323035	3 x 35	6	6.95	5.5	19.5	2 x 0.5	51.00	2.8	58	4,280	0.524	3,300	165	175	500
K4G323050	3 x 50	6	8.33	5.5	21.0	2 x 0.5	54.00	2.9	62	5,010	0.387	3,100	195	215	500
K4G323070	3 x 70	12	9.73	5.5	22.5	2 x 0.5	57.50	3.0	65	5,850	0.268	2,800	235	260	250
K4G323095	3 x 95	15	11.45	5.5	24.0	2 x 0.5	61.00	3.2	68	6,970	0.193	2,500	280	315	250
K4G323120	3 x 120	18	12.95	5.5	25.5	2 x 0.5	65.00	3.3	74	8,020	0.153	2,300	315	355	250
K4G323150	3 x 150	18	14.27	5.5	27.0	2 x 0.5	68.00	3.4	77	9,150	0.124	2,200	350	400	250
K4G323185	3 x 185	30	15.98	5.5	28.5	2 x 0.5	72.00	3.5	81	10,540	0.0991	2,000	390	455	250
K4G323240	3 x 240	34	18.47	5.5	31.0	2 x 0.8	78.50	3.7	88	13,540	0.0754	1,800	445	525	200
K4G323300	3 x 300	34	20.68	5.5	33.5	2 x 0.8	83.50	3.9	94	15,850	0.0601	1,600	490	585	200
K4G323400	3 x 400	53	23.39	5.5	36.5	2 x 0.8	90.50	4.2	101	19,560	0.0470	1,500	540	660	200

\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt  
R = Packing in reel



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV-DSTA THREE CORES CU/XLPE/DSTA/PVC 18/30 (36) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE INSULATED, COPPER CONDUCTOR WITH DOUBLE STEEL TAPE ARMOUR



CONSTRUCTION		APPLICATION	CLASSIFICATION
Conductor	Compact round stranded annealed copper.	Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.	Maximum Conductor Temperature 90 °C (Normal Operation)
Conductor Screen	Semi-conducting cross-linked polyethylene.		Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)
Insulation	Cross-linked polyethylene. (XLPE)	IEC 60228 & IEC 60502-2	A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.
Insulation Screen	Semi-conducting cross-linked polyethylene.		
Metallic Shield	Annealed copper tape.	** AC Test Voltage : 63 kV	NOTE
Filler	Polypropylene (Nonhygroscopic material)		
Wrapping Tape	Polyester and/or Spunbond tape.		
Separator Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)		
Armour	Double steel tape.		
Outer Sheath	Black Polyvinyl chloride (ST2) ; Optional : Polyethylene (ST7)		

Product code	Conductor			Thickness of insulation (mm)	Diameter over insulation (Approx.) (mm)	Thickness of armour tape (mm)	Diameter over armour (Approx.) (mm)	Thickness of outer sheath (mm)	Overall diameter (Approx.) (mm)	Cable weight (Approx.) (kg/km)	Maximum conductor resistance at 20°C (Ω/km)	Minimum insulation resistance at 20°C (MΩ-km)	Ampacities direct burial in ground at 30°C (A)	Allowable ampacities in free air at 40°C (ambient) (A)	Standard length (m/R)
	Nominal cross-sectional area core x mm²	Minimum number of wire No./mm	Diameter (Approx.) (mm)												
K41323050	3 x 50	6	8.33	8.0	26.0	2 x 0.5	65.5	3.3	75	6,440	0.387	4,000	195	215	250
K41323070	3 x 70	12	9.73	8.0	27.5	2 x 0.5	69.5	3.4	79	7,380	0.268	3,600	235	260	250
K41323095	3 x 95	15	11.45	8.0	29.0	2 x 0.8	74.0	3.6	84	9,330	0.193	3,300	275	315	250
K41323120	3 x 120	18	12.95	8.0	30.5	2 x 0.8	78.0	3.7	88	10,490	0.153	3,000	310	355	250
K41323150	3 x 150	18	14.27	8.0	32.0	2 x 0.8	81.0	3.8	91	11,740	0.124	2,800	345	400	200
K41323185	3 x 185	30	15.98	8.0	34.0	2 x 0.8	85.0	4.0	95	13,240	0.0991	2,700	390	455	200
K41323240	3 x 240	34	18.47	8.0	36.5	2 x 0.8	90.5	4.2	101	15,560	0.0754	2,400	445	525	200
K41323300	3 x 300	34	20.68	8.0	38.5	2 x 0.8	95.5	4.3	106	17,930	0.0601	2,200	490	585	200
K41323400	3 x 400	53	23.39	8.0	41.5	2 x 0.8	102.0	4.6	114	21,820	0.0470	2,000	540	660	200

\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt

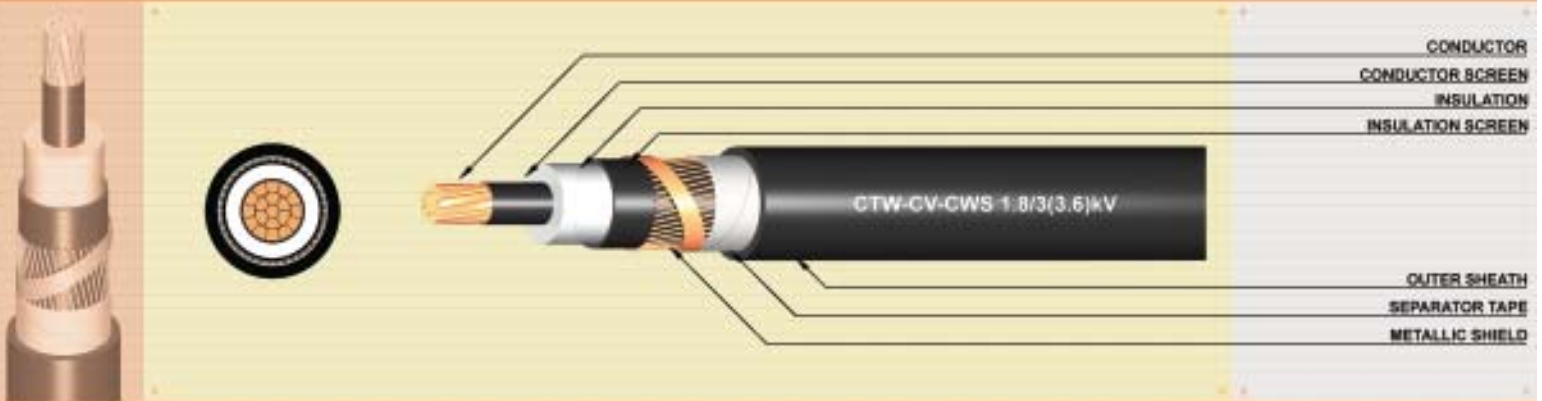




# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV-CWS SINGLE CORE CU/XLPE/CWS/PE 1.8/3 (3.6) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE CABLE, COPPER CONDUCTOR WITH COPPER WIRE SHIELD



