



WE SERVE THE WORLD WITH


RELIABLE CONDUCTORS AND SYSTEMS



WE ARE THE LEADING MANUFACTURER OF COVERED CONDUCTORS

amokabel is a Swedish private cable group, specialized in covered overhead conductors. Amokabel was founded in 1992, since then we have experienced a strong organic growth and have today four manufacturing companies within the group. Production and head office are located in Alstermo, in the southern part of Sweden. By focusing on flexibility, innovation, quality and short lead times we have met and surpassed market expectations on all continents.

In line with our strong belief in reducing our environmental footprint we have invested in wind, hydro and solar power generation and are today proudly self-sufficient in renewable energy.



We have been manufacturing cable in Alstermo since 1996. Since then, the plant has been expanded several times in order to meet the increased demand for our products. The factory area is today 32 000m².

SUSTAINABLE DEVELOPMENT

amokabel is self-sufficient as regards electrical power, which is produced using 100% renewable sources. In addition, we are certified in accordance with ISO 14001.



HIGH LEVEL OF QUALITY

High quality is one of amokabel's core values, guiding us in every process from production to aftersales service. We are also certified in accordance with ISO 9001.



FLEXIBLE IN PRODUCTION AND DELIVERY

amokabel believes in a flexible organisation, which enables us to customise our products and offer short lead times.



INNOVATIONS

amokabel is driven by technical innovations, and has developed more than 4500 unique designs.



STRONG CUSTOMER FOCUS

amokabel works together with its customers in order to provide the best possible solutions.



CORPORATE SOCIAL RESPONSIBILITY

amokabel continually strives to develop the local region. In addition to direct financial support to organisations in the local area, we have been involved in and contributed to major initiatives that have benefited the community in Alstermo and surrounds.



CCST AND CCSX

amokabel is the world-leading provider of CCST/CCSX. Today we manufacture both CCST/CCSX alloyed and non-alloyed wires, with a voltage range from 1 to 66 kV. amokabel can adapt the voltage and the cross-section to suit customer requirements, as well as create unique products to meet customer needs.

Triple-extruded covered conductors were developed by amokabel to improve the reliability of the distribution and transfer of electricity. After twenty years in use, the amokabel covered conductor system has proven to be extremely functional and reliable. Interruptions and faults caused by snow, ice and storms have diminished remarkably.

DIFFERENT MARKETS AND APPLICATIONS

Installed amokabel covered conductor systems can be found in South America, Africa, Asia, the Middle East, Siberia and all across Europe.

The number of different applications for which the amokabel covered conductor system is used continues to grow with every new market. Examples of applications and reasons for choosing the amokabel covered conductor system include:

- Forest areas – increased reliability if in contact with branches and trees across the phases after storms
- Bird and wildlife protection areas – increased safety
- Plantations – increased reliability if in contact with branches
- Urban areas – reduced footprint due to reduced phase-to-phase distance
- Very cold climates – ice more easily released from the conductor
- Coastal areas – protects the aluminium from corrosion
- Voltