



STORAFLEX

BESS POWER CABLES





***Your Reliable Partner** for Battery Energy Storage System Power Cables*

“

Solen Cable, world's leading cable manufacturer with comprehensive know-how, is a young and dynamic company founded in 2021 by very professional team with years of experience aiming to produce exclusively single core cables, based in Türkiye.

Solen Cable provides reliable single-core power cable solutions for Battery Energy Storage Systems (BESS).

Our factory is based in Çerkezköy, Tekirdağ located 100 km away from İstanbul and head office is in the heart of İstanbul. Solen Cable is aware of the importance of renewable and sustainable energy for the future of our world. We are proud of using nature-friendly, renewable energy in all processes of the production.

Solen Kablo continues its operations on 10.000 m² land space with 5.000 m² closed area by having 3.000 tons copper drawing processing and 60.000 km of cable production capacity per year. All our production is carried out in our high-tech factory 100% integrated with fast and modern state-of-the-art machinery for aiming absolute customer satisfaction.

Solen high quality has been approved by both customers and international certification bodies.

We are committed to philosophy being true partner with reputable references and always to be reliable partner.

”



DECLARATION OF PERFORMANCE

STORAFLEX Battery Energy Storage power cables are tested and documented in accordance with EN 50575:2014+A1:2016 and the Construction Products Regulation (EU) No 305/2011, ensuring reliable performance for safe and efficient energy storage.



solen CABLE Solen Kablo Sanayi ve Ticaret A.Ş.

CE

DECLARATION OF PERFORMANCE

DoP No: C0080/01.06.2025

1. Unique identification code of the product type: STORAFLEX 0,6/1 kV

2.3. Cross-section range of the product: 35 mm² - 240 mm²

3. Intended use: Supply of electricity to buildings and other outlying power networks with the objective of limiting the generation and spread of fire and smoke.

4. Manufacturer: SOLER KABLE SAN. VE TIC. A.Ş.
Nispetiye Organize Sanayi Bölgesi 3. Cadde No: 8/17 (Cemalpaşa/TEKİRDAĞ, T33000)
Tel: 0219 212 213 63
Email: info@solenkablo.com

5. System of assessment and verification of constancy of performance of the product: System 1

6. Institution body / Test report no: 2251 / ENE EN 108

Essential characteristics	Performance	Harmonized technical specification
Reaction to fire	Fls	EN 50575:2014+A1:2016
Electromagnetic compatibility	MEC	

7. The performance of the relevant product in Section 1 is in conformity with the declared performance in Section 2.

8. The performance of the product described above is in conformity with the set of declared performances. This is a declaration of performance in itself in accordance with Regulation (EU) No 305/2011, under the joint responsibility of the manufacturer described above.

Signed for and on behalf of the manufacturer by: Halil İbrahim ÇALIŞKAN
G.A. Manager
SOLER KABLE SAN. VE TIC. A.Ş.
Nispetiye Organize Sanayi Bölgesi 3. Cadde No: 8/17 (Cemalpaşa/TEKİRDAĞ, T33000)
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STORAFLEX 0,6/1 kV

solen CABLE Solen Kablo Sanayi ve Ticaret A.Ş.

CE

DECLARATION OF PERFORMANCE

DoP No: C0080/01.06.2025

1. Unique identification code of the product type: STORAFLEX 1,8/3 kV

2.3. Cross-section range of the product: 35 mm² - 240 mm²

3. Intended use: Supply of electricity to buildings and other outlying power networks with the objective of limiting the generation and spread of fire and smoke.

4. Manufacturer: SOLER KABLE SAN. VE TIC. A.Ş.
Nispetiye Organize Sanayi Bölgesi 3. Cadde No: 8/17 (Cemalpaşa/TEKİRDAĞ, T33000)
Tel: 0219 212 213 63
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Reaction to fire	Fls	EN 50575:2014+A1:2016
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STORAFLEX 1,8/3 kV



/ STORAFLEX - 1,8/3 kV /



Eca

APPLICATION

Power cable for battery energy storage systems and grids installations.

It can be buried or installed in a tube as well as outdoors without requiring additional protection and can withstand in damp conditions including total submersion in water (AD8).

Storaflex cables have good Oil and chemical resistance characteristics also excellent resistance to salt mist + chemical vapors.