CONSTRUCTION		APPLICATION	CLASSIFICATION
Conductor	Compact round stranded annealed copper.	Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.	Maximum Conductor Temperature 90 °C (Normal Operation)
Conductor Screen	Semi-conducting cross-linked polyethylene.		Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)
Insulation	Cross-linked polyethylene. (XLPE)	<b>REFERENCE</b> IEC 60228 & IEC 60502-1 ** AC Test Voltage : 6.5 kV	<b>NOTE</b> A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.
Insulation Screen	Semi-conducting cross-linked polyethylene.		
Metallic Shield	Annealed copper wire with copper contact tape.		
Separator Tape	Spunbond tape (Optional : water blocking tape)		
Outer Sheath	Black Polyethylene (ST7) ; Optional : Polyvinyl chloride (ST2)		

Product code	Conductor			Thickness of insulation mm	Diameter over insulation (Approx.) mm	Copper wire shield		Thickness of outer sheath mm	Overall diameter (Approx.) mm	Cable weight (Approx.) kg/km	Maximum conductor resistance at 20°C Ω/km	Minimum insulation resistance at 20°C MΩ-km	Ampacities direct burial in ground at 30°C A	Allowable ampacities in free air at 40°C (ambient) A	Standard length m/R
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) mm			Number of wire No.	Diameter of wire mm								
K3A241010	1 x 10	6	3.72	2.0	9.0	20	0.80	1.4	17	330	1.83	2,700	90	100	1,000
K3A241016	1 x 16	6	4.69	2.0	10.0	20	0.80	1.5	18	400	1.15	2,400	115	125	1,000
K3A241025	1 x 25	6	5.90	2.0	11.5	20	0.80	1.5	19	500	0.727	2,100	150	165	1,000
K3A241035	1 x 35	6	6.95	2.0	12.5	20	0.80	1.6	21	610	0.524	1,800	180	200	1,000
K3A241050	1 x 50	6	8.33	2.0	13.5	20	0.80	1.6	22	770	0.387	1,600	210	240	1,000
K3A241070	1 x 70	12	9.73	2.0	15.5	20	0.80	1.6	24	980	0.268	1,400	260	295	1,000
K3A241095	1 x 95	15	11.45	2.0	17.0	20	0.80	1.7	26	1,240	0.193	1,200	310	365	1,000
K3A241120	1 x 120	18	12.95	2.0	18.5	20	0.80	1.8	27	1,500	0.153	1,100	350	420	1,000
K3A241150	1 x 150	18	14.27	2.0	20.0	25	0.90	1.8	29	1,850	0.124	1,100	395	475	1,000
K3A241185	1 x 185	30	15.98	2.0	21.5	25	0.90	1.9	31	2,200	0.0991	900	450	545	1,000
K3A241240	1 x 240	34	18.47	2.0	24.0	30	1.03	2.0	34	2,840	0.0754	800	520	640	500
K3A241300	1 x 300	34	20.68	2.0	26.5	30	1.03	2.1	37	3,430	0.0601	700	585	740	500
K3A241400	1 x 400	53	23.39	2.0	29.5	30	1.03	2.2	40	4,420	0.0470	700	670	850	500
K3A241500	1 x 500	53	26.67	2.2	33.5	30	1.03	2.3	44	5,430	0.0366	700	760	975	250
K3A241630	1 x 630	53	30.20	2.4	37.5	40	0.90	2.4	48	6,770	0.0283	600	860	1,130	250
K3A241800	1 x 800	53	34.00	2.6	41.5	40	0.90	2.6	53	8,470	0.0221	600	1,025	1,330	250
K3A2411000	1 x 1,000	53	40.00	2.8	47.5	40	0.90	2.8	60	10,500	0.0176	600	1,215	1,520	250

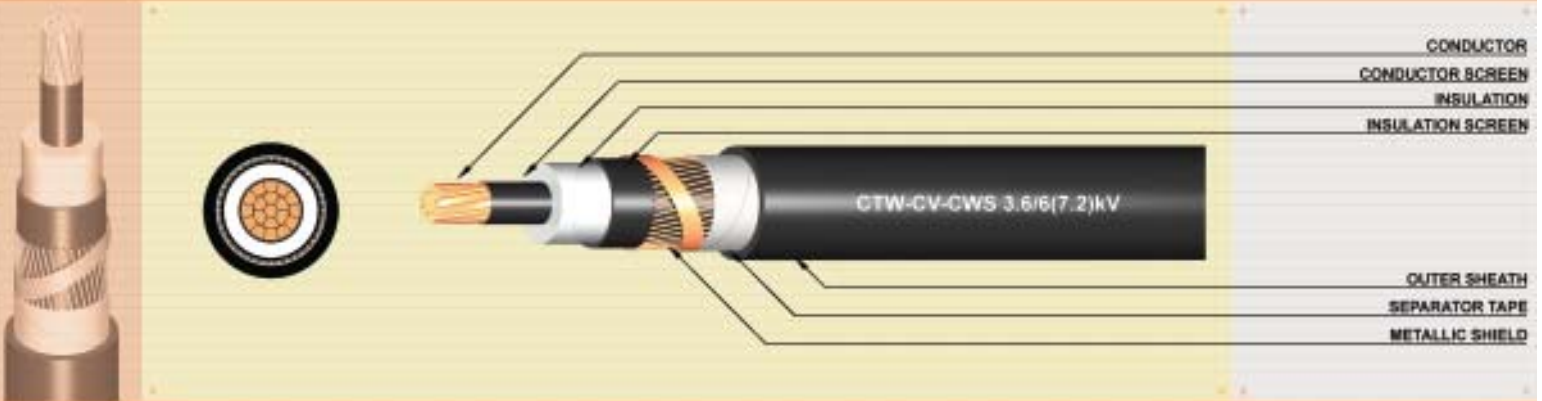
\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt, Spacing of cable = 2 x cable overall diameter  
R = Packing in reel



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV-CWS SINGLE CORE CU/XLPE/CWS/PE 3.6/6 (7.2) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE CABLE, COPPER CONDUCTOR WITH COPPER WIRE SHIELD



CONSTRUCTION		APPLICATION	CLASSIFICATION
Conductor	Compact round stranded annealed copper.	Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.	Maximum Conductor Temperature 90 °C (Normal Operation)
Conductor Screen	Semi-conducting cross-linked polyethylene.		Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)
Insulation	Cross-linked polyethylene. (XLPE)	<b>REFERENCE</b> IEC 60228 & IEC 60502-2 ** AC Test Voltage : 12.5 kV	<b>NOTE</b> A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.
Insulation Screen	Semi-conducting cross-linked polyethylene.		
Metallic Shield	Annealed copper wire with copper contact tape.		
Separator Tape	Spunbond tape (Optional : water blocking tape)		
Outer Sheath	Black Polyethylene (ST7) ; Optional : Polyvinyl chloride (ST2)		

Product code	Conductor			Thickness of insulation (mm)	Diameter over insulation (Approx.) (mm)	Copper wire shield		Thickness of outer sheath (mm)	Overall diameter (Approx.) (mm)	Cable weight (Approx.) (kg/km)	Maximum conductor resistance at 20°C (Ω/km)	Minimum insulation resistance at 20°C (MΩ-km)	Ampacities direct burial in ground at 30°C (A)	Allowable ampacities in free air at 40°C (ambient) (A)	Standard length (m/R)
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) (mm)			Number of wire	Diameter of wire (mm)								
K3B241010	1 x 10	6	3.72	2.5	10.0	20	0.80	1.5	18	350	1.83	3,100	90	100	1,000
K3B241016	1 x 16	6	4.69	2.5	11.0	20	0.80	1.5	19	420	1.15	2,800	115	125	1,000
K3B241025	1 x 25	6	5.90	2.5	12.5	20	0.80	1.6	21	53	0.727	2,400	150	165	1,000
K3B241035	1 x 35	6	6.95	2.5	13.5	20	0.80	1.6	22	640	0.524	2,100	180	200	1,000
K3B241050	1 x 50	6	8.33	2.5	14.5	20	0.80	1.6	23	800	0.387	1,900	210	240	1,000
K3B241070	1 x 70	12	9.73	2.5	16.5	20	0.80	1.7	25	1,020	0.268	1,700	260	295	1,000
K3B241095	1 x 95	15	11.45	2.5	18.0	20	0.80	1.7	27	1,270	0.193	1,500	310	365	1,000
K3B241120	1 x 120	18	12.95	2.5	19.5	20	0.80	1.8	28	1,540	0.153	1,300	350	420	1,000
K3B241150	1 x 150	18	14.27	2.5	21.0	25	0.90	1.9	30	1,900	0.124	1,200	395	475	1,000
K3B241185	1 x 185	30	15.98	2.5	22.5	25	0.90	1.9	32	2,250	0.0991	1,100	450	545	1,000
K3B241240	1 x 240	34	18.47	2.6	25.5	30	1.03	2.0	35	2,900	0.0754	1,000	520	640	500
K3B241300	1 x 300	34	20.68	2.8	28.0	30	1.03	2.1	38	3,520	0.0601	1,000	585	740	500
K3B241400	1 x 400	53	23.39	3.0	31.5	30	1.03	2.2	42	4,530	0.0470	900	670	850	500
K3B241500	1 x 500	53	26.67	3.2	35.5	30	1.03	2.4	47	5,560	0.0366	900	760	975	250
K3B241630	1 x 630	53	30.20	3.2	38.5	40	0.90	2.5	50	6,900	0.0283	800	860	1,130	250
K3B241800	1 x 800	53	34.00	3.2	42.5	40	0.90	2.6	55	8,560	0.0221	700	1,025	1,330	250
K3B2411000	1 x 1,000	53	40.00	3.2	48.5	40	0.90	2.8	61	10,570	0.0176	600	1,215	1,520	250

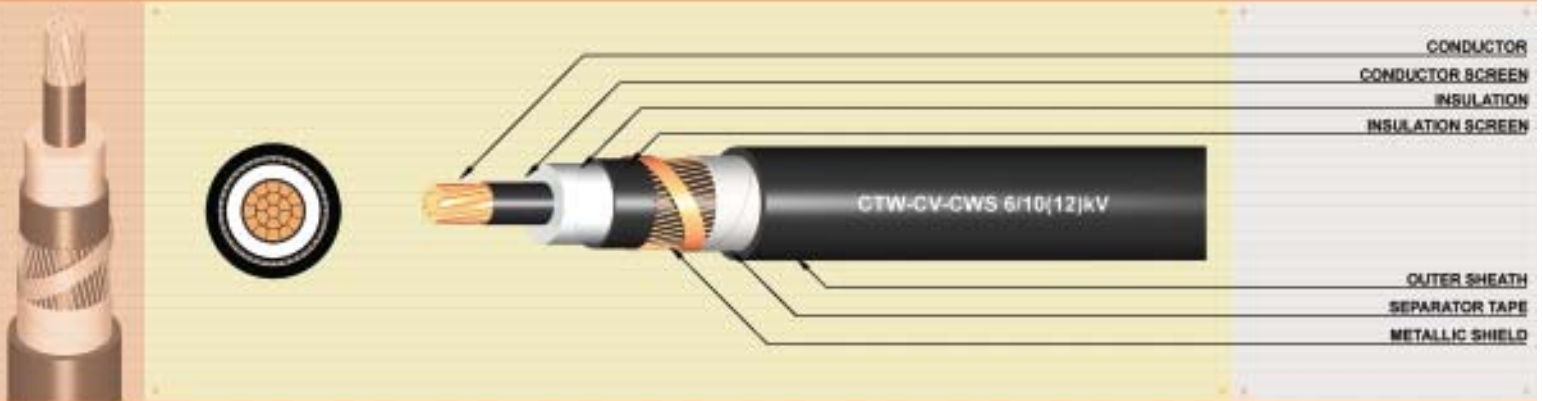
\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt, Spacing of cable = 2 x cable overall diameter



