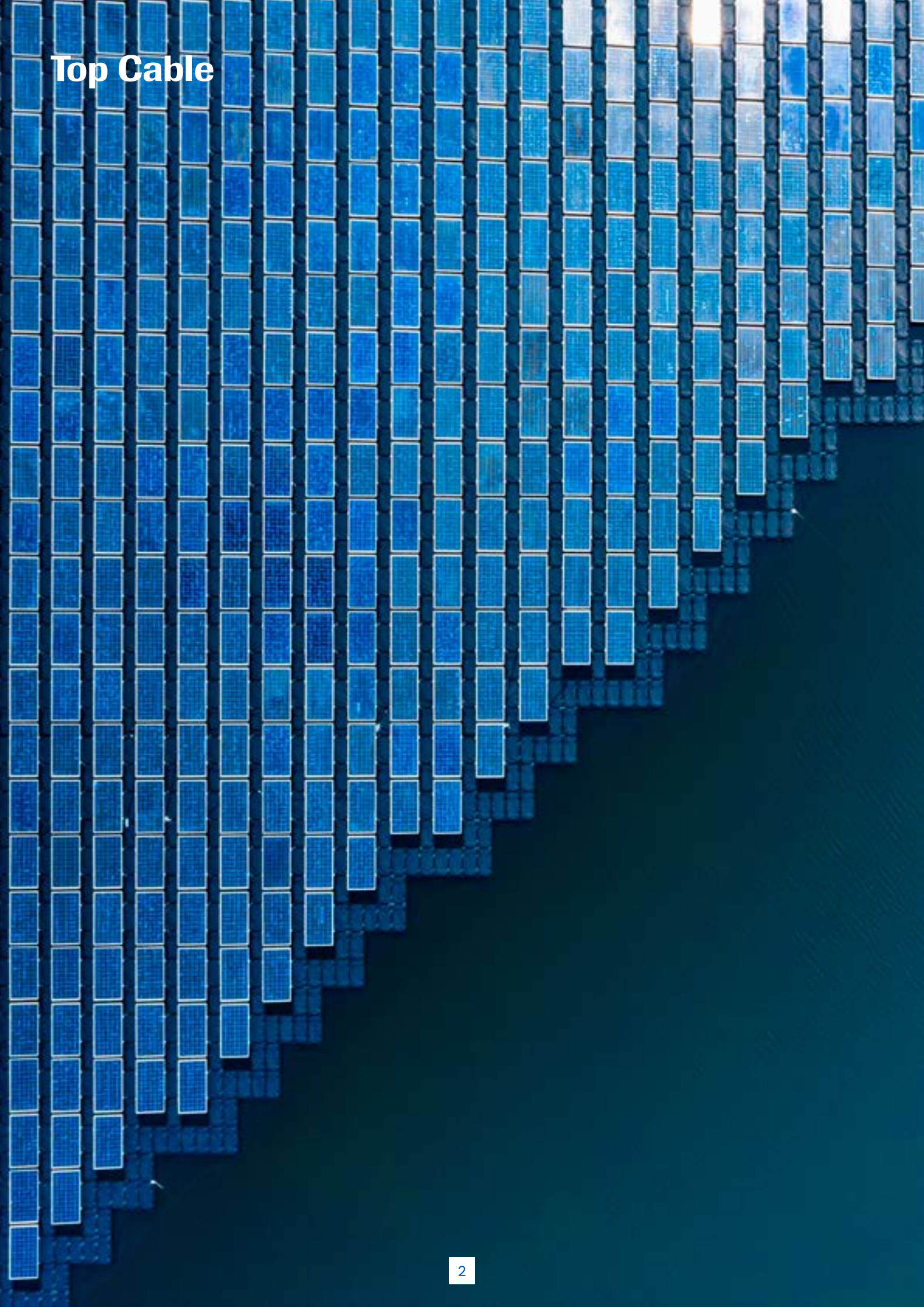
Top Cable
Driving your energy

SOLAR CABLES

Cables
for PV
installations



Topsolar®
A complete range of cables for solar installations

At Top Cable you will find a reliable manufacturer and supplier for all cables required on PV installations. Our comprehensive range of solar cables covers from cable selection or design, project management with our technical expertise to logistics and after-sales service support.

