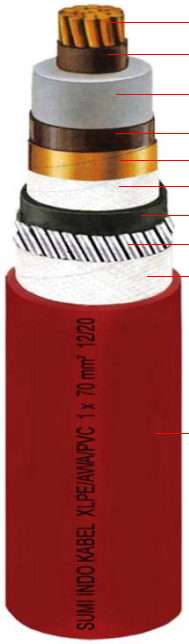
SUMI INDO KABEL

(3.6/6 kV ~ 18/30 kV) Cu/XLPE/CTS/AWA/PVC (N2XSYR(Al)Y)

SNI IEC 60502-2 / IEC 60502-2



Copper conductor
Conductor screen
XLPE insulation
Insulation screen
Copper tape screen
Binding tape (manufacturer's option)
PVC Separation sheath
Round Aluminium Wire Armour
Binding tape (manufacturer's option
PVC sheath (Red or Black color)

Special application upon request :

* Available product in accordance to SPLN, JIS, BS, ICEA/NEMA, AS standard or other requirement.
* Flame retardant test acc. to IEC 60332-3 Cat. A, B or C.
* Longitudinally Water Blocking characteristic.
* Anti termite and anti rodent performance.
* Tin coated Copper conductor.
* Copper wire screen.
* Polyethylene/Low Smoke Free Halogen sheath.

3.6/6 (7.2) kV Cu/XLPE/CTS/AWA/PVC (N2XSYR(Al)Y) 1 x (25 - 800) mm²

CONSTRUCTION DATA

No. of Core	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Nom. Cross-section Area	mm²	25	35	50	70	95	120	150	185	240	300	400	500	630	800
No. of Wire	-	7	7	19	19	19	37	37	37	37	61	61	61	91	91
Diameter of Conductor (approx.) [2]	mm	5.9	7.1	8.1	9.7	11.6	12.9	14.3	16.0	18.3	20.7	23.4	26.5	30.3	34.3
Nom. Thickness of Insulation	mm	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.6	2.8	3.0	3.2	3.2	3.2
Nom. Thickness of Copper Tape	mm	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085
Nom. Thickness of Separation Sheath	mm	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.4	1.4
Nom. Diameter of Round Aluminium Wire	mm	1.6	1.6	1.6	1.6	1.6	1.6	1.6	2.0	2.0	2.0	2.0	2.5	2.5	2.5
Nom. Thickness of Outer Sheath	mm	1.8	1.8	1.8	1.8	1.9	1.9	2.0	2.1	2.1	2.2	2.3	2.5	2.6	2.7
Overall Diameter of Cable	mm	23.0	24.5	25.5	27.0	29.0	30.0	32.0	34.5	37.0	40.0	43.5	48.0	52.0	57.0
Weight of Cable (approx.)	kg/km	785	920	1060	1300	1605	1865	2185	2655	3265	3945	4835	6145	7650	9530