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV-CWS SINGLE CORE CU/XLPE/CWS/PE 6/10 (12) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE CABLE, COPPER CONDUCTOR WITH COPPER WIRE SHIELD



CONSTRUCTION		APPLICATION	CLASSIFICATION
Conductor	Compact round stranded annealed copper.	Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.	Maximum Conductor Temperature 90 °C (Normal Operation)
Conductor Screen	Semi-conducting cross-linked polyethylene.		Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)
Insulation	Cross-linked polyethylene. (XLPE)	<b>REFERENCE</b> IEC 60228 & IEC 60502-2 ** AC Test Voltage : 21 kV	<b>NOTE</b> A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.
Insulation Screen	Semi-conducting cross-linked polyethylene.		
Metallic Shield	Annealed copper wire with copper contact tape.		
Separator Tape	Spunbond tape (Optional : water blocking tape)		
Outer Sheath	Black Polyethylene (ST7) ; Optional : Polyvinyl chloride (ST2)		

Product code	Conductor			Thickness of insulation (mm)	Diameter over insulation (Approx.) (mm)	Copper wire shield		Thickness of outer sheath (mm)	Overall diameter (Approx.) (mm)	Cable weight (Approx.) (kg/km)	Maximum conductor resistance at 20°C (Ω/km)	Minimum insulation resistance at 20°C (MΩ-km)	Ampacities direct burial in ground at 30°C (A)	Allowable ampacities in free air at 40°C (ambient) (A)	Standard length (m/R)
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) (mm)			Number of wire	Diameter of wire (mm)								
K3E241016	1 x 16	6	4.69	3.4	13.0	20	0.80	1.6	21	480	1.15	3,000	110	120	1,000
K3E241025	1 x 25	6	5.90	3.4	14.0	20	0.80	1.6	23	580	0.727	2,700	140	160	1,000
K3E241035	1 x 35	6	6.95	3.4	15.0	20	0.80	1.7	24	700	0.524	2,400	170	195	1,000
K3E241050	1 x 50	6	8.33	3.4	16.5	20	0.80	1.7	25	870	0.387	2,200	200	235	1,000
K3E241070	1 x 70	12	9.73	3.4	18.0	20	0.80	1.8	27	1,090	0.268	1,900	250	290	1,000
K3E241095	1 x 95	15	11.45	3.4	19.5	20	0.80	1.8	29	1,350	0.193	1,700	295	360	1,000
K3E241120	1 x 120	18	12.95	3.4	21.0	20	0.80	1.9	31	1,620	0.153	1,600	335	415	1,000
K3E241150	1 x 150	18	14.27	3.4	22.5	25	0.90	1.9	32	1,970	0.124	1,500	375	470	1,000
K3E241185	1 x 185	30	15.98	3.4	24.5	25	0.90	2.0	34	2,340	0.0991	1,400	430	540	1,000
K3E241240	1 x 240	34	18.47	3.4	27.0	30	1.03	2.1	37	2,990	0.0754	1,200	495	635	500
K3E241300	1 x 300	34	20.68	3.4	29.0	30	1.03	2.2	40	3,590	0.0601	1,100	560	735	500
K3E241400	1 x 400	53	23.39	3.4	32.0	30	1.03	2.3	43	4,590	0.0470	1,000	640	845	500
K3E241500	1 x 500	53	26.67	3.4	35.5	30	1.03	2.4	47	5,590	0.0366	900	725	970	250
K3E241630	1 x 630	53	30.20	3.4	39.0	40	0.90	2.5	51	6,920	0.0283	800	820	1,125	250
K3E241800	1 x 800	53	34.00	3.4	43.0	40	0.90	2.6	55	8,590	0.0221	700	985	1,325	250
K3E241000	1 x 1,000	53	40.00	3.4	49.0	40	0.90	2.8	62	10,600	0.0176	600	1,185	1,515	250

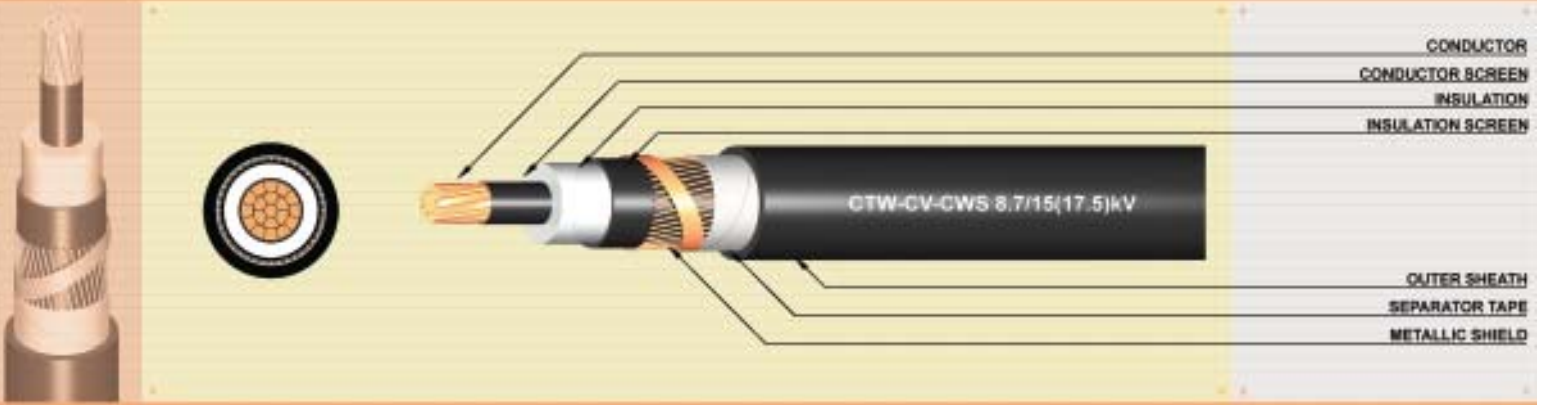
\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt, Spacing of cable = 2 x cable overall diameter  
R = Packing in reel



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV-CWS SINGLE CORE CU/XLPE/CWS/PE 8.7/15 (17.5) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE CABLE, COPPER CONDUCTOR WITH COPPER WIRE SHIELD



