

SUBFLAT

S1BNH2-F

Based on CEI EN 50525-2-21

① PHASE CONDUCTORS

MATERIAL: tinned copper

CONSTRUCTION: class 5 IEC 60228

② INSULATION

MATERIAL: EPR compound, 3GI3 quality according to VDE 0207 part 20

CORES IDENTIFICATION

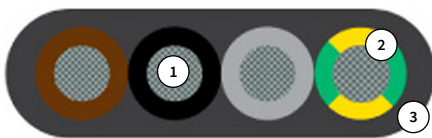
According to HD 308

③ OUTER SHEATH

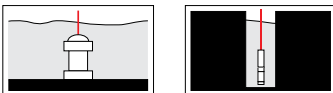
MATERIAL: water resistant rubber compound, EM2 quality

acc.to EN 50363-2-1

COLOUR: black



APPLICATION



Tough rubber unscreened 0.6/1kV flat cable for installation inside or outside in dry, damp or wet environments and in hazardous environments (subject to local regulations). It can be immersed in fresh and salt water to a depth of 300 meters: for flexible power supplies, suitable for submersible motors and pumps. The synthetic rubber compound is ozone, UV, sunlight and weather resistant.



ELECTRICAL WORKING DATA

Nominal rated voltage U_0 / U	kV	0,6/1
Test voltage	kV	4
Max AC voltage	kV	0,7/1,2
Max DC voltage	kV	1,8
Current rating	A	See table p. 63

THERMAL WORKING DATA

Maximum short circuit temperature	°C	250
Maximum working temp. on the conductor	°C	90
Minimum ambient temperature	°C	Mobile condition: - 25 Static condition: - 40

MECHANICAL WORKING DATA

Maximum water depth	m	300
Bending radius*	FLAT mm	3 x H (for $H \leq 12$ mm) 4 x H (for $H > 12$ mm)
Maximum tensile load	N/mm ²	15

* (H = height)

CHEMICAL WORKING DATA

Oil resistance	According to IEC 60811-404
Ozone resistance	According to IEC 60811-403
Behaviour in water	Water resistance test acc.to EN 50525-2-21 (AD8 condition) and AC internal test, suitable for immersion in sea and brackish water
UV resistance	According to ISO 4892-2
Burning behaviour	According to IEC 60332-1-2



SUBFLAT

CORESX CROSS SECTION Nr x mm ²	CONDUCTOR Ø mm	MIN HEIGHT mm	MAX HEIGHT mm	MIN WIDTH mm	MAX WIDTH mm	APPROX WEIGHT kg/km	MAX TENSILE LOAD N
3G4	2,4	7,0	8,0	15,5	16,5	260	180
3G6	2,9	7,5	8,5	17,5	18,5	330	270
3G10	3,8	10,3	11,0	23,1	24,1	550	450
3G16	4,9	12,2	13,2	28,0	29,5	820	720
3G25	6,1	14,2	15,2	33,0	34,5	1180	1125
3G35	7,2	16,0	17,5	37,0	38,7	1560	1575
3G50	8,9	18,5	20,0	44,1	45,8	2190	2250
3G70	10,6	20,5	22,0	50,5	52,5	2890	3150
3G95	12,3	23,1	23,9	57,1	57,9	3610	4275
3G120	14,2	25,1	25,9	62,1	62,9	4420	5400
3G150	15,5	26,8	27,6	67,2	68,0	5370	6750
3G185	17,0	28,6	29,4	72,6	73,4	6440	8325



CORES X CROSS SECTION Nr x mm ²	CONDUCTOR Ø mm	MIN HEIGHT mm	MAX HEIGHT mm	MIN WIDTH mm	MAX WIDTH mm	APPROX WEIGHT kg/km	MAX TENSILE LOAD N
4G4	2,4	8,0	9,0	23,0	24,0	400	240
4G6	2,9	8,5	9,5	24,5	25,5	490	360
4G10	3,8	10,0	11,0	29,5	30,5	710	600
4G16	4,9	12,0	13,0	34,5	35,5	1040	960
4G25	6,1	15,8	17,2	42,1	43,5	1660	1500
4G35	7,2	18,6	19,4	48,6	49,8	2190	2100
4G50	8,9	19,4	20,2	56,8	57,6	2880	3000
4G70	10,6	24,0	24,8	65,4	66,6	4060	4200
4G95	12,3	25,6	26,4	73,0	74,2	5050	5700
4G120	14,2	24,3	25,1	73,8	75,0	5580	7200



TECHNICAL DATA

ELECTRICAL RESISTANCE

Electrical resistance Ohm/km (according to IEC 60228 - VDE 0295)