ELECTRICAL DATA

AC Voltage Test for 5 min.	kV	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
Partial Discharge Test at max. 10pC	kV	6.23	6.23	6.23	6.23	6.23	6.23	6.23	6.23	6.23	6.23	6.23	6.23	6.23	6.23
DC Resistance at 20°C	Ω/km	0.727	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	0.0366	0.0283	0.0221
AC Resistance at 90°C	Ω/km	0.927	0.668	0.494	0.342	0.247	0.196	0.159	0.127	0.0976	0.0785	0.0623	0.0498	0.0401	0.0332
Insulation Resistance at 20°C	MΩ.km	2500	2000	2000	1500	1500	1500	1500	1500	1000	900	900	900	800	700
Capacitance	µF/km	0.266	0.300	0.328	0.373	0.427	0.463	0.502	0.550	0.593	0.615	0.641	0.673	0.755	0.842
Inductance (Trefoil)	mH/km	0.461	0.436	0.418	0.393	0.372	0.357	0.350	0.342	0.329	0.320	0.313	0.307	0.297	0.290
Reactance (Trefoil)	Ω/km	0.145	0.137	0.131	0.124	0.117	0.112	0.110	0.108	0.103	0.101	0.0982	0.0965	0.0931	0.0911
Current Carrying Capacity :															
- Buried direct in ground at 20°C [3] (Trefoil)	A	140	166	196	239	285	323	361	406	469	526	590	655 [1]	740 [1]	840 [1]
(Flat spaced)	A	144	172	203	246	293	332	366	410	470	524	572	650 [1]	730 [1]	820 [1]
- In air at 30°C (Trefoil)	A	163	198	238	296	361	417	473	543	641	735	845	940 [1]	1080 [1]	1250 [1]
(Flat spaced)	A	196	238	286	356	434	500	559	637	745	846	938	1075 [1]	1235 [1]	1420 [1]
(Flat touching)	A	167	203	243	303	369	426	481	550	647	739	837	945 [1]	1080 [1]	1250 [1]
Short circuit current rating at 1 sec. (approx.)	kA	3.58	5.01	7.15	10.01	13.59	17.16	21.45	26.46	34.32	42.90	57.20	71.50	90.09	114.40

[1] Typical data

[2] Diameter compacted shape

[3] Thermal Resistivity of soil : 1.5°K.m/W, Depth of laying : 0.8 m

6/10 (12) kV Cu/XLPE/CTS/AWA/PVC (N2XSYR(Al)Y) 1 x (25 - 800) mm²

CONSTRUCTION DATA

No. of Core	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Nom. Cross-section Area	mm²	25	35	50	70	95	120	150	185	240	300	400	500	630	800
No. of Wire	-	7	7	19	19	19	37	37	37	37	61	61	61	91	91
Diameter of Conductor (approx.) [2]	mm	5.9	7.1	8.1	9.7	11.6	12.9	14.3	16.0	18.3	20.7	23.4	26.5	30.3	34.3
Nom. Thickness of Insulation	mm	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
Nom. Thickness of Copper Tape	mm	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085
Nom. Thickness of Separation Sheath	mm	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.3	1.4	1.4
Nom. Diameter of Round Aluminium Wire	mm	1.6	1.6	1.6	1.6	1.6	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5
Nom. Thickness of Outer Sheath	mm	1.8	1.8	1.8	1.9	1.9	2.0	2.1	2.1	2.2	2.3	2.4	2.5	2.6	2.8
Overall Diameter of Cable	mm	25.0	26.0	27.0	29.0	30.5	33.0	34.5	36.5	39.0	41.5	45.0	48.5	52.5	57.5
Weight of Cable (approx.)	kg/km	875	1005	1155	1395	1705	2055	2385	2775	3390	4045	5050	6185	7680	9590

ELECTRICAL DATA

AC Voltage Test for 5 min.	kV	21	21	21	21	21	21	21	21	21	21	21	21	21	21
Partial Discharge Test at max. 10pC	kV	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38
DC Resistance at 20°C	Ω/km	0.727	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	0.0366	0.0283	0.0221
AC Resistance at 90°C	Ω/km	0.927	0.668	0.494	0.342	0.247	0.196	0.159	0.127	0.0975	0.0784	0.0623	0.0497	0.0401	0.0332
Insulation Resistance at 20°C	MΩ.km	3000	2500	2500	2000	2000	2000	1500	1500	1500	1500	1000	900	800	700
Capacitance	µF/km	0.211	0.236	0.257	0.291	0.330	0.357	0.386	0.421	0.468	0.518	0.573	0.637	0.715	0.797
Inductance (Trefoil)	mH/km	0.477	0.448	0.429	0.408	0.382	0.376	0.365	0.354	0.340	0.328	0.319	0.310	0.299	0.292
Reactance (Trefoil)	Ω/km	0.150	0.141	0.135	0.128	0.120	0.118	0.115	0.111	0.107	0.103	0.100	0.0973	0.0937	0.0917
Current Carrying Capacity :															
- Buried direct in ground at 20°C [3] (Trefoil)	A	140	166	196	239	285	323	361	406	469	526	590	655 [1]	740 [1]	840 [1]
(Flat spaced)	A	144	172	203	246	293	332	366	410	470	524	572	650 [1]	730 [1]	820 [1]
- In air at 30°C (Trefoil)	A	163	198	238	296	361	417	473	543	641	735	845	940 [1]	1080 [1]	1250 [1]
(Flat spaced)	A	196	238	286	356	434	500	559	637	745	846	938	1075 [1]	1235 [1]	1420 [1]
(Flat touching)	A	167	203	243	303	369	426	481	550	647	739	837	945 [1]	1080 [1]	1250 [1]
Short circuit current rating at 1 sec. (approx.)	kA	3.58	5.01	7.15	10.01	13.59	17.16	21.45	26.46	34.32	42.90	57.20	71.50	90.09	114.40

