Product Overview

CCST (BLL) Covered Conductor is a medium-voltage covered overhead conductor designed for reliable power distribution networks operating at 10–52 kV. It features a round-stranded, non-compacted conductor with longitudinal water-blocking protection and a three-layer extruded covering system, providing enhanced protection against moisture ingress, corrosion, and environmental exposure.

The conductor incorporates extruded polymer water-blocking layers between individual conductor layers to prevent longitudinal water penetration. Its integrated manufacturing process combines conductor water blocking with the extrusion of three functional layers, ensuring consistent construction quality and reliable electrical performance.

The outer HDPE sheath is UV-resistant and provides additional protection against sunlight, weathering, and environmental stress. A semiconductive layer and PE insulation contribute to the electrical protection system, making CCST suitable for demanding outdoor overhead line applications.

CCST is available in FeAl conductor designs and AlMgSi alloy (Al7) configurations. Depending on project requirements, conductor constructions can include AAAC, ACSR, and ACSC. Standard conductor dimensions and customized specifications are available, with green, grey, and black sheath options.

Manufactured and tested in accordance with EN 50397-1 and SS 424 14 64, CCST offers a reliable solution for medium-voltage overhead power distribution systems.

Applications

CCST covered conductors are primarily used in medium-voltage overhead power distribution networks where additional protection against environmental exposure and moisture penetration is required.

Typical applications include:

- Medium-voltage overhead distribution lines (10–52 kV).
- Urban and suburban power distribution networks.
- Overhead lines in areas exposed to moisture and harsh weather.
- Distribution networks requiring longitudinal water-blocking protection.
- Power infrastructure projects requiring durable covered conductors.

Applicable Standards

EN 50397-1 – Covered Conductors for Overhead Lines and the Related Accessories for Rated Voltages Above 1 kV AC and Not Exceeding 36 kV AC.

Additional references may include:

- EN 50182 – Conductors for Overhead Lines: Round Wire Concentric Lay Stranded Conductors.
- IEC 60228 – Conductors of Insulated Cables, where applicable.
- SS 424 14 64 – Swedish technical reference associated with this product family.

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Important: EN 50397-1 covers the specified voltage range up to 36 kV AC. A 52 kV design must be evaluated against its own applicable standards and testing requirements; it must not automatically be declared compliant with EN 50397-1.

Key Features & Advantages

- **Longitudinal Water Blocking:** Extruded polymer between conductor layers helps prevent water ingress along the conductor.
- **Three-Layer Extruded Design:** Integrated manufacturing ensures consistent layer construction and product quality.
- **UV-Resistant Outer Sheath:** HDPE outer protection provides resistance to sunlight and environmental exposure.
- **Multiple Conductor Options:** Available in AAAC, ACSR, and ACSC constructions.
- **Non-Compacted Round-Wire Design:** Maintains a conventional round-stranded conductor construction.
- **Outdoor Durability:** Designed for long-term use in medium-voltage overhead distribution networks.
- **Customized Solutions:** Available in different conductor sizes, materials, and sheath colors.
- **Product Traceability:** Permanent marking includes manufacturer, conductor type, voltage designation, applicable standard, production date, and meter marking.

Technical Specifications

Item	Description
Product Type	CCST (BLL) Covered Conductor
Rated Voltage	10–52 kV
Conductor Construction	Round-stranded, non-compacted
Conductor Materials	FeAl / AlMgSi (Al7)
Conductor Types	AAAC, ACSR, ACSC
Water Blocking	Longitudinal water-blocked
Insulation	PE
Semiconductive Layer	Yes, extruded
Outer Sheath	HDPE
Maximum Operating Temperature	+70°C
Outer Sheath Colors	Green, Grey, Black
Bending Radius – Cable Extraction	15 × OD
Bending Radius – Final Fixed Installation	10 × OD
Manufacturing Standard	EN 50397-1
Additional Standard	SS 424 14 64
Marking	Manufacturer / Type / Voltage / Standard / Year-Month / Meter Marking

Note: Final conductor configuration, voltage designation, dimensions, and layer thickness should be confirmed according to the applicable project specification and approved technical drawings.