Top Cable is committed to manufacturing products under the highest quality standards and in offering an excellent service to its customers worldwide, highlighting:

Total traceability in our product range.

Worldwide recognized certificates

CPR certified cables. Large solar cable stock.

Full product range up to 66kV. After-sales service support.

Cables specifically designed for solar installations.

Power and Fiber optics cables

Top Cable

String cables TOPSOLAR® H1Z2Z2-K

Low voltage aluminium cables

Medium voltage X-VOLT® cables

Cables for PV auxiliary services

Cables for BESS in PV plants

Cables for PV floating

String cables
TOPSOLAR® H1Z2Z2-K

TOPSOLAR® PV H1Z2Z2-K

TÜV solar PV cable.

ACCORDING TO: EN 50618 / IEC 62930 / UTE C 32-502

Cca

APPLICATION

The TOPSOLAR® PV H1Z2Z2-K cable, which is TÜV certified according to EN 50618 and AENOR certified according to IEC 62930, it is suitable for both fixed and mobile solar installations (solar farms, rooftop solar installations and floating plants).
It is a highly flexible cable compatible with all major connectors and specially designed for the connection of photovoltaic panels.
This versatile single-conductor cable is designed to meet the varying needs of the solar industry.
Suitable for wet, damp and humid locations.

- Solar PV installations string cable.

CONSTRUCTION

Conductor
Electrolytic annealed tinned copper, class 5 (flexible) according to IEC 60228 and EN 60228.

Insulation
Halogen free cross-linked rubber according to table B1 in Annex B of EN 50618 and IEC 62930.

Outer sheath
Halogen free cross-linked flexible rubber according to table B1 in Annex B of EN 50618 and IEC 62930.
Red or black colour.

CHARACTERISTICS

Electrical performance
Low voltage: 1,5 (1,8) kV DC.
1,0/1,0 kV AC.

Thermal performance
Maximum conductor temperature: 90°C (120°C during 20.000 h).
Maximum short-circuit temperature: 250°C (max. 5 s).
Minimum service temperature: -40°C (fixed and protected installations).

Fire performance
Flame non-propagation according to EN 60332-1-2 / IEC 60332-1-2.
Fire non-propagation according to EN 50399.
Reaction to fire CPR: C_{ca}-s1b, d2, a1 according to EN 50575.
Low smoke halogen free according to EN 60754-1 / IEC 60754-1.
Low corrosive gases emission according to EN 60754-2 / IEC 60754-2.
Low smoke emission according to EN 61034 / IEC 61034:
Light transmittance > 60%.

Mechanical performance
Minimum bending radius:
4x cable diameter (cable diameter ≤ 8 mm)
5x cable diameter (8 < cable diameter ≤ 12 mm)
6x cable diameter (cable diameter > 12 mm).
Impact resistance: AG2 Medium severity.

Environmental performance
Chemical & Oil resistance: Excellent.
Grease & mineral oils resistance: Excellent.
Ozone resistant according to EN 50618.
UV Resistant according to EN 50618 and IEC 62930.
Water resistance: AD7+ Immersion.
AD8 Submersion.

Installation conditions
Open Air.
Buried.
In conduit.

STANDARDS / COMPLIANCE

According to
EN 50618/ IEC 62930 / UTE C 32-502

Standards and approvals
TÜV Rheinland (from 2.5 to 25mm² in Black and Red) / RETIE / AENOR/ RoHS / CE

CPR (Construction Products Regulation)
C_{ca}-s1b, d2, a1

Low voltage aluminium cables

TOPSOLAR® PV Al 1500 V

Aluminium PV cable.

ACCORDING TO: IEC 60502-1

Eca

APPLICATION

TOPSOLAR® PV DC Feeder Aluminium cable is suitable for all types of underground and open air solar installations.
This cable is recommended for connections between string boxes and photovoltaic inverters in large scale rooftops or ground farms.

- Solar PV installations.
- Heavy impact and armoured versions also available.

CONSTRUCTION

Conductor
Aluminium class 2 according to EN 60228 and IEC 60228.

Insulation
Cross-linked polyethylene, type XLPE according to IEC 60502-1.
The standard identification of insulated conductors according to HD 308 is the following:

1 x	Natural
2 x	Blue + Brown
3 x	Brown + Black + Grey
3 x + 1 x	Brown + Black + Grey + Blue (reduced cross-section)
4 x	Brown + Black + Grey + Blue

Outer sheath
Special UV resistant PVC, type ST2 according to IEC 60502-1.
Black colour.

CHARACTERISTICS

Electrical performance
Low voltage: 1,5/1,5 (1,8) kV DC according to EN 50618.
1,8/3 (3,6) kV AC according to IEC 60502-1.

Thermal performance
Maximum conductor temperature: 90°C.
Maximum short-circuit temperature: 250°C (max. 5 s).
Minimum service temperature: -40°C (fixed and protected installations).
Minimum installation and handling temperature: 0°C (on cable surface).

Fire performance
Flame non-propagation according to EN 60332-1 / IEC 60332-1.
Reaction to fire CPR: E_{ca} according to EN 50575.
Reduced halogen emission. Chlorine < 15%.

Mechanical performance
Minimum bending radius during installation: 5x cable diameter.
Impact resistance: AG3 High severity.

Environmental performance
Chemical resistance: Good.
Grease & mineral oils resistance: Good.
UV Resistant according to EN 50618 and HD 605/A1.
Water resistance: AD8 Submersion.

Installation conditions
Open Air.
Buried.
In conduit.

STANDARDS / COMPLIANCE

According to
IEC 60502-1

Standards and approvals
RETIE / RoHS / CE

CPR (Construction Products Regulation)
E_{ca}

TOPSOLAR® PV AWA/SWA Al 1500 V

Aluminium or galvanized wire armour cable.

ACCORDING TO: IEC 60502-1

APPLICATION

TOPSOLAR® PV AWA/SWA DC Feeder Aluminium cable is suitable for all types of underground and open air solar installations.
This cable is recommended for connections between string boxes and photovoltaic inverters in large scale rooftops or ground farms. Suitable for transport and distribution of electric power where there is the possibility of mechanical aggressions.

- Solar PV installations.

CONSTRUCTION

Conductor
Aluminium class 2 according to EN 60228 and IEC 60228.

Insulation
Cross-linked polyethylene, type XLPE according to IEC 60502-1.
The standard identification of insulated conductors according to HD 308, is the following:

1 x	Natural
2 x	Blue + Brown
3 x	Grey + Brown + Black
4 G	Brown + Black + Grey + Green/Yellow
4 x	Brown + Black + Grey + Blue

Inner covering
Extruded PVC.

Armour
Aluminium wire armour (AWA) is used in single-core cables to avoid parasite currents that may overheat the cable.
Galvanized steel wire armour (SWA) is used in multicores cables.

Outer sheath
Special UV resistant PVC, type ST2 according to IEC 60502-1.
Black colour.

CHARACTERISTICS

Electrical performance
Low voltage: 1,5/1,5 (1,8) kV DC according to EN 50618.
1,8/3 (3,6) kV AC according to IEC 60502-1.

Thermal performance
Maximum conductor temperature: 90°C.
Maximum short-circuit temperature: 250°C (max. 5 s).
Minimum service temperature: -40°C (fixed and protected installations).
Minimum installation and handling temperature: 0°C (on cable surface).

Fire performance
Flame non-propagation according to EN 60332-1 / IEC 60332-1.
Reduced halogen emission. Chlorine < 15%.

Mechanical performance
Minimum bending radius: 10x cable diameter.
Impact resistance: AG4 High severity.

Environmental performance
Chemical resistance: Good.
Grease & mineral oils resistance: Good.
UV Resistant according to EN 50618 and HD 605/A1.

STANDARDS / COMPLIANCE

According to
IEC 60502-1

Standards and approvals
CE / RoHS

TOPSOLAR® PV LSZH
Al 1500 V HEAVY DUTY

Aluminium PV cable.

ACCORDING TO: IEC 60502-1

APPLICATION

TOPSOLAR® PV LSZH HEAVY DUTY DC Feeder Aluminium cable is suitable for direct buried installations and open air solar installations.
This cable is recommended for connections between string boxes and photovoltaic inverters in large scale rooftops or ground farms.

- Solar PV installations.

CONSTRUCTION

Conductor
Aluminium class 2 according to EN 60228 and IEC 60228.

Insulation
Cross-linked polyethylene type XLPE according to IEC 60502-1.
Natural colour.

Outer sheath
Polyethylene halogen free and UV resistant, type ST7 according to IEC 60502-1 with extra thickness as protection for direct buried cables.
Black colour.

CHARACTERISTICS

Electrical performance
Low voltage: 1,5/1,5 (1,8) kV DC according to EN 50618.
1,8/3 (3,6) kV AC according to IEC 60502-1.

Thermal performance
Maximum conductor temperature: 90°C.
Maximum short-circuit temperature: 250°C (max. 5 s).
Minimum service temperature: -40°C (fixed and protected installations).
Minimum installation and handling temperature: 0°C (on cable surface).

Fire performance
Halogen free according to EN 60754-1 / IEC 60754-1.
Low corrosive gases emission according to EN 60754-2 / IEC 60754-2.

Mechanical performance
Minimum bending radius: 5x cable diameter.
Impact resistance: AG4 (≤ 40 J) Extra high severity according to NF C 33-226.
Abrasion according to NF C 33-226.

Environmental performance
UV Resistant according to EN 50618.
Water resistance: AD8 Submersion.

Installation conditions
Open Air.
Buried.
In conduit.

STANDARDS / COMPLIANCE

According to
IEC 60502-1

Standards and approvals
CE / RoHS

Medium voltage X-VOLT® cables

X-VOLT® AL (-OL/-2OL) RHZ1

Medium Voltage aluminium cable, XLPE insulation.

ACCORDING TO: IEC 60502-2

APPLICATION

X-VOLT® RHZ1 is a Medium Voltage aluminium cable halogen-free for fixed installations.
Suitable for transport and distribution of electric power in medium voltage networks.

CONSTRUCTION

Conductor
Aluminium class 2 according to EN 60228 and IEC 60228.
Optionally, with longitudinal water tightness (cable type -2OL).

Conductor screen
Screen over the conductor, made of thermosetting semiconductor material.

Insulation
Cross-linked polyethylene type XLPE according to IEC 60502-2, natural colour.
Cross linked in catenary line with nitrogen atmosphere through a triple layer extrusion process.

Insulation screen
Screen over the insulation, made of thermosetting and strippable semiconductor material.

Metallic screen
Copper wires and copper tape screen, with a minimum cross-section of 16mm^2.

Longitudinal water tightness
Hygroscopic tape completely covering the screen (cable type –OL and -2OL).

Outer sheath
Polyethylene type ST7 according to IEC 60502-2.
Red colour.

CHARACTERISTICS

Electrical performance
Medium Voltage: 6/10 (12) kV
8,7/15 (17,5) kV
12/20 (24) kV
18/30 (36) kV

Thermal performance
Maximum conductor temperature: 90°C.
Maximum short-circuit temperature: 250°C (max 5 s).
Minimum service temperature: -15°C.

Fire performance
Reaction to fire CPR: F_{ca} according to EN 50575.
Halogen free according to EN 60754-1 / IEC 60754-1.
Low corrosive gases emission according to EN 60754-2 / IEC 60754-2.

Mechanical performance
Minimum bending radius: 15x cable diameter.
Abrasion resistant.
Tear resistant.

Environmental performance
UV Resistant according to UNE 211605.

Installation conditions
Open Air.
Buried.
In conduit.

STANDARDS / COMPLIANCE

According to
IEC 60502-2

Standards and approvals
AENOR / RETIE (18/30 (36) kV)

CPR (Construction Products Regulation)
F_{ca}

sales@topcable.com | www.topcable.com

Medium voltage
X-VOLT® cables

X-VOLT® RHZ1 26/45

X-VOLT® RHZ1 RA

X-VOLT® HEPRZ1

X-VOLT® RH5Z1

Medium voltage
X-VOLT® cables

X-VOLT® FR-N20XA8E-AR

X-VOLT® FR EDR

X-VOLT® TSLF

X-VOLT® TSLH

Cables for **PV auxiliary services**

Powerflex® RV-K

Toxfree® H07Z1-K Cu/Sn Outdoor

Datalan® FO DPO

Datalan® FO DPF

Datalan® FO DP0P

Cables for **BESS in PV plants**

Powerflex® RV-K 1,8/3

Powerhard® RVMV-K 1,8/3

Cables for **PV floating**

Xtrem® DN-F 1,8/3

Topsolar® H1Z2Z2-K

Top Cable

Top Cable, a European manufacturer of industrial cables

Top Cable is one of the main European electric cables manufacturers. We manufacture a wide spectrum of cables ranging from control cables for specialized applications to larger power cables for medium voltage applications in various industries.

