



PT. SUMI INDO KABEL Tbk.

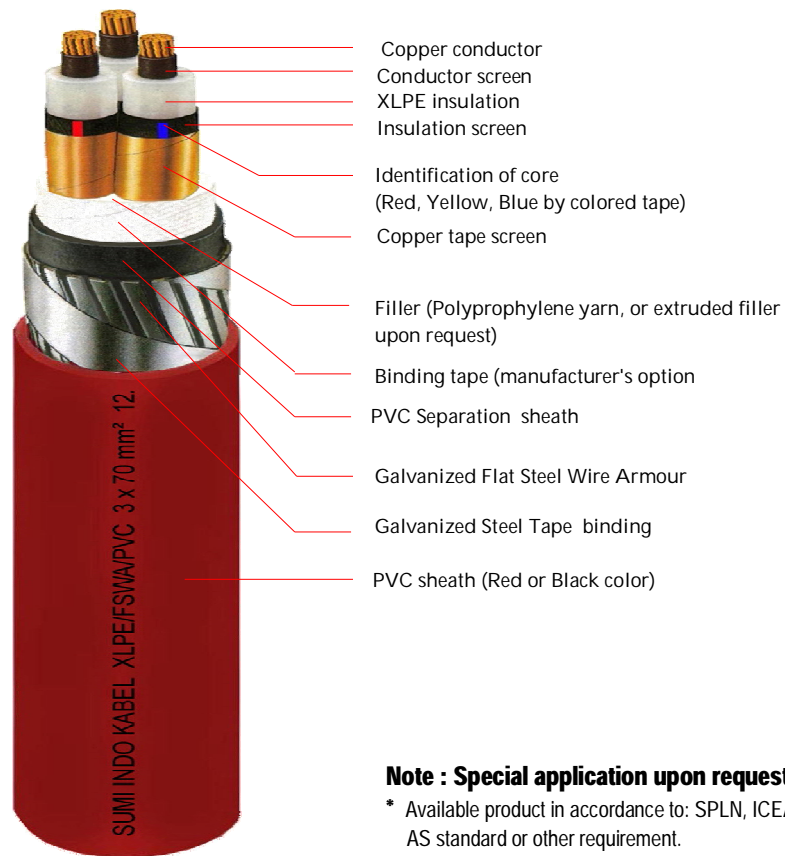
AFFILIATE OF
SUMITOMO ELECTRIC INDUSTRIES, LTD - JAPAN



XLPE Insulated, Copper Tape Shielded, Galvanized Flat Steel Wire Armoured and PVC Sheathed Cables

(3.6/6 kV ~ 18/30 kV) XLPE/FSWA/PVC

According to : IEC 60502-2



Note : Special application upon request

- * Available product in accordance to: SPLN, 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 performance.
- * Tin coated Copper conductor.
- * Copper wire screen.
- * Polyethylene/Low Smoke halogen Free sheath.

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XLPE Insulated, Copper Tape Shielded, Galvanized Flat Steel Wire Armoured and PVC Sheathed Cables

3.6/6 (7.2) kV XLPE / FSWA / PVC 3 x (25 - 300) mm²

CONSTRUCTION DATA

No. of Core	-	3	3	3	3	3	3	3	3	3	3
Nom. Cross-section area	mm ²	25	35	50	70	95	120	150	185	240	300
No. of Wire	-	7	7	19	19	19	37	37	37	37	61
Diameter of Conductor, approx. *)	mm	5.9	7.1	8.1	9.7	11.6	12.9	14.3	16.0	18.3	20.7
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
Nom. Thickness of Copper tape	mm	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Nom. Thickness of Separation Sheath	mm	1.2	1.3	1.3	1.4	1.4	1.5	1.6	1.6	1.7	1.8
Nom. Thickness of Flat Steel Wire	mm	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Nom. Thickness of Steel Tape	mm	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Nom. Thickness Of Outer sheath	mm	2.2	2.3	2.4	2.5	2.6	2.7	2.9	3.0	3.2	3.3
Overall Diameter of cable	mm	39.0	41.5	44.0	47.5	52.0	55.0	59.0	62.5	68.5	74.5
Weight of cable, approximate	kg/km	2650	3125	3585	4440	5470	6380	7450	8720	10730	12950

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
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
DC Resistance at 20°C		0.727	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601
AC Resistance at 90°C	Ω / km	0.927	0.668	0.494	0.342	0.247	0.196	0.159	0.128	0.0981	0.0792
Insulation Resistance at 20°C	M Ω . km	2500	2000	2000	1500	1500	1500	1500	1500	1000	900
Capacitance	mF / km	0.266	0.300	0.328	0.373	0.427	0.463	0.502	0.550	0.593	0.615
Inductance	mH / km	0.360	0.340	0.326	0.309	0.294	0.285	0.277	0.270	0.263	0.258
Reactance	Ω / km	0.113	0.107	0.102	0.0970	0.0922	0.0895	0.0871	0.0847	0.0825	0.0810
Current Carrying Capacity **) :											
- Buried direct in ground at 20°C	A	129	154	181	220	263	298	332	374	431	482
- In a Buried duct at 20°C	A	112	134	158	194	232	264	296	335	387	435
- In Air at 30°C	A	143	172	205	253	307	352	397	453	529	599
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

*) Diameter compacted shape

**) Thermal Resistivity of soil : 1.5°K.m/W, Depth of laying : 0.8 m

Thermal Resistivity of earthenware ducts : 1.2 K.m/W

XLPE Insulated, Copper Tape Shielded, Double Galvanized Steel Tape Armoured and PVC Sheathed Cables

6/10 (12) kV XLPE / FSWA / PVC 3 x (25 - 300) mm²

CONSTRUCTION DATA

No. of Core	-	3	3	3	3	3	3	3	3	3	3
Nom. Cross-section area	mm ²	25	35	50	70	95	120	150	185	240	300
No. of Wire	-	7	7	19	19	19	37	37	37	37	61
Diameter of Conductor, approx. *)	mm	5.9	7.1	8.1	9.7	11.6	12.9	14.3	16.0	18.3	20.7
Nom. Thick. of Insulation	mm	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
Nom. Thick. of Copper tape	mm	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Nom. Thick. of Separation Sheath	mm	1.3	1.3	1.4	1.5	1.5	1.6	1.6	1.7	1.8	1.9
Nom. Thickness of Flat Steel Wire	mm	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Nom. Thickness of Steel Tape	mm	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Nom. Thickness Of Outer sheath	mm	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.3	3.5
Overall Diameter of cable	mm	43.0	46.0	48.5	52.0	56.5	59.5	63.0	66.5	72.0	78.0
Weight of cable, approximate	kg/km	3015	3495	4005	4890	5945	6875	7910	9170	11205	13390

ELECTRICAL DATA

AC Voltage test for 5 min.	kV	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
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
AC Resistance at 90°C	Ω / km	0.927	0.668	0.494	0.342	0.247	0.196	0.159	0.128	0.0980	0.0791
Insulation Resistance at 20°C	MΩ . km	3000	2500	2500	2000	2000	2000	1500	1500	1500	1500
Capacitance	mF / km	0.211	0.236	0.257	0.291	0.330	0.357	0.386	0.421	0.468	0.518
Inductance	mH / km	0.384	0.632	0.347	0.328	0.311	0.302	0.293	0.284	0.274	0.266
Reactance	Ω / km	0.121	0.114	0.109	0.103	0.0977	0.0947	0.0920	0.0892	0.0862	0.0836
Current Carrying Capacity **) :											
- Buried direct in ground at 20°C	A	129	154	181	220	263	298	332	374	431	482
- In a Buried duct at 20°C	A	112	134	158	194	232	264	296	335	387	435
- In Air at 30°C	A	143	172	205	253	307	352	397	453	529	599
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

*) Diameter compacted shape

**) Thermal Resistivity of soil : 1.5°K.m/W, Depth of laying : 0.8 m

Thermal Resistivity of earthenware ducts : 1.2 K.m/W

XLPE Insulated, Copper Tape Shielded, Double Galvanized Steel Tape Armoured and PVC Sheathed Cables

8.7/15 (17.5) kV XLPE /FSWA / PVC 3 x (25 - 300) mm²

CONSTRUCTION DATA

No. of Core	-	3	3	3	3	3	3	3	3	3	3
Nom. Cross-section area	mm ²	25	35	50	70	95	120	150	185	240	300
No. of Wire	-	7	7	19	19	19	37	37	37	37	61
Diameter of Conductor, approx. *)	mm	5.9	7.1	8.1	9.7	11.6	12.9	14.3	16.0	18.3	20.7
Nom. Thick. of Insulation	mm	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Nom. Thick. of Copper tape	mm	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Nom. Thick. of Separation Sheath	mm	1.4	1.4	1.5	1.5	1.6	1.7	1.7	1.8	1.9	2.0
Nom. Thickness of Flat Steel Wire	mm	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Nom. Thickness of Steel Tape	mm	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Nom. Thickness Of Outer sheath	mm	2.5	2.6	2.7	2.8	3.0	3.1	3.2	3.3	3.5	3.6
Overall Diameter of cable	mm	48.0	51.0	53.5	57.0	62.0	64.5	68.0	72.0	77.5	83.0
Weight of cable, approximate	kg/km	3475	3970	4525	5385	6525	7420	8475	9825	11925	14125

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
Partial Discharge test at max. 10pC	kV	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1
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
AC Resistance at 90°C	Ω / km	0.927	0.668	0.494	0.342	0.247	0.196	0.159	0.128	0.0979	0.0789
Insulation Resistance at 20°C	M.Ω. km	3500	3000	3000	2500	2500	2000	2000	2000	1500	1500
Capacitance	mF / km	0.173	0.192	0.208	0.234	0.264	0.284	0.307	0.333	0.369	0.407
Inductance	mH / km	0.411	0.387	0.370	0.350	0.331	0.320	0.310	0.301	0.289	0.280
Reactance	Ω / km	0.129	0.121	0.116	0.110	0.104	0.101	0.0975	0.0944	0.0909	0.0879
Current Carrying Capacity **):											
- Buried direct in ground at 20°C	A	129	154	181	220	263	298	332	374	431	482
- In a Buried duct at 20°C	A	112	134	158	194	232	264	296	335	387	435
- In Air at 30°C	A	143	172	205	253	307	352	397	453	529	599
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

*) Diameter compacted shape

***) Thermal Resistivity of soil : 1.5°K.m/W, Depth of laying : 0.8 m

Thermal Resistivity of earthenware ducts : 1.2 K.m/W

XLPE Insulated, Copper Tape Shielded, Double Galvanized Steel Tape Armoured and PVC Sheathed Cables

12 / 20 (24) kV XLPE / FSWA / PVC 3 x (35 - 300) mm²

CONSTRUCTION DATA

No. of Core	-	3	3	3	3	3	3	3	3	3
Nom. Cross-section area	mm ²	35	50	70	95	120	150	185	240	300
No. of Wire	-	7	19	19	19	37	37	37	37	61
Diameter of Conductor, approx. *)	mm	7.1	8.1	9.7	11.6	12.9	14.3	16.0	18.3	20.7
Nom. Thick. of Insulation	mm	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Nom. Thick. of Copper tape	mm	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Nom. Thick. of Separation Sheath	mm	1.5	1.6	1.6	1.7	1.8	1.8	1.9	2.0	2.1
Nom. Thickness of Flat Steel Wire	mm	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Nom. Thickness of Steel Tape	mm	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Nom. Thickness Of Outer sheath	mm	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.6	3.8
Overall Diameter of cable	mm	56.5	59.0	62.5	66.5	70.0	73.0	77.0	82.5	88.0
Weight of cable, approximate	kg/km	4535	5085	5995	7080	8055	9135	10515	12625	14860

ELECTRICAL DATA

AC Voltage test for 5 min.	kV	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
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
AC Resistance at 90°C	Ω / km	0.668	0.494	0.342	0.247	0.196	0.159	0.128	0.0978	0.0788
Insulation Resistance at 20°C	MΩ . km	3500	3500	3000	2500	2500	2500	2000	2000	2000
Capacitance	mF / km	0.165	0.178	0.199	0.224	0.240	0.258	0.279	0.309	0.339
Inductance	mH / km	0.408	0.391	0.369	0.349	0.337	0.327	0.316	0.303	0.293
Reactance	Ω / km	0.128	0.123	0.116	0.109	0.106	0.103	0.0991	0.0953	0.0920
Current Carrying Capacity **) :										
- Buried direct in ground at 20°C	A	154	181	220	263	298	332	374	431	482
- In a Buried duct at 20°C	A	134	158	194	232	264	296	335	387	435
- In Air at 30°C	A	172	205	253	307	352	397	453	529	599
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

*) Diameter compacted shape

**) Thermal Resistivity of soil : 1.5°K.m/W, Depth of laying : 0.8 m

Thermal Resistivity of earthenware ducts : 1.2 K.m/W

XLPE Insulated, Copper Tape Shielded, Double Galvanized Steel Tape Armoured and PVC Sheathed Cables

18 / 30 (36) kV XLPE / FSWA / PVC 3 x (50 - 240) mm²

CONSTRUCTION DATA

No. of Core	-	3	3	3	3	3	3	3	3
Nom. Cross-section area	mm ²	50	70	95	120	150	185	240	300
No. of Wire	-	19	19	19	37	37	37	37	61
Diameter of Conductor, approx. *)	mm	8.1	9.7	11.6	12.9	14.3	16.0	18.3	20.7
Nom. Thick. of Insulation	mm	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Nom. Thick. of Copper tape	mm	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Nom. Thick. of Separation Sheath	mm	1.8	1.8	1.9	2.0	2.0	2.1	2.2	2.3
Nom. Thickness of Flat Steel Wire	mm	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Nom. Thickness of Steel Tape	mm	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Nom. Thickness Of Outer sheath	mm	3.3	3.4	3.5	3.6	3.7	3.8	4.0	4.2
Overall Diameter of cable	mm	71.0	74.5	79.0	82.0	85.0	89.5	95.0	100.5
Weight of cable, approximate	kg/km	6490	7460	8680	9710	10805	12255	14460	16835

ELECTRICAL DATA

AC Voltage test for 5 min.	kV	63	63	63	63	63	63	63	63
Partial Discharge test at max. 10pC	kV	31.1	31.1	31.1	31.1	31.1	31.1	31.1	31.1
DC Resistance at 20°C	Ω / km	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601
AC Resistance at 90°C	Ω / km	0.494	0.342	0.247	0.196	0.159	0.127	0.0976	0.0785
Insulation Resistance at 20°C	MΩ . km	4000	4000	3500	3500	3000	3000	2500	2500
Capacitance	mF / km	0.138	0.153	0.170	0.182	0.194	0.209	0.229	0.250
Inductance	mH / km	0.433	0.408	0.385	0.372	0.360	0.347	0.333	0.318
Reactance	Ω / km	0.136	0.128	0.121	0.117	0.113	0.109	0.105	0.100

Current Carrying Capacity **):

- Buried direct in ground at 20°C	A	181	220	263	298	332	374	431	482
- In a Buried duct at 20°C	A	158	194	232	264	296	335	387	435
- In Air at 30°C	A	205	253	307	352	397	453	529	599
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

*) Diameter compacted shape

***) Thermal Resistivity of soil : 1.5°K.m/W, Depth of laying : 0.8 m

Thermal Resistivity of earthenware ducts : 1.2 K.m/W