CONSTRUCTION

Conductor	Electrolytic annealed flexible bare copper - Class 5 according to IEC 60228 (Class 2 and/or tinned copper available on request.)
Insulation	Hard Grade Ethylene Propylene Rubber, HEPR according to IEC 60502-1
Outer Sheath	Special Halogen Free Flame Retardant HFFR compound according to IEC 60502-1
Sheath Colour	Black (Other colours available upon request)

TECHNICAL CHARACTERISTICS

Rated Voltage (U0/U)	1800 / 3000 V AC 2700 / 4500 V DC
Max Voltage Umax	3600 V AC 5400 V DC
Test Voltage	6,5 kV AC
Operating Temperature	-40°C / +90°C
Lowest Installation Temperature	-15°C
Max. Short Circuit Temperature	+250°C
Bending Radius	6 x Outer Diameter at fixed installed 10 x Outer Diameter during installation

DESIGN STANDARDS

Construction	IEC 60502-1
Flame Retardancy	IEC 60332-1-2
Halogen Content	IEC 60754 / 1-2
Smoke Emission	IEC 61034 / 1-2
Ozone Resistance	IEC60811 / 403
UV Resistance	EN 50618
CPR	EN 50575 (Eca)

CABLE MARKING

SOLEN CABLE STORAFLEX 1xN mm² 1800/3000 V IEC 60502-1 IEC 60332-1-2 SCXXXX <CE> Eca (yyyy) XX MT
*N: Cross Section *SCXXXX: Traceability Code *(yyyy): Year marking *XX MT: Meter Marking

DIMENSIONAL PARAMETERS

PART NO.	NUMBER OF CORES	CROSS SECTIONS mm ²	OVERALL DIAMETER mm	BENDING RADIUS (min.) mm	APP. WEIGHT kg/km	MAX. CONDUCTOR RESISTANCE (*) 20°C ohm/km
STORAFLEX	1	16	11,7 -0,3 /+0,5	70,2	227	1,21
STORAFLEX	1	25	12,9 -0,3 /+0,5	77,4	309	0,780
STORAFLEX	1	35	14,1 -0,3 /+0,5	84,6	415	0,554
STORAFLEX	1	50	15,6 -0,3 /+0,5	93,6	556	0,386
STORAFLEX	1	70	17,5 -0,3 /+0,5	105,0	749	0,272
STORAFLEX	1	95	19,1 -0,5 /+0,8	114,6	958	0,206
STORAFLEX	1	120	21,5 -0,5 /+0,8	129,0	1.206	0,161
STORAFLEX	1	150	23,0 -0,5 /+0,8	138,0	1.440	0,129
STORAFLEX	1	185	25,0 -0,5 /+0,8	150,0	1.780	0,106
STORAFLEX	1	240	27,9 -0,5 /+0,8	167,4	2.297	0,0801

(*) Bare Class 5 conductors based on IEC 60228

CURRENT RATINGS

Apply to IEC 60364-5-52 according to installation method type.

Based on at 30 °C Ambient temperature and cable operating temperature 90 °C

For installation in air reference method F refer to Table B.52.12,

For direct burial reference method D1 or D2 refer to Table B.52.3, Table B.52.5

For correction factor for ambient temperature Table B.52.14

For group reduction factors for method F refer to Table B.52.21 and Table B.52.17

For Direct Burial Method D2 refer to table B.52.18 and for Method D1 refer to Table B.52.19

Soil resistivity correction factors for cables buried in ground refer to Table B.52.16

STORAFLEX 0,6/1 kV



Eca

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Power cable for battery energy storage systems and grids installations.

It can be buried or installed in a tube as well as outdoors without requiring additional protection and can withstand in damp conditions including total submersion in water (AD8).

Storaflex cables have good Oil and chemical resistance characteristics also excellent resistance to salt mist + chemical vapors.

