



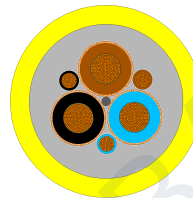
TEBAOFLEX CABLE

DATA SHEET

Mining&Industrial cable

(N)SSHÖU O/J, (N)SSHÖU 3E, (N)SSHÖU 3E + ST

0.6/1 kV heavy-duty flexible rubber cable



APPLICATION

Heavy-duty tough rubber flexible cable with or without individually earth-screened cores for dynamic or static applications in aggressive environments. Suitable for dry, damp, wet and hazardous environments, for power supplies where high mechanical stress and abrasion are expected. The cable is suitable for indoor and outdoor applications and can be permanently submerged in fresh water, salt water, storm water, oily water and sewage contaminated water to a depth of 100 m.

CONSTRUCTION

Component	Description
Phase conductor	Class 5 flexible tinned copper conductor
Insulation	Rubber compound, type 3GI3
Individual core screen	Copper braid up to 10 mm ² ; copper wires from 16 mm ²
Control conductors	Class 5 flexible tinned copper conductor
Inner sheath	Rubber compound, type GM1b
Outer sheath	Rubber compound, type 5GM5
Sheath colour	Yellow
Note	Available with control conductors and individual core screen upon request

CHARACTERISTICS

- Flame retardant.
- Abrasion, cut, notch and tear resistant.
- Good resistance to oil and fats.
- Suitable for dry, damp, wet and hazardous environments.
- Suitable for indoor and outdoor applications.
- Submersible to 100 m.

OPERATING CHARACTERISTICS

Parameter	Value
Rated voltage	U ₀ /U = 0.6/1 kV
Test voltage	3 kV
Ambient temperature	Fixed -40 °C to +80 °C; flexed -25 °C to +80 °C
Max. short circuit temperature	+250 °C
Minimum bending radius	Fixed 4 x overall diameter; flexed 5 x overall diameter
Submersible rating	100 m
Regulatory compliance	Low Voltage Directive 2014/35/EU; RoHS Directive 2011/65/EU

STANDARDS

Parameter	Value
Cable standard	VDE 0250 Part 812
Conductor standard	VDE 0295; EN 60228
Flame retardant	IEC/EN 60332-1-2

TECHNICAL DATA

DIMENSIONS AND WEIGHTS - GENERAL TYPES (1 OF 2)

Part numbers have been omitted. Values are technical parameters only.

Cross-section mm2	Conductor dia. mm	OD min mm	OD max mm	Weight kg/km
1 x 1.5	1.5	6.3	7.0	60
1 x 2.5	1.9	7.0	7.7	75
1 x 4	2.4	7.6	8.3	95
1 x 6	2.9	8.2	8.9	120
1 x 10	3.8	9.5	10.2	180
1 x 16	4.8	10.5	11.2	245
1 x 25	6.1	13.0	13.7	375
1 x 35	7.2	14.1	14.8	480
1 x 50	8.9	16.2	16.9	660
1 x 70	10.6	18.3	19.0	875
1 x 95	12.5	20.5	21.7	1150
1 x 120	14.2	22.8	24.0	1430
1 x 150	15.9	25.0	26.2	1750
1 x 185	17.7	28.2	29.4	2180
1 x 240	20.1	31.1	32.3	2770
1 x 300	22.5	34.9	36.1	3510
3 x 1.5	1.5	11.7	12.3	190
3 x 2.5	1.9	13.1	13.7	255
3 x 4	2.4	15.6	16.2	375
3 x 6	2.9	16.8	17.4	465
3 x 10	3.8	20.2	21.3	710
3 x 16	4.8	22.3	23.4	930
3 x 25	6.1	26.9	28.0	1390
3 x 35	7.2	30.2	31.4	1880
3 x 50	8.9	35.8	37.0	2500
3 x 70	10.6	39.3	40.5	3460
3 x 95	12.5	45.7	47.4	4570
3 x 120	14.2	48.2	49.9	5220
3 x 150	15.9	52.6	54.4	6460
3 x 185	17.7	58.7	61.0	7980

TECHNICAL DATA

DIMENSIONS AND WEIGHTS - GENERAL TYPES (2 OF 2)

Part numbers have been omitted. Values are technical parameters only.