CONSTRUCTION		APPLICATION	CLASSIFICATION
Conductor	Compact round stranded annealed copper.	Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.	Maximum Conductor Temperature 90 °C (Normal Operation)
Conductor Screen	Semi-conducting cross-linked polyethylene.		Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)
Insulation	Cross-linked polyethylene. (XLPE)	<b>REFERENCE</b> IEC 60228 & IEC 60502-2 ** AC Test Voltage : 30.5 kV	<b>NOTE</b> A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.
Insulation Screen	Semi-conducting cross-linked polyethylene.		
Metallic Shield	Annealed copper wire with copper contact tape.		
Separator Tape	Spunbond tape (Optional : water blocking tape)		
Outer Sheath	Black Polyethylene (ST7) ; Optional : Polyvinyl chloride (ST2)		

Product code	Conductor			Thickness of insulation (mm)	Diameter over insulation (Approx.) (mm)	Copper wire shield		Thickness of outer sheath (mm)	Overall diameter (Approx.) (mm)	Cable weight (Approx.) (kg/km)	Maximum conductor resistance at 20°C (Ω/km)	Minimum insulation resistance at 20°C (MΩ·km)	Ampacities direct burial in ground at 30°C (A)	Allowable ampacities in free air at 40°C (ambient) (A)	Standard length (m/R)
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) (mm)			Number of wire	Diameter of wire (mm)								
K3F241025	1 x 25	6	5.90	4.5	16.0	20	0.80	1.7	25	660	0.727	3,200	140	155	1,000
K3F241035	1 x 35	6	6.95	4.5	17.0	20	0.80	1.7	26	780	0.524	2,900	170	190	1,000
K3F241050	1 x 50	6	8.33	4.5	18.5	20	0.80	1.8	28	960	0.387	2,700	200	230	1,000
K3F241070	1 x 70	12	9.73	4.5	20.0	20	0.80	1.8	29	1,170	0.268	2,400	250	285	1,000
K3F241095	1 x 95	15	11.45	4.5	22.0	20	0.80	1.9	32	1,450	0.193	2,200	295	355	1,000
K3F241120	1 x 120	18	12.95	4.5	23.5	20	0.80	1.9	33	1,710	0.153	2,000	335	410	1,000
K3F241150	1 x 150	18	14.27	4.5	25.0	25	0.90	2.0	35	2,080	0.124	1,800	375	455	1,000
K3F241185	1 x 185	30	15.98	4.5	26.5	25	0.90	2.1	37	2,460	0.0991	1,700	430	525	1,000
K3F241240	1 x 240	34	18.47	4.5	29.0	30	1.03	2.2	40	3,110	0.0754	1,500	495	620	500
K3F241300	1 x 300	34	20.68	4.5	31.5	30	1.03	2.2	42	3,720	0.0601	1,400	560	720	500
K3F241400	1 x 400	53	23.39	4.5	34.5	30	1.03	2.3	46	4,730	0.0470	1,300	640	825	500
K3F241500	1 x 500	53	26.67	4.5	38.0	30	1.03	2.5	50	5,750	0.0366	1,100	725	950	250
K3F241630	1 x 630	53	30.20	4.5	41.5	40	0.90	2.6	53	7,100	0.0283	1,000	820	1,120	250
K3F241800	1 x 800	53	34.00	4.5	45.0	40	0.90	2.7	58	8,780	0.0221	900	985	1,305	250
K3F2411000	1 x 1,000	53	40.00	4.5	51.5	40	0.90	2.9	63	10,810	0.0176	800	1,185	1,495	250

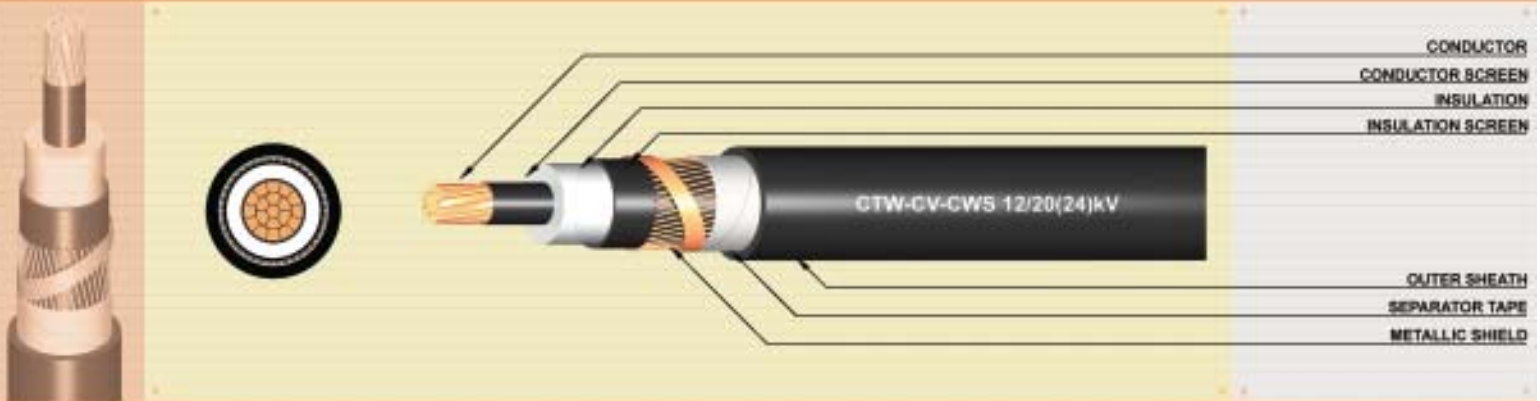
\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt, Spacing of cable = 2 x cable overall diameter



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV-CWS SINGLE CORE CU/XLPE/CWS/PE 12/20 (24) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE CABLE, COPPER CONDUCTOR WITH COPPER WIRE SHIELD



### CONSTRUCTION

Conductor	Compact round stranded annealed copper.
Conductor Screen	Semi-conducting cross-linked polyethylene.
Insulation	Cross-linked polyethylene. (XLPE)
Insulation Screen	Semi-conducting cross-linked polyethylene.
Metallic Shield	Annealed copper wire with copper contact tape.
Separator Tape	Spunbond tape (Optional : water blocking tape)
Outer Sheath	Black Polyethylene (ST7) ; Optional : Polyvinyl chloride (ST2)

### APPLICATION

Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.