CROSS-SECTION mm ²	FLEXIBLE CONDUCTORS, RESISTANCE AT 20°C		FLEXIBLE CONDUCTORS, RESISTANCE AT 90°C		RIGID CONDUCTORS, RESISTANCE AT 20°C		RIGID CONDUCTORS, RESISTANCE AT 90°C	
	Bare copper	Tinned copper	Bare copper	Tinned copper	Bare copper	Tinned copper	Bare copper	Tinned copper
1,5	13,30	13,70	16,93	17,44	12,1	12,2	15,40	15,53
2,5	7,98	8,21	10,16	10,45	7,41	7,56	9,43	9,62
4	4,95	5,09	6,30	6,48	4,61	4,70	5,87	5,98
6	3,30	3,39	4,20	4,32	3,08	3,11	3,92	3,96
10	1,91	1,95	2,43	2,48	1,83	1,84	2,33	2,34
16	1,21	1,24	1,54	1,58	1,15	1,16	1,46	1,48
25	0,78	0,795	0,993	1,012	0,727	0,734	0,925	0,934
35	0,554	0,565	0,705	0,719	0,524	0,529	0,667	0,673
50	0,386	0,393	0,491	0,500	0,387	0,391	0,493	0,498
70	0,272	0,277	0,346	0,353	0,268	0,27	0,341	0,344
95	0,206	0,210	0,262	0,267	0,193	0,195	0,246	0,248
120	0,161	0,164	0,205	0,209	0,153	0,154	0,195	0,196
150	0,129	0,132	0,164	0,168	0,124	0,126	0,158	0,160
185	0,106	0,108	0,135	0,137	0,0991	0,100	0,126	0,127
240	0,0801	0,0817	0,102	0,104	0,0754	0,0762	0,0960	0,0970
300	0,0641	0,0654	0,0816	0,0833	0,0601	0,0607	0,0765	0,0773
400	0,0486	0,0495	0,0619	0,0630	0,0470	0,0475	0,0598	0,0605
500	0,0384	0,0391	0,0489	0,0498	0,0366	0,0369	0,0466	0,0470
630	0,0287	0,0292	0,0365	0,0372	0,0283	0,0286	0,0360	0,0364

CORRECTION FACTORS

AMBIENT TEMP.(°C)	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85
FACTOR	1,15	1,12	1,08	1,04	1	0,96	0,91	0,87	0,82	0,76	0,71	0,65	0,58	0,5	0,41	0,29

CURRENT CARRYING CAPACITY (LOW VOLTAGE CABLES)

Conductor service temperature 90°C
 Ambient air/water temperature 30°C
 3 - 4 cores cable
 3 cores loaded

CROSS SECTION	ROUND CABLES		FLAT CABLES		MAX SHORT CIRCUIT CURRENT (1S)
	LAYING IN FREE AIR	LAYING IN WATER	LAYING IN FREE AIR	LAYING IN WATER	
mm ²	A	A	A	A	kA
1,5	23	29	24	30	0,215
2,5	32	38	33	39	0,358
4	42	52	45	56	0,572
6	54	67	58	72	0,858
10	75	94	80	100	1,430
16	100	125	107	134	2,288
25	127	166	141	184	3,575
35	158	205	176	228	5,005
50	192	256	216	288	7,150
70	246	316	279	358	10,010
95	298	377	342	433	13,585
120	346	438	400	506	17,160
150	399	505	464	587	21,450
185	456	577	533	674	26,455
240	538	681	634	803	34,320
300	621	785	736	930	42,900

CHEMICAL RESISTANCE

oil resistance
(by Specification Number)

oil resistance
(by type name)

	Mineral oil test IEC 60811-404	MIL-L-644 B	MIL-L-2104 B	MIL-G-2108	MIL-L-3150 A	MIL-L-3503	MIL-L-3545 B	MIL-C-4339 C	MIL-L-21568 A	MIL-L-46000 A	MIL-H-5606 B	hydraulic oil	mineral oil	transformer oil	vegetable oil	linseed oil	olive oil	red oil (MIL-H-5606)	silicon oil	soybean oil	turbine oil	
SUBMERSIBLE	YES	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
SUBMERSIBLE S	YES	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
SUBFLAT	YES	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
SNAKEFLEX	YES	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
NAUTILUS 500	YES	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
NAUTILUS 500 S	YES	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
MARINE	NO	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
DRINCABLE®	NO	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
DRINCABLE® 800	NO	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
OERRE	YES	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
TERMALE	YES	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
URSUS® MT SUB PLUS	YES	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
URSUS® MT SUB-E PLUS	YES	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
DRINCABLE® MT PLUS	YES	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

■ little influence on the material (suitable for use, for prolonged contact or immersion)

■ moderate deterioration of the characteristics (fit for use)

■ characteristics severe decay (use not recommended: eventually to be checked conditions and timing of contact)

To whom may be of concern

Brendola, 12th March 2019

Subject: application of SUBFLAT AWG

The cable family SUBFLAT AWG has been designed upon Standard UL 44 section 7 "Deep-Well Submersible Pump Cable" for this reason is fully suitable in permanent immersion as cable of submersible pumps, moreover, due to its heavy duty CPE jacket and its flexibility feature, it can be applied also on bridge cranes.

I remain at your disposal and

Kind regards

Matteo Pirana
Technical Manager