CONSTRUCTION

Conductor	Electrolytic annealed flexible bare copper-Class 5 according to IEC 60228 (Class 2 and/or tinned copper available on request.)
Insulation	Hard Grade Ethylene Propylene Rubber, HEPR according to IEC 60502-1
Outer Sheath	Special Halogen Free Flame Retardant HFFR compound according to IEC 60502-1
Sheath Colour	Black (Other colours available upon request)

TECHNICAL CHARACTERISTICS

Rated Voltage (U0/U)	600 / 1000 V AC 900 / 1500 V DC
Max Voltage Umax	1200 V AC 1800 V DC
Test Voltage	3,5 kV AC
Operating Temperature	-40°C / +90°C
Lowest Installation Temperature	-15°C
Max. Short Circuit Temperature	+250°C
Bending Radius	6 x Outer Diameter at fixed installed 10 x Outer Diameter during installation

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*N: Cross Section *SCXXXX: Traceability Code *(yyyy): Year marking *XX MT: Meter Marking

DIMENSIONAL PARAMETERS

PART NO.	NUMBER OF CORES	CROSS SECTIONS mm²	OVERALL DIAMETER mm	BENDING RADIUS (min.) mm	APP. WEIGHT kg/km	MAX. CONDUCTOR RESISTANCE (*) 20°C ohm/km
STORAFLEX	1	16	9,1 -0,3 /+0,5	54,6	187	1,21
STORAFLEX	1	25	10,7 -0,3 /+0,5	64,2	272	0,78
STORAFLEX	1	35	12,0 -0,3 /+0,5	72,0	375	0,554
STORAFLEX	1	50	13,6 -0,3 /+0,5	81,6	515	0,386
STORAFLEX	1	70	15,5 -0,3 /+0,5	93,0	701	0,272
STORAFLEX	1	95	17,3 -0,5 /+0,8	103,8	913	0,206
STORAFLEX	1	120	19,6 -0,5 /+0,8	117,6	1.154	0,161
STORAFLEX	1	150	21,7 -0,5 /+0,8	130,2	1.406	0,129
STORAFLEX	1	185	23,9 -0,5 /+0,8	143,4	1.747	0,106
STORAFLEX	1	240	27,0 -0,5 /+0,8	162,0	2.270	0,0801

(*) Bare Class 5 conductors based on IEC 60228

CURRENT RATINGS

Apply to IEC 60364-5-52 according to installation method type.

Based on at 30 °C Ambient temperature and cable operating temperature 90 °C

For installation in air reference method F refer to Table B.52.12

For direct burial reference method D1 or D2 refer to Table B.52.3, Table B.52.5

For correction factor for ambient temperature Table B.52.14

For group reduction factors for method F refer to Table B.52.21 and Table B.52.17

For Direct Burial Method D2 refer to Table B.52.18 and for Method D1 refer to Table B.52.19

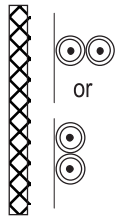
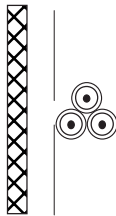
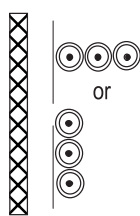
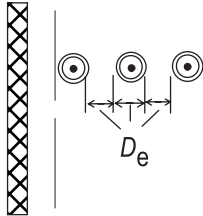
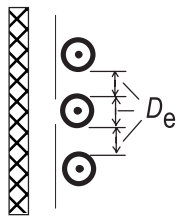
Soil resistivity correction factors for cables buried in ground refer to Table B.52.16

CURRENT RATINGS

Reference: IEC 60364-5-52, Table B.52.12

For installation in air, reference Method F and Method G of Table B.52.1

Based on at 30 °C Ambient temperature and cable operating temperature 90 °C.

Nominal cross-sectional area of conductor (mm²)	Single-Core Cables				
	Two loaded conductors touching	Three loaded conductors trefoil	Three loaded conductors, flat		
			Touching	Spaced	
				Horizontal	Vertical
					
	Method F	Method F	Method F	Method G	Method G
16	-	-	-	-	-
25	161	135	141	182	161
35	200	169	176	226	201
50	242	207	216	275	246
70	310	268	279	353	318
95	377	328	342	430	389
120	437	383	400	500	454
150	504	444	464	577	527
185	575	510	533	661	605
240	679	607	634	781	719

CURRENT RATING CONVERSION FACTORS FOR DIFFERENT AMBIENT TEMPERATURES

Ambient Temperature °C	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
Conversion 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	0,50	0,41

IEC 60364-5-52 Table B.52.17 – Reduction factors for one circuit or one multi-core cable or for a group of more than one circuit, or more than one multi-core cable, to be used with current-carrying capacities of Tables B.52.2 to B.52.13

Item	Arrangement (cables touching)	Number Of Circuits Or Multi-Core Cables												To be used with current-carrying capacities, reference
		1	2	3	4	5	6	7	8	9	12	16	20	
1	Bunched in air, on a surface, embedded or enclosed	1,00	0,80	0,70	0,65	0,60	0,57	0,54	0,52	0,50	0,45	0,41	0,38	B.52.2 to B.52.13 Methods A to F
2	Single layer on wall, floor or unperforated cable tray systems	1,00	0,85	0,79	0,75	0,73	0,72	0,72	0,71	0,70	No further reduction factor for more than nine circuits or multicore cables			B.52.2 to B.52.7 Method C
3	Single layer fixed directly under a wooden ceiling	0,95	0,81	0,72	0,68	0,66	0,64	0,63	0,62	0,61				B.52.2 to B.52.7 Method C
4	Single layer on a perforated horizontal or vertical cable tray systems	1,00	0,88	0,82	0,77	0,75	0,73	0,73	0,72	0,72				B.52.8 to B.52.13 Methods E and F
5	Single layer on cable ladder systems or cleats etc.,	1,00	0,87	0,82	0,80	0,80	0,79	0,79	0,78	0,78				B.52.8 to B.52.13 Methods E and F

NOTE 1 These factors are applicable to uniform groups of cables, equally loaded.

NOTE 2 Where horizontal clearances between adjacent cables exceeds twice their overall diameter, no reduction factor need be applied.

NOTE 3 The same factors are applied to:

- groups of two or three single-core cables;
- multi-core cables.

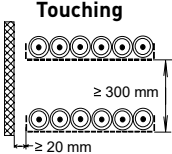
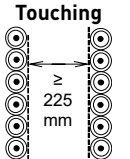
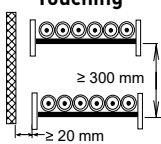
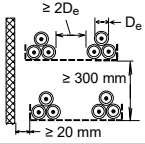
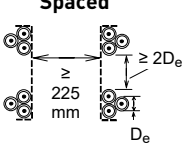
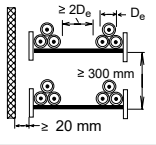
NOTE 4 If a system consists of both two- and three-core cables, the total number of cables is taken as the number of circuits, and the corresponding factor is applied to the tables for two loaded conductors for the two-core cables, and to the tables for three loaded conductors for the three-core cables.

NOTE 5 If a group consists of n single-core cables it may either be considered as n/2 circuits of two loaded conductors or n/3 circuits of three loaded conductors.

NOTE 6 The values given have been averaged over the range of conductor sizes and types of installation included in Tables B.52.2 to B.52.13 the overall accuracy of tabulated values is within 5 %.

NOTE 7 For some installations and for other methods not provided for in the above table, it may be appropriate to use factors calculated for specific cases, see for example Tables B.52.20 and B.52.21.

IEC 60364-5-52 Table B.52.21 – Reduction factors for groups of one or more circuits of single-core cables to be applied to reference current-carrying capacity for one circuit of single-core cables in free air – Method of installation F in Tables B.52.12

Method of installation in Table A.52.3			Number of trays or ladders	Number of three-phase circuits per tray or ladder			Use as a multiplier to current carrying capacity for
				1	2	3	
Perforated cable tray systems	31		1	0,98	0,91	0,87	Three cables in horizontal formation
			2	0,96	0,87	0,81	
			3	0,95	0,85	0,78	
Vertical perforated cable tray systems	31		1	0,96	0,86	-	Three cables in vertical formation
			2	0,95	0,84	-	
Cable ladder systems, cleats, etc.	32		1	1,00	0,97	0,96	Three cables in vertical formation
	33		2	0,98	0,93	0,89	
	34		3	0,97	0,90	0,86	
Perforated cable tray systems	31		1	1,00	0,98	0,96	Three cables in trefoil formation
Vertical perforated cable tray systems	31		2	0,97	0,93	0,89	
			3	0,96	0,92	0,86	
Cable ladder systems, cleats, etc.	32		1	1,00	1,00	1,00	
	33		2	0,97	0,95	0,93	
	34		3	0,96	0,94	0,90	

Note: Factors are given for single layers of cables or trefoil groups.

Values are given for vertical spacing between cable trays of 300 mm and at least 20 mm between cable trays and wall.

Values are given for horizontal spacing between cable trays of 225 mm with cable trays mounted back to back.

For other conditions refer to IEC 60364-5-52.