### CLASSIFICATION

Maximum Conductor Temperature 90 °C (Normal Operation)  
Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)

### REFERENCE

IEC 60228 & IEC 60502-2  
\*\* AC Test Voltage : 42 kV

### NOTE

A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.

Product code	Conductor			Thickness of insulation (mm)	Diameter over insulation (Approx.) (mm)	Copper wire shield		Thickness of outer sheath (mm)	Overall diameter (Approx.) (mm)	Cable weight (Approx.) (kg/km)	Maximum conductor resistance at 20°C (Ω/km)	Minimum insulation resistance at 20°C (MΩ-km)	Ampacities direct burial in ground at 30°C (A)	Allowable ampacities in free air at 40°C (ambient) (A)	Standard length (m/R)
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) (mm)			Number of wire	Diameter of wire (mm)								
K3G241035	1 x 35	6	6.95	5.5	19.5	20	0.80	1.8	29	860	0.524	3,300	170	200	1,000
K3G241050	1 x 50	6	8.33	5.5	21.0	20	0.80	1.9	30	1,040	0.387	3,100	200	240	1,000
K3G241070	1 x 70	12	9.73	5.5	22.5	20	0.80	1.9	32	1,260	0.268	2,800	250	295	1,000
K3G241095	1 x 95	15	11.45	5.5	24.0	20	0.80	2.0	34	1,550	0.193	2,500	295	365	1,000
K3G241120	1 x 120	18	12.95	5.5	25.5	20	0.80	2.0	36	1,820	0.153	2,300	335	420	1,000
K3G241150	1 x 150	18	14.27	5.5	27.0	25	0.90	2.1	37	2,190	0.124	2,200	375	475	1,000
K3G241185	1 x 185	30	15.98	5.5	28.5	25	0.90	2.1	39	2,560	0.0991	2,000	430	545	1,000
K3G241240	1 x 240	34	18.47	5.5	31.0	30	1.03	2.2	42	3,230	0.0754	1,800	495	640	500
K3G241300	1 x 300	34	20.68	5.5	33.5	30	1.03	2.3	45	3,850	0.0601	1,600	560	740	500
K3G241400	1 x 400	53	23.39	5.5	36.5	30	1.03	2.4	48	4,870	0.0470	1,500	640	850	500
K3G241500	1 x 500	53	26.67	5.5	40.0	30	1.03	2.5	52	5,890	0.0366	1,300	725	975	250
K3G241630	1 x 630	53	30.20	5.5	43.5	40	0.90	2.6	56	7,250	0.0283	1,200	820	1,130	250
K3G241800	1 x 800	53	34.00	5.5	47.5	40	0.90	2.8	60	8,960	0.0221	1,100	985	1,330	250
K3G241000	1 x 1,000	53	40.00	5.5	53.5	40	0.90	3.0	67	11,040	0.0176	1,000	1,185	1,520	250

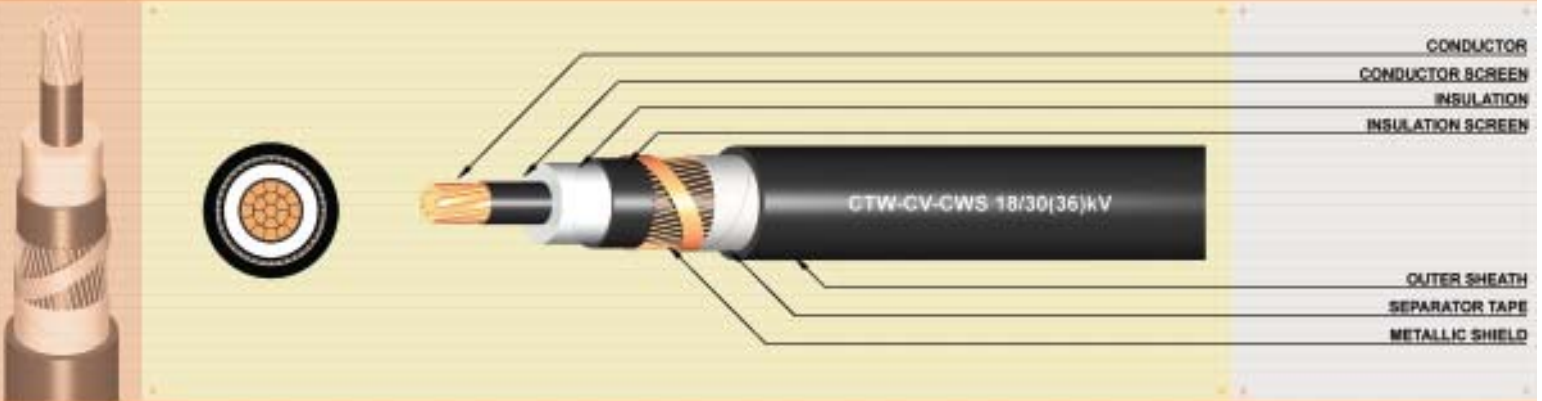
\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt, Spacing of cable = 2 x cable overall diameter  
R = Packing in reel



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW-CV-CWS SINGLE CORE CU/XLPE/CWS/PE 18/30 (36) kV

MEDIUM VOLTAGE CROSS-LINKED POLYETHYLENE CABLE, COPPER CONDUCTOR WITH COPPER WIRE SHIELD



CONSTRUCTION		APPLICATION	CLASSIFICATION
Conductor	Compact round stranded annealed copper.	Preferably used for urban networks. Exposed in aerial, direct burial, conduit, open tray and underground duct installation.	Maximum Conductor Temperature 90 °C (Normal Operation)
Conductor Screen	Semi-conducting cross-linked polyethylene.		Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)
Insulation	Cross-linked polyethylene. (XLPE)	<b>REFERENCE</b> IEC 60228 & IEC 60502-2 ** AC Test Voltage : 63 kV	<b>NOTE</b> A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.
Insulation Screen	Semi-conducting cross-linked polyethylene.		
Metallic Shield	Annealed copper wire with copper contact tape.		
Separator Tape	Spunbond tape (Optional : water blocking tape)		
Outer Sheath	Black Polyethylene (ST7) ; Optional : Polyvinyl chloride (ST2)		