[1] Typical data

[2] Diameter compacted shape

[3] Thermal Resistivity of soil : 1.5°K.m/W, Depth of laying : 0.8 m

8.7/15 (17.5) kV Cu/XLPE/CTS/AWA/PVC (N2XSYR(Al)Y) 1 x (25 - 630) mm²

CONSTRUCTION DATA

No. of Core	-	1	1	1	1	1	1	1	1	1	1	1	1	1
Nom. Cross-section Area	mm²	25	35	50	70	95	120	150	185	240	300	400	500	630
No. of Wire	-	7	7	19	19	19	37	37	37	37	61	61	61	91
Diameter of Conductor (approx.) [2]	mm	5.9	7.1	8.1	9.7	11.6	12.9	14.3	16.0	18.3	20.7	23.4	26.5	30.3
Nom. Thickness of Insulation	mm	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Nom. Thickness of Copper Tape	mm	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085
Nom. Thickness of Separation Sheath	mm	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.4	1.4
Nom. Diameter of Round Aluminium Wire	mm	1.6	1.6	1.6	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5
Nom. Thickness of Outer Sheath	mm	1.8	1.9	1.9	2.0	2.0	2.1	2.1	2.2	2.3	2.3	2.5	2.6	2.7
Overall Diameter of Cable	mm	27.0	28.5	29.5	31.0	34.0	35.5	37.0	38.5	41.0	43.5	47.5	51.0	55.0
Weight of Cable (approx.)	kg/km	985	1120	1265	1530	1920	2210	2525	2940	3565	4210	5260	6415	7920

ELECTRICAL DATA

AC Voltage Test for 5 min.	kV	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
Partial Discharge Test at max. 10pC	kV	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05	15.05
DC Resistance at 20°C	Ω/km	0.727	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	0.0366	0.0283
AC Resistance at 90°C	Ω/km	0.927	0.668	0.494	0.342	0.247	0.196	0.159	0.127	0.0975	0.0784	0.0622	0.0496	0.0399
Insulation Resistance at 20°C	MΩ.km	3500	3000	3000	2500	2500	2000	2000	2000	1500	1500	1500	1500	1000
Capacitance	µF/km	0.173	0.192	0.208	0.234	0.264	0.284	0.307	0.333	0.369	0.407	0.449	0.497	0.556
Inductance (Trefoil)	mH/km	0.493	0.467	0.447	0.421	0.404	0.391	0.379	0.364	0.350	0.337	0.330	0.320	0.308
Reactance (Trefoil)	Ω/km	0.155	0.147	0.140	0.132	0.127	0.123	0.119	0.114	0.110	0.106	0.104	0.100	0.0967
Current Carrying Capacity :														
- Buried direct in ground at 20°C [3] (Trefoil)	A	140	166	196	239	285	323	361	406	469	526	590	655 [1]	740 [1]
(Flat spaced)	A	144	172	203	246	293	332	366	410	470	524	572	650 [1]	730 [1]
- In air at 30°C (Trefoil)	A	163	198	238	296	361	417	473	543	641	735	845	940 [1]	1080 [1]
(Flat spaced)	A	196	238	286	356	434	500	559	637	745	846	938	1075 [1]	1235 [1]
(Flat touching)	A	167	203	243	303	369	426	481	550	647	739	837	945 [1]	1080 [1]
Short circuit current rating at 1 sec. (approx.)	kA	3.58	5.01	7.15	10.01	13.59	17.16	21.45	26.46	34.32	42.90	57.20	71.50	90.09