Cross-section mm2	Conductor dia. mm	OD min mm	OD max mm	Weight kg/km
4 x 1.5	1.5	12.5	13.1	225
4 x 2.5	1.9	15.3	15.9	350
4 x 4	2.4	16.7	17.3	440
4 x 6	2.9	18.1	18.7	550
4 x 10	3.8	21.9	23.0	860
4 x 16	4.8	25.2	26.3	1210
4 x 25	6.1	30.6	31.8	1810
4 x 35	7.2	32.8	34.0	2330
4 x 50	8.9	39.0	40.2	3300
4 x 70	10.6	42.8	44.5	4300
4 x 95	12.5	49.9	51.7	5680
4 x 120	14.2	55.6	57.4	6820
4 x 150	15.9	60.6	62.9	8270
4 x 185	17.7	67.4	69.7	10350
5 x 1.5	1.5	13.4	14.0	270
5 x 2.5	1.9	16.4	17.0	410
5 x 4	2.4	18.0	18.6	525
5 x 6	2.9	20.3	21.4	715
5 x 10	3.8	23.7	24.8	1040
5 x 16	4.8	27.3	28.4	1470
5 x 25	6.1	33.2	34.4	2220
7 x 1.5	1.5	16.9	17.5	400
7 x 2.5	1.9	19.2	19.8	560
12 x 1.5	1.5	19.6	20.2	540
12 x 2.5	1.9	22.3	23.4	790
18 x 1.5	1.5	22.2	23.3	750
18 x 2.5	1.9	26.5	27.6	1110
24 x 1.5	1.5	23.7	25.1	900
24 x 2.5	1.9	28.4	29.6	1350

TECHNICAL DATA

DIMENSIONS AND WEIGHTS - EARTH / SCREEN TYPES

Dimensions below cover types with earth cores, individual core screens, and control conductors.

INCLUDING EARTH CORES

Cross-section mm ²	Conductor dia. mm	OD min mm	OD max mm	Weight kg/km
3 x 50 + 3 x 25/3E	8.9	36.3	37.5	2790
3 x 70 + 3 x 35/3E	10.6	39.7	41.4	3660
3 x 95 + 3 x 50/3E	12.5	46.3	48.0	4800
3 x 120 + 3 x 70/3E	14.2	48.5	50.3	5990
3 x 150 + 3 x 70/3E	15.9	54.3	56.1	7030
3 x 185 + 3 x 95/3E	17.7	61.7	64.0	9030
3 x 240 + 3 x 120/3E	20.1	66.5	68.8	11280

INDIVIDUAL CORE SCREEN

Cross-section mm ²	Conductor dia. mm	OD min mm	OD max mm	Weight kg/km
3 x 2.5 + 3 x 2.5/3E	1.9	16.2	16.9	370
3 x 4 + 3 x 4/3E	2.4	17.7	18.4	490
3 x 6 + 3 x 6/3E	2.9	18.9	19.6	590
3 x 10 + 3 x 10/3E	3.8	22.4	23.5	890
3 x 16 + 3 x 16/3E	4.8	26.6	27.7	1260
3 x 25 + 3 x 16/3E	6.1	29.9	31.1	1700
3 x 35 + 3 x 16/3E	7.2	33.9	35.1	2100
3 x 50 + 3 x 25/3E	8.9	39.8	41.5	3060
3 x 70 + 3 x 35/3E	10.6	43.4	45.1	3940
3 x 95 + 3 x 50/3E	12.5	50.0	51.8	5240
3 x 120 + 3 x 70/3E	14.2	54.1	55.9	6580
3 x 150 + 3 x 70/3E	15.9	59.7	62.0	7590
3 x 185 + 3 x 95/3E	17.7	66.1	68.4	9400

TECHNICAL DATA

DIMENSIONS AND WEIGHTS - SCREEN AND CONTROL TYPES

Values are technical parameters only. Cable dimensions may vary due to manufacturing tolerances.