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Name	Cross section [mm3]	Outer diameter [mm]	Total weight [kg/km]	AC voltage rating	Number of strands [pcs]	Strand diameter [mm]
CCST 35 AL7 20(24)kV W	35	12.7	182	20(24)kV	7	2.5
CCST 50 AL7 20(24)kV W	50	14.44	247	20(24)kV	7	3.08
CCST 50 AL7 30(36)kV W	50	16.44	292	30(36)kV	7	3.08
CCST 50 AL7 52kV W	50	17.84	331	52kV	7	3.08
CCST 62 ACSR 20(24)kV W	62	15.31	331	20(24)kV	7	3.37
CCST 62 AL7 20(24)kV W	62	15.31	285	20(24)kV	7	3.37
CCST 70 AL7 20(24)kV W	70	15.91	313	20(24)kV	7	3.57
CCST 70 AL7 30(36)kV W	70	17.91	362	30(36)kV	7	3.57
CCST 70 AL7 52kV W	70	19.31	404	52kV	7	3.57
CCST 99 ACSR 20(24)kV W	99	17.95	489	20(24)kV	7	4.25
CCST 99 ACSR 52kV W	99	21.35	587	52kV	7	4.25
CCST 99 AL7 20(24)kV W	99	17.95	417	20(24)kV	7	4.25
CCST 99 AL7 52kV W	99	21.35	530	52kV	7	4.25
CCST 120 AL7 20(24)kV W	120	19.4	506	20(24)kV	19	2.84
CCST 159 AL7 20(24)kV W	159	21.5	635	20(24)kV	19	3.26
CCST 159 AL7 52kV W	159	24.9	751	52kV	19	3.26
CCST 185 AL7 20(24)kV W	185	22.8	730	20(24)kV	19	3.52
CCST 241 AL7 20(24)kV W	241	25.3	920	20(24)kV	19	4.02
CCST 241 AL7 30(36)kV W	241	27.3	997	30(36)kV	19	4.02
CCST 241 AL7 33kV W	241	27.96	1023	33kV	19	4.02

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Name	Cross section [mm3]	Outer diameter [mm]	Total weight [kg/km]	AC voltage rating	Number of strands [pcs]	Strand diameter [mm]
CCST 241 AL7 52kV W	241	28.7	1077	52kV	19	4.02
CCST 329 AL7 20(24)kV W	329	28.8	1244	20(24)kV	37	3.37
CCST 329 AL7 33kV W	329	31.45	1346	33kV	37	3.37
CCST 329 AL7 52kV W	329	32.19	1388	52kV	37	3.37

Frequently Asked Questions (FAQ)

1. What is a CCST (BLL) covered conductor?

CCST (BLL) is a medium-voltage covered overhead conductor featuring longitudinal water blocking and a three-layer extruded protection system. It is designed to improve moisture resistance and environmental durability in overhead distribution networks.

2. What voltage ratings are available for CCST conductors?

CCST covered conductors are designed for voltage applications from 10 kV to 52 kV, depending on the specific construction and project requirements.

3. What conductor materials are available?

CCST can be manufactured with different conductor designs, including FeAl and AlMgSi (Al7), as well as AAAC, ACSR, and ACSC configurations, subject to the selected design.

4. What is the purpose of longitudinal water blocking?

Longitudinal water blocking helps prevent water from traveling along the conductor through the spaces between conductor layers, reducing the risk of moisture-related deterioration and corrosion.

5. What materials are used for the insulation and outer sheath?

The construction includes PE insulation, an extruded semiconductive layer, and an HDPE outer sheath.

6. What is the maximum operating temperature of CCST?

The maximum continuous operating temperature specified for CCST is +70°C.

7. What standards does CCST comply with?

CCST is manufactured and tested in accordance with EN 50397-1 and SS 424 14 64.

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8. Can CCST covered conductors be customized?

Yes. Conductor materials, cross-sectional areas, voltage ratings, construction details, and outer sheath colors can be specified according to project requirements.

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