Product code	Conductor			Thickness of insulation mm	Diameter over insulation (Approx.) mm	Copper wire shield		Thickness of outer sheath mm	Overall diameter (Approx.) mm	Cable weight (Approx.) kg/km	Maximum conductor resistance at 20°C Ω/km	Minimum insulation resistance at 20°C MΩ-km	Ampacities direct burial in ground at 30°C A	Allowable ampacities in free air at 40°C (ambient) A	Standard length m/R
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) mm			Number of wire	Diameter of wire mm								
K3I241050	1 x 50	6	8.33	8.0	26.0	20	0.80	2.0	36	1,280	0.387	4,000	200	235	1,000
K3I241070	1 x 70	12	9.73	8.0	27.5	20	0.80	2.1	38	1,230	0.268	3,600	250	290	1,000
K3I241095	1 x 95	15	11.45	8.0	29.0	20	0.80	2.2	40	1,830	0.193	3,300	295	360	1,000
K3I241120	1 x 120	18	12.95	8.0	30.5	20	0.80	2.2	41	2,110	0.153	3,000	335	415	500
K3I241150	1 x 150	18	14.27	8.0	32.0	25	0.90	2.3	43	2,490	0.124	2,800	375	470	500
K3I241185	1 x 185	30	15.98	8.0	34.0	25	0.90	2.3	45	2,880	0.0991	2,700	430	540	500
K3I241240	1 x 240	34	18.47	8.0	36.5	30	1.03	2.4	48	3,570	0.0754	2,400	495	635	500
K3I241300	1 x 300	34	20.68	8.0	38.5	30	1.03	2.5	51	4,210	0.0601	2,200	560	735	250
K3I241400	1 x 400	53	23.39	8.0	41.5	30	1.03	2.6	54	5,250	0.0470	2,000	640	845	250
K3I241500	1 x 500	53	26.67	8.0	45.0	30	1.03	2.7	58	6,300	0.0366	1,800	725	970	250
K3I241630	1 x 630	53	30.20	8.0	48.5	40	0.90	2.8	62	7,690	0.0283	1,600	820	1,125	250
K3I241800	1 x 800	53	34.00	8.0	52.5	40	0.90	3.0	66	9,450	0.0221	1,500	985	1,325	250
K3I2411000	1 x 1,000	53	40.00	8.0	58.5	40	0.90	3.2	73	11,570	0.0176	1,400	1,185	1,515	250

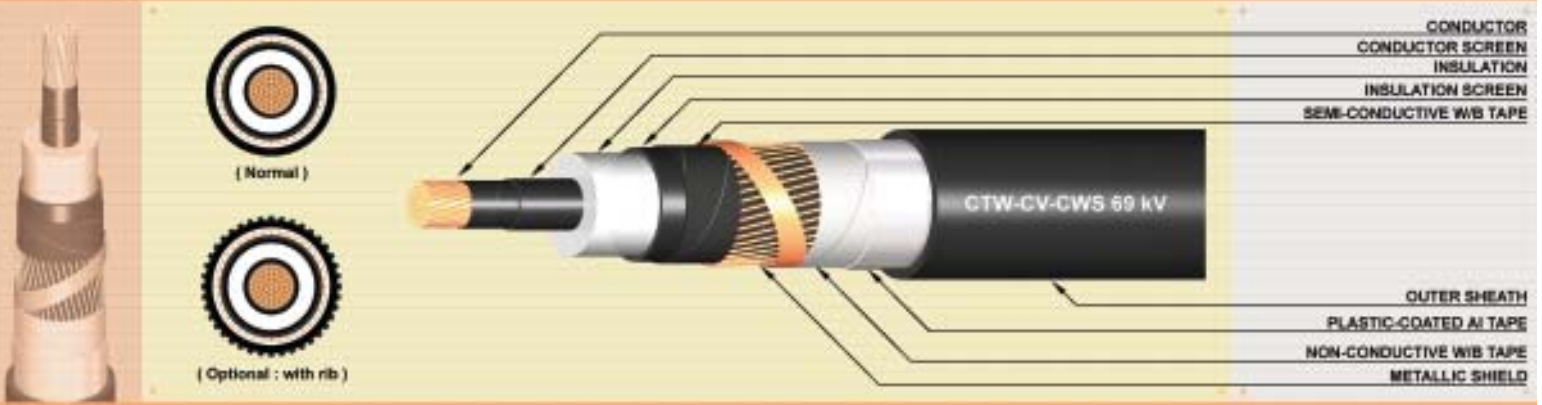
\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt, Spacing of cable = 2 x cable overall diameter



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW - CV - CWS SINGLE CORE CU/XLPE/CWS/PE 69 kV

HIGH VOLTAGE CROSS-LINKED POLYETHYLENE CABLE, COPPER CONDUCTOR WITH COPPER WIRE SHIELD



C O N S T R U C T I O N		A P P L I C A T I O N	C L A S S I F I C A T I O N
Conductor	Compact round stranded annealed copper.	Preferably used for urban networks. Suitable For use in duct, trays and direct burial in ground, subjected to immerse in water all the time.	Maximum Conductor Temperature 90 °C (Normal Operation)
Conductor Screen	Semi-conducting tape with extruded. semi-conducting cross-linked polyethylene.		Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)
Insulation	Cross-linked polyethylene. (XLPE)	<b>R E F E R E N C E</b> IEC 60228 & IEC 60840 ** AC Test Voltage : 90 kV	<b>N O T E</b> A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.
Insulation Screen	Semi-conducting cross-linked polyethylene.		
Synthetic water blocking layer	Semi-conductive water blocking tape.		
Metallic Shield	Annealed copper wire with copper contact tape.		
Synthetic water blocking layer	Non-conductive water blocking tape.		
Radial water barrier	Plastic-coated Aluminum tape.		
Outer Sheath	Black polyethylene (ST7) ; (Optional : with rib)		