INDIVIDUAL CORE SCREEN AND CONTROL CONDUCTORS				
Cross-section mm2	Conductor dia. mm	OD min mm	OD max mm	Weight kg/km
3 x 2.5 + 3 x 2.5/3E + 3 x 1.5ST	1.9	16.2	18.1	425
3 x 4 + 3 x 4/3E + 3 x 1.5ST	2.4	17.7	19.6	540
3 x 6 + 3 x 6/3E + 3 x 1.5ST	2.9	18.9	20.3	640
3 x 10 + 3 x 10/3E + 3 x 2.5ST	3.8	22.4	23.5	940
3 x 16 + 3 x 16/3E + 3 x 2.5ST	4.8	26.6	27.7	1310
3 x 25 + 3 x 16/3E + 3 x 2.5ST	6.1	29.9	31.1	1800
3 x 35 + 3 x 16/3E + 3 x 2.5ST	7.2	33.9	35.1	2230
3 x 50 + 3 x 25/3E + 3 x 2.5ST	8.9	39.8	41.5	3160
3 x 70 + 3 x 35/3E + 3 x 2.5ST	10.6	43.4	45.1	4210
3 x 95 + 3 x 50/3E + 3 x 2.5ST	12.5	50.0	51.8	5520
3 x 120 + 3 x 70/3E + 3 x 2.5ST	14.2	54.1	55.9	6730
3 x 150 + 3 x 70/3E + 3 x 2.5ST	15.9	59.7	62.0	7740
3 x 185 + 3 x 95/3E + 3 x 2.5ST	17.7	66.1	68.4	9700

ELECTRICAL CHARACTERISTICS

MAXIMUM TENSILE LOAD

Maximum tensile load values are shown in newtons.

Cross-section	Max. tensile load N
1 x 1.5	23
1 x 2.5	38
1 x 4	60
1 x 6	90
1 x 10	150
1 x 16	240
1 x 25	375
1 x 35	525
1 x 50	750
1 x 70	1050
1 x 95	1425
1 x 120	1800
1 x 150	2250
1 x 185	2775
1 x 240	3600
1 x 300	4500
3 x 1.5	68
3 x 2.5	113
3 x 4	180
3 x 6	270
3 x 10	450
3 x 16	720
3 x 25	1125
3 x 35	1575
3 x 50	2250
3 x 70	3150
3 x 95	4275
3 x 120	5400
3 x 150	6750
3 x 185	8325

Cross-section	Max. tensile load N
4 x 1.5	90
4 x 2.5	150
4 x 4	240
4 x 6	360
4 x 10	600
4 x 16	960
4 x 25	1500
4 x 35	2100
4 x 50	3000
4 x 70	4200
4 x 95	5700
4 x 120	7200
4 x 150	9000
4 x 185	11100
5 x 1.5	113
5 x 2.5	188
5 x 4	300
5 x 6	450
5 x 10	750
5 x 16	1200
5 x 25	1875
7 x 1.5	158
7 x 2.5	263
12 x 1.5	270
12 x 2.5	450
18 x 1.5	405
18 x 2.5	675
24 x 1.5	540
24 x 2.5	900

ELECTRICAL CHARACTERISTICS

EARTH / SCREEN TYPES - MAXIMUM TENSILE LOAD

Maximum tensile load values are shown in newtons.

INCLUDING EARTH CORES	
Cross-section	Max. tensile load N
3 x 50 + 3 x 25/3E	2250
3 x 70 + 3 x 35/3E	3150
3 x 95 + 3 x 50/3E	4275
3 x 120 + 3 x 70/3E	5400
3 x 150 + 3 x 70/3E	6750
3 x 185 + 3 x 95/3E	8325
3 x 240 + 3 x 120/3E	10800

INDIVIDUAL CORE SCREEN	
Cross-section	Max. tensile load N
3 x 2.5 + 3 x 2.5/3E	113
3 x 4 + 3 x 4/3E	180
3 x 6 + 3 x 6/3E	270
3 x 10 + 3 x 10/3E	450
3 x 16 + 3 x 16/3E	720
3 x 25 + 3 x 16/3E	1125
3 x 35 + 3 x 16/3E	1575
3 x 50 + 3 x 25/3E	2250
3 x 70 + 3 x 35/3E	3150
3 x 95 + 3 x 50/3E	4275
3 x 120 + 3 x 70/3E	5400
3 x 150 + 3 x 70/3E	6750
3 x 185 + 3 x 95/3E	8325

ELECTRICAL CHARACTERISTICS

SCREEN AND CONTROL TYPES - MAXIMUM TENSILE LOAD

Maximum tensile load values are shown in newtons.

INDIVIDUAL CORE SCREEN AND CONTROL CONDUCTORS	
Cross-section	Max. tensile load N
3 x 2.5 + 3 x 2.5/3E + 3 x 1.5ST	113
3 x 4 + 3 x 4/3E + 3 x 1.5ST	180
3 x 6 + 3 x 6/3E + 3 x 1.5ST	270
3 x 10 + 3 x 10/3E + 3 x 2.5ST	450
3 x 16 + 3 x 16/3E + 3 x 2.5ST	720
3 x 25 + 3 x 16/3E + 3 x 2.5ST	1125
3 x 35 + 3 x 16/3E + 3 x 2.5ST	1575
3 x 50 + 3 x 25/3E + 3 x 2.5ST	2250
3 x 70 + 3 x 35/3E + 3 x 2.5ST	3150
3 x 95 + 3 x 50/3E + 3 x 2.5ST	4275
3 x 120 + 3 x 70/3E + 3 x 2.5ST	5400
3 x 150 + 3 x 70/3E + 3 x 2.5ST	6750
3 x 185 + 3 x 95/3E + 3 x 2.5ST	8325

ELECTRICAL CHARACTERISTICS

CURRENT CARRYING CAPACITY

Area mm2	Floor A	Free air A	Reeled 1	Reeled 2	Reeled 3	Reeled 4	Reeled 5	Reeled 6	Reeled 7
1.5	24	25	19	15	12	10	9	6	5
2.5	30	32	24	18	15	13	11	8	7
4	41	43	33	25	20	17	16	11	9
6	53	56	42	32	26	22	20	14	12
10	74	78	59	45	36	31	28	20	16
16	99	104	79	60	49	42	38	27	22
25	131	138	105	80	64	55	50	35	29
35	162	170	130	99	79	68	62	44	36
50	202	212	162	123	99	85	77	55	44
70	250	263	200	153	123	105	95	68	55
95	301	316	241	184	147	126	114	81	66
120	352	370	282	215	172	148	134	95	77
150	404	424	323	246	198	170	154	109	89
185	461	484	369	281	226	194	175	124	101
240	528	554	422	322	259	222	201	143	116
300	608	638	486	371	298	255	231	164	134

Current carrying capacity values are based on an ambient temperature of 30 °C.

ELECTRICAL CHARACTERISTICS

VOLTAGE DROP AND DE-RATING FACTORS

Area mm2	PF 0.7	PF 0.8	PF 0.9	PF 1.0
1.5	20.65	23.56	26.47	29.32
2.5	12.43	14.17	15.91	17.59
4	7.75	8.82	9.89	10.92
6	5.19	5.90	6.60	7.27
10	3.04	3.44	3.84	4.20
16	1.96	2.21	2.45	2.66
25	1.29	1.45	1.60	1.71
35	0.95	1.06	1.16	1.23
50	0.69	0.77	0.83	0.87
70	0.51	0.56	0.60	0.61
95	0.41	0.45	0.47	0.47
120	0.34	0.36	0.38	0.36
150	0.29	0.31	0.32	0.29
185	0.25	0.27	0.27	0.24
240	0.21	0.22	0.21	0.18

DE-RATING FACTORS

No. of operating cores	5	7	10	14	19	24
De-rating factor	0.75	0.65	0.55	0.50	0.45	0.40

Ambient temp.	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C	50°C	55°C	60°C	65°C	70°C	75°C	80°C
Derating	1.15	1.12	1.08	1.04	1.00	0.96	0.91	0.87	0.82	0.76	0.71	0.65	0.58	0.50	0.41

CERTIFICATIONS



TEBAOFLEX CABLE