We supply cables for worldwide construction projects, OEM's, renewable energies, and more. We are proud to supply high-quality, cost-effective cables with good after-sale services. Customer's satisfaction is Top Cable's prime goal.

All Top Cable's manufacturing plants are based around Barcelona, Spain. The organization is family-owned company manufacturing electric cables on an international scale, with offices and warehouses located around the globe. Therefore, we guarantee customer proximity on a global level.

Customers appreciate Top Cable as a technically leading manufacturer of cables of outstanding quality, meeting the most stringent international specifications and certificates. Large cable stocks are available on the company's main logistics center in Barcelona to ensure short lead times and shipment flexibility. Top Cable also manages several cable stocks across their worldwide offices and warehouses to avoid out-of- stock situations in the supply chain.

As a familiar group company, Top Cable believes in the compatibility of economic, social, and ecological aspects, being committed to acting responsibly along our entire value chain.

10 reasons why Top Cable

is already one of the most sustainable cable manufacturers in Europe

100% GREEN ENERGY

At Top Cable we use 100% Green Energy Electricity across all our factories.

SOLAR ENERGY

At Top Cable we operate with photovoltaic self-consumption at all our production sites.

CO_2 EPD

Our EPDs (Environmental Product Declarations) analyse the product's life cycle and CO2 emissions.

At Top Cable we are using cardboard boxes and phasing out the use of plastic packaging.

PEFC

At Top Cable we exclusively source wood from sustainable forest for our cable drums and pallets.

At Top Cable we deeply invest in reverse logistics to collect empty cable drums from International sales.

HVO FUEL

INTERMODAL

At Top Cable we push into green and intermodal logistics to lower our CO2 emissions in transport.

REACH / RoHS Compliant

At Top Cable we adhere to ISO 14.001 systems and are REACH & ROHS compliant.

SOLAR CHARGUING STATION

At Top Cable we have electric chargers in all our industrial plants, especially at our headquarters in Rubí.

movingreen

At Top Cable, it is our goal to reduce CO2 emissions across our entire value chain and become the lowest emitting cable manufacturer in Scope 1 and 2 by 2030.

topcable.com/movingreen

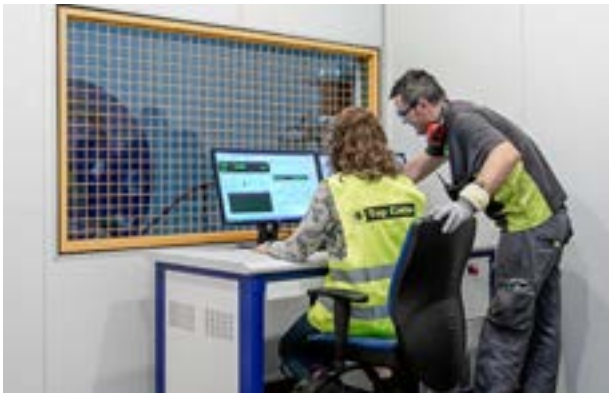

Top Cable

Quality laboratories and international certificates

100% cable traceability down to the copper.

100% cable tested drums.

Top-tier in-house and 3rd party testing labs for FAT and SAT tests.



Highest CPR rating in our manufactured cables.

B2ca covers (and surpass) Cca CPR fire performance

DoP are compulsory for cable traceability


Top Cables

Top Cable

GENERAL CATALOGUE

TOPSOLAR Heavy Duty®

LSHF CPR CABLES

INDUSTRIAL CATALOGUE

Top Cable
Driving your energy

SOLAR
CABLES

Ref. 901003012201001

sales@topcable.com
www.topcable.com