[1] Typical data

[2] Diameter compacted shape

[3] Thermal Resistivity of soil : 1.5°K.m/W, Depth of laying : 0.8 m

12/20 (24) kV Cu/XLPE/CTS/AWA/PVC (N2XSYR(Al)Y) 1 x (35 - 630) mm²

CONSTRUCTION DATA

No. of Core	-	1	1	1	1	1	1	1	1	1	1	1	1
Nom. Cross-section Area	mm²	35	50	70	95	120	150	185	240	300	400	500	630
No. of Wire	-	7	19	19	19	37	37	37	37	61	61	61	91
Diameter of Conductor (approx.) [2]	mm	7.1	8.1	9.7	11.6	12.9	14.3	16.0	18.3	20.7	23.4	26.5	30.3
Nom. Thickness of Insulation	mm	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Nom. Thickness of Copper Tape	mm	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085
Nom. Thickness of Separation Sheath	mm	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.3	1.4	1.5
Nom. Diameter of Round Aluminium Wire	mm	1.6	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5
Nom. Thickness of Outer Sheath	mm	1.9	2.0	2.1	2.1	2.2	2.2	2.3	2.3	2.5	2.6	2.7	2.8
Overall Diameter of Cable	mm	30.5	32.0	34.5	36.5	38.0	39.0	41.0	43.5	47.0	50.0	53.5	57.5
Weight of Cable (approx.)	kg/km	1240	1405	1755	2085	2370	2695	3115	3730	4565	5465	6650	8175

ELECTRICAL DATA

AC Voltage Test for 5 min.	kV	42	42	42	42	42	42	42	42	42	42	42	42
Partial Discharge Test at max. 10pC	kV	20.76	20.76	20.76	20.76	20.76	20.76	20.76	20.76	20.76	20.76	20.76	20.76
DC Resistance at 20°C	Ω/km	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	0.0366	0.0283
AC Resistance at 90°C	Ω/km	0.668	0.494	0.342	0.247	0.196	0.159	0.127	0.0974	0.0783	0.0621	0.0495	0.0398
Insulation Resistance at 20°C	MΩ.km	3500	3500	3000	2500	2500	2500	2000	2000	2000	1500	1500	1500
Capacitance	µF/km	0.165	0.178	0.199	0.224	0.240	0.258	0.279	0.309	0.339	0.373	0.412	0.459
Inductance (Trefoil)	mH/km	0.480	0.463	0.442	0.418	0.405	0.389	0.377	0.362	0.353	0.340	0.329	0.317
Reactance (Trefoil)	Ω/km	0.151	0.146	0.139	0.131	0.127	0.122	0.118	0.114	0.111	0.107	0.103	0.100
Current Carrying Capacity :													
- Buried direct in ground at 20°C [3] (Trefoil)	A	166	196	239	285	323	361	406	469	526	590	655 [1]	740 [1]
(Flat spaced)	A	172	203	246	293	332	366	410	470	524	572	650 [1]	730 [1]
- In air at 30°C (Trefoil)	A	198	238	296	361	417	473	543	641	735	845	940 [1]	1080 [1]
(Flat spaced)	A	238	286	356	434	500	559	637	745	846	938	1075 [1]	1235 [1]
(Flat touching)	A	203	243	303	369	426	481	550	647	739	837	945 [1]	1080 [1]
Short circuit current rating at 1 sec. (approx.)	kA	5.01	7.15	10.01	13.59	17.16	21.45	26.46	34.32	42.90	57.20	71.50	90.09

[1] Typical data

[2] Diameter compacted shape

[3] Thermal Resistivity of soil : 1.5°K.m/W, Depth of laying : 0.8 m

18/30 (36) kV Cu/XLPE/CTS/AWA/PVC (N2XSYR(Al)Y) 1 x (50 - 630) mm²

CONSTRUCTION DATA

No. of Core	-	1	1	1	1	1	1	1	1	1	1	1
Nom. Cross-section Area	mm²	50	70	95	120	150	185	240	300	400	500	630
No. of Wire	-	19	19	19	37	37	37	37	61	61	61	91
Diameter of Conductor (approx.) [2]	mm	8.1	9.7	11.6	12.9	14.3	16.0	18.3	20.7	23.4	26.5	30.3
Nom. Thickness of Insulation	mm	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Nom. Thickness of Copper Tape	mm	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085	0.085
Nom. Thickness of Separation Sheath	mm	1.2	1.2	1.2	1.2	1.3	1.3	1.3	1.4	1.4	1.5	1.6
Nom. Diameter of Round Aluminium Wire	mm	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Nom. Thickness of Outer Sheath	mm	2.2	2.2	2.3	2.3	2.4	2.5	2.6	2.6	2.7	2.8	3.0
Overall Diameter of Cable	mm	38.0	40.0	42.0	43.0	45.5	47.5	50.0	52.5	55.5	59.0	63.5
Weight of Cable (approx.)	kg/km	1850	2120	2480	2770	3260	3700	4360	5070	5995	7210	8815

ELECTRICAL DATA

AC Voltage Test for 5 min.	kV	63	63	63	63	63	63	63	63	63	63	63
Partial Discharge Test at max. 10pC	kV	31.14	31.14	31.14	31.14	31.14	31.14	31.14	31.14	31.14	31.14	31.14
DC Resistance at 20°C	Ω/km	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	0.0366	0.0283
AC Resistance at 90°C	Ω/km	0.494	0.342	0.247	0.196	0.159	0.127	0.0973	0.0782	0.0619	0.0493	0.0395
Insulation Resistance at 20°C	MΩ.km	4000	4000	3500	3500	3000	3000	2500	2500	2500	2000	2000
Capacitance	µF/km	0.138	0.153	0.170	0.182	0.194	0.209	0.229	0.250	0.274	0.300	0.333
Inductance (Trefoil)	mH/km	0.498	0.472	0.446	0.429	0.420	0.406	0.390	0.375	0.361	0.349	0.337
Reactance (Trefoil)	Ω/km	0.156	0.148	0.140	0.135	0.132	0.128	0.122	0.118	0.114	0.110	0.106
Current Carrying Capacity :												
- Buried direct in ground at 20°C [3] (Trefoil)	A	196	239	285	323	361	406	469	526	590	655 [1]	740 [1]
(Flat spaced)	A	203	246	293	332	366	410	470	524	572	650 [1]	730 [1]
- In air at 30°C (Trefoil)	A	238	296	361	417	473	543	641	735	845	940 [1]	1080 [1]
(Flat spaced)	A	286	356	434	500	559	637	745	846	938	1075 [1]	1235 [1]
(Flat touching)	A	243	303	369	426	481	550	647	739	837	945 [1]	1080 [1]
Short circuit current rating at 1 sec. (approx.)	kA	7.15	10.01	13.59	17.16	21.45	26.46	34.32	42.90	57.20	71.50	90.09

[1] Typical data

[2] Diameter compacted shape

[3] Thermal Resistivity of soil : 1.5°K.m/W, Depth of laying : 0.8 m