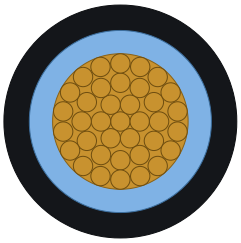
1500 V ESS Energy Storage Cable

SORIVO Product Series: **BESS DC cable** | 1500 V DC | 2.5–95 mm² | XLPO · LSZH | TÜV 2 PfG 2693



- LSZH outer sheath — black standard, orange optional
- Tinned copper, Class 5 flexible stranded
- XLPO insulation, cross-linked polyolefin, +125 °C

APPLICATION

Single-core power cable for the DC side of battery energy storage systems: battery racks, battery containers and the link to the power conversion system. The service conditions are the ones a PV cable is not built for — higher continuous DC voltage, heat inside a container, tight routing, and the battery environment itself.

CONSTRUCTION

Conductor
Tinned copper, Class 5 flexible stranded, EN/IEC 60228

Insulation
XLPO — cross-linked polyolefin

Sheath
LSZH, oil and chemical resistant

Sheath Colour
Black standard; orange and custom colours on request

Cores
Single core; multi-core to project requirement

WHY NOT A PV CABLE

A 1500 V PV cable is specified for outdoor string wiring at 90 °C. An ESS cable is specified for **+125 °C conductor temperature**, battery-acid exposure and flexible routing inside a cabinet. The two look alike on a drawing and are not interchangeable.

STANDARDS AND STATUS

- TÜV 2 PfG 2693/03.23 — cables for connection to battery energy storage systems
- EN/IEC 60228 Class 5 — flexible stranded conductor
- IEC 60332-1-2 — single vertical flame test
- Halogen-free and low smoke to the test scope of the certified construction
- Routine test reports are retained for every production batch

TECHNICAL PARAMETERS

Rated Voltage
Up to 1500 V DC

Conductor Temperature
-40 °C to +125 °C

Cross-sections
2.5–95 mm²

Conductor
Tinned copper, Class 5

Insulation
XLPO

Sheath
LSZH, oil and chemical resistant

Voltage Test
6.8 kV AC / 5 min — no breakdown

Long-term DC Withstand
1.5 kV for 240 h — no breakdown

1500 V	+125 °C	Class 5
DC	XLPO	EN/IEC 60228

CONDUCTOR DATA

Table 1 — Class 5 maxima to EN/IEC 60228

NOMINAL AREA mm²	MAX. WIRE DIAMETER mm	MAX. RESISTANCE AT 20 °C Ω/km
2.5	0.26	7.98
4	0.31	4.95
6	0.31	3.30
10	0.41	1.91
16	0.41	1.21
25	0.41	0.780
35	0.41	0.554
50	0.41	0.386
70	0.51	0.272
95	0.51	0.206

These are standard maxima, not measured values. The table gives the worst case the standard allows for a Class 5 conductor; the actual figure for the delivered cable is in the batch test report, issued per production batch.

RATINGS AND TEST REQUIREMENTS

Table 2 — what the construction is type-tested against

PARAMETER	REQUIREMENT	REFERENCE
Rated voltage, DC	Up to 1500 V DC	2 PfG 2693
Voltage test, finished cable	6.8 kV AC / 5 min — no breakdown	2 PfG 2693/03.23
Long-term DC withstand	1.5 kV / 240 h — no breakdown	2 PfG 2693/03.23
Temperature range	-40 °C to +125 °C conductor	XLPO construction
Flame performance	Single vertical flame, no flame spread criteria	IEC 60332-1-2
Conductor	Tinned copper, Class 5 flexible stranded	EN/IEC 60228
Current-carrying capacity	Determined by system voltage, continuous current, installation method and ambient	System voltage, continuous current, installation, ambient

The 240-hour DC withstand is the test that separates an ESS cable from a PV cable. A PV type test applies the voltage briefly; 2 PfG 2693 holds 1.5 kV DC across the insulation for ten days. Insulation that passes a short test can still fail that one.

QUALITY ASSURANCE

Routine testing on every batch

- Electrical and dimensional routine tests on each production batch before release.
- Routine test reports cover every production batch. Certification scope is defined by the applicable product standard.
- Battery-acid resistance suitable for BESS environments, to the chemical resistance requirements of the selected construction.

Disclaimer. The information in this datasheet is for guidance only and is subject to change without notice. Dimensions and masses are nominal and subject to manufacturing tolerance; confirm against the certificate of the delivered product. This document is uncontrolled once printed or forwarded — the current revision, issued under document number SORIVO-TM-ESS-001, governs. © 2026 SORIVO. All rights reserved. Certification scope and performance values depend on the selected construction; confirm against the certificate of the delivered product. Current-carrying capacity is calculated per project from system voltage, continuous current, installation method and ambient, and is not a fixed table figure.