Product code	Conductor			Thickness of conductor screen	Thickness of Insulation	Diameter over insulation (Approx.)	Thickness of Insulation screen	Minimum total sectional area of wire shield mm <sup>2</sup>	Thickness of outer sheath	Overall diameter with Rib (Approx.)	Cable weight with Rib (Approx.)	Maximum conductor resistance at 20°C	Electrostatic capacitance (nominal) at 20°C	Ampacities direct burial at 30°C (Flat)**	Standard length
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) mm												
K3P241240	1 x 240	34	18.47	1.5	11	45.0	1.5	120	2.9	68	5,700	0.0754	0.184	480	500
K3P241300	1 x 300	34	20.68	1.5	11	47.5	1.5	120	3.0	70	6,500	0.0601	0.198	540	500
K3P241400	1 x 400	53	23.39	1.5	11	50.0	1.5	120	3.1	73	7,500	0.0470	0.214	610	500
K3P241500	1 x 500	53	26.67	1.5	11	53.5	1.5	120	3.2	77	8,700	0.0366	0.232	700	500
K3P241630	1 x 630	53	30.20	1.5	11	57.0	1.5	120	3.3	80	10,200	0.0283	0.253	790	500
K3P241800	1 x 800	53	34.00	1.5	11	61.0	1.5	120	3.5	85	12,000	0.0221	0.277	880	500
K3P241000	1 x 1,000	53	40.00	1.5	11	67.0	1.5	120	3.7	90	14,300	0.0176	0.312	1,050	500

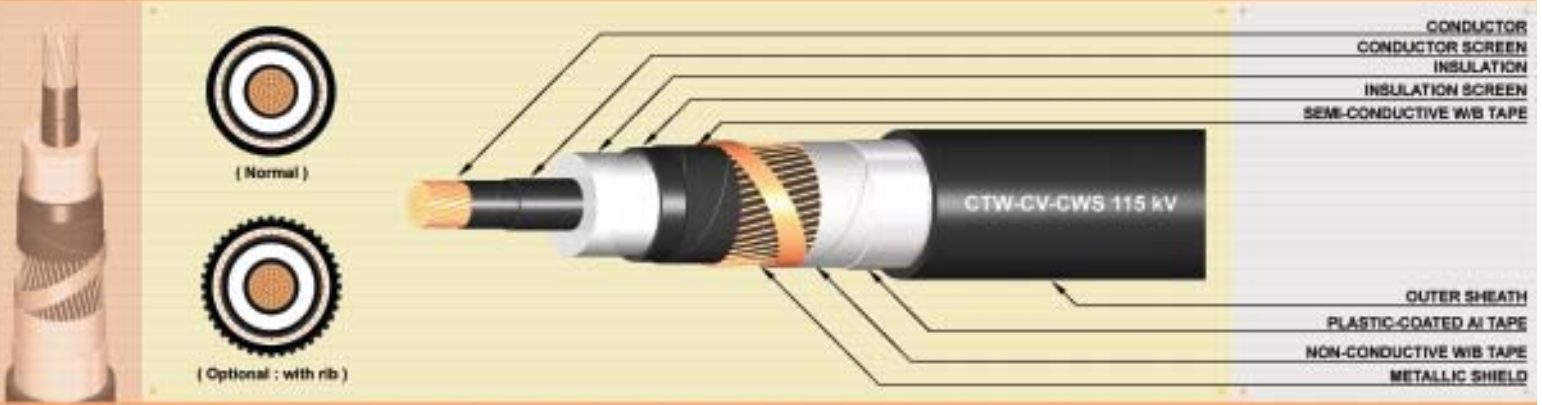
\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt, Spacing of cable = 2 x cable overall diameter  
R = Packing in reel



# CHAROONG THAI WIRE & CABLE PUBLIC COMPANY LIMITED

## CABLE TYPE : CTW - CV - CWS SINGLE CORE CU/XLPE/CWS/PE 115 kV

HIGH VOLTAGE CROSS-LINKED POLYETHYLENE CABLE, COPPER CONDUCTOR WITH COPPER WIRE SHIELD



CONSTRUCTION		APPLICATION	CLASSIFICATION
Conductor	Compact round stranded annealed copper.	Preferably used for urban networks. Suitable For use in duct, trays and direct burial in ground, subjected to immerse in water all the time.	Maximum Conductor Temperature 90 °C (Normal Operation)
Conductor Screen	Semi-conducting tape with extruded. semi-conducting cross-linked polyethylene.		Maximum Conductor Temperature 250 °C (Short-circuit at 5s maximum duration)
Insulation	Cross-linked polyethylene. (XLPE)	<b>REFERENCE</b> IEC 60228 & IEC 60840 ** AC Test Voltage : 160 kV	<b>NOTE</b> A special FR-PVC or Low Smoke Halogen Free (LSHF) Flame retardant sheath can be supplied in accordance with IEC 60332-3.
Insulation Screen	Semi-conducting cross-linked polyethylene.		
Synthetic water blocking layer	Semi-conductive water blocking tape.		
Metallic Shield	Annealed copper wire with copper contact tape.		
Synthetic water blocking layer	Non-conductive water blocking tape.		
Radial water barrier	Plastic-coated Aluminum tape.		
Outer Sheath	Black polyethylene (ST7) ; (Optional : with rib)		

Product code	Conductor			Thickness of conductor screen	Thickness of Insulation	Diameter over insulation (Approx.)	Thickness of Insulation screen	Minimum total sectional area of wire shield mm <sup>2</sup>	Thickness of outer sheath	Overall diameter with Rib (Approx.)	Cable weight with Rib (Approx.)	Maximum conductor resistance at 20°C	Electrostatic capacitance (nominal) at 20°C	Ampacities direct burial at 30°C (Flat)**	Standard length
	Nominal cross-sectional area core x mm <sup>2</sup>	Minimum number of wire No./mm	Diameter (Approx.) mm												
K3Q241400	1 x 400	53	23.39	1.5	16	60.0	1.5	120	3.2	83	8,600	0.0470	0.163	610	500
K3Q241500	1 x 500	53	26.67	1.5	16	63.5	1.5	120	3.3	87	9,800	0.0366	0.177	700	500
K3Q241630	1 x 630	53	30.20	1.5	16	67.0	1.5	120	3.4	90	11,300	0.0283	0.191	790	500
K3Q241800	1 x 800	53	34.00	1.5	16	71.0	1.5	120	3.5	95	13,200	0.0221	0.208	880	500
K3Q2411000	1 x 1,000	53	40.00	1.5	16	77.0	1.5	120	3.8	100	15,600	0.0176	0.232	1,050	500

\*\* Depth of laying in ground = 1 m, Rho = 1.2 °C m/watt, Spacing of cable = 2 x cable overall diameter