Table B.52.16 – Correction factors for cables buried direct in the ground or in buried ducts for soil thermal resistivities other than 2,5 K·m/W to be applied to the current-carrying capacities for reference method D

Thermal resistivity, K·m/W	0,5	0,7	1	1,5	2	2,5	3
Correction factor for cables in buried ducts	1,28	1,20	1,18	1,10	1,05	1,00	0,96
Correction factor for direct buried cables	1,88	1,62	1,50	1,28	1,12	1,00	0,90

NOTE 1 The correction factors given have been averaged over the range of conductor sizes and types of installation included in Tables B.52.2 to B.52.5. The overall accuracy of correction factors is within ±5 %.

NOTE 2 The correction factors are applicable to cables drawn into buried ducts; for cables laid direct in the ground the correction factors for thermal resistivities less than 2.5 K·m/W will be higher. Where more precise values are required they may be calculated by methods given in the IEC 60287 series.

NOTE 3 The correction factors are applicable to ducts buried at depths of up to 0.8 m.

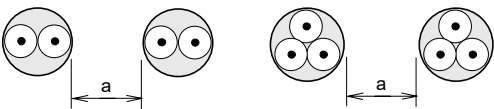
NOTE 4 It is assumed that the soil properties are uniform. No allowance had been made for the possibility of moisture migration which can lead to a region of high thermal resistivity around the cable. If partial drying out of the soil is foreseen, the permissible current rating should be derived by the methods specified in the IEC 60287 series.



Table B.52.18 – Reduction factors for more than one circuit, cables laid directly in the ground
Installation method D2 in Tables B.52.2 to B.52.5 – Single-core or multi-core cables

Number of circuits	Cable To Cable Clearance				
	Nil (cables touching)	One cable diameter	0.125 m	0.25 m	0.5 m
2	0,75	0,80	0,85	0,90	0,90
3	0,65	0,70	0,75	0,80	0,85
4	0,60	0,60	0,70	0,75	0,80
5	0,55	0,55	0,65	0,70	0,80
6	0,50	0,55	0,60	0,70	0,80
7	0,45	0,51	0,59	0,67	0,76
8	0,43	0,48	0,57	0,65	0,75
9	0,41	0,46	0,55	0,63	0,74
12	0,36	0,42	0,51	0,59	0,71
16	0,32	0,38	0,47	0,56	0,68
20	0,29	0,35	0,44	0,53	0,66

a- Multi-Core Cables



a- Single-Core Cables



NOTE 1 Values given apply to an installation depth of 0,7 m and a soil thermal resistivity of 2,5 K·m/W. They are average values for the range of cable sizes and types quoted for Tables B.52.2 to B.52.5. The process of averaging, together with rounding off, can result in some cases in errors up to ±10 %. (Where more precise values are required they may be calculated by methods given in IEC 60287-2-1.)

NOTE 2 In case of a thermal resistivity lower than 2,5 K·m/W the corrections factors can, in general, be increased and can be calculated by the methods given in IEC 60287-2-1.

NOTE 3 If a circuit consists of m parallel conductors per phase, then for determining the reduction factor, this circuit should be considered as m circuits.

**Table B.52.19 – Reduction factors for more than one circuit, cables laid in ducts in the ground –
Installation method D1 in Tables B.52.2 to B.52.5**

A) Multi-core cables in single-way ducts				
Number of cables	Duct to duct clearancea			
	Nil (ducts touching)	0.25 m	0.5 m	1.0 m
2	0,85	0,90	0,95	0,95
3	0,75	0,85	0,90	0,95
4	0,70	0,80	0,85	0,90
5	0,65	0,80	0,85	0,90
6	0,60	0,80	0,80	0,90
7	0,57	0,76	0,80	0,88
8	0,54	0,74	0,78	0,88
9	0,52	0,73	0,77	0,87
10	0,49	0,72	0,76	0,86
11	0,47	0,70	0,75	0,86
12	0,45	0,69	0,74	0,85
13	0,44	0,68	0,73	0,85
14	0,42	0,68	0,72	0,84
15	0,41	0,67	0,72	0,84
16	0,39	0,66	0,71	0,83
17	0,38	0,65	0,70	0,83
18	0,37	0,65	0,70	0,83
19	0,35	0,64	0,69	0,82
20	0,34	0,63	0,68	0,82

We Carry
Nature's Energy
to the Future



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C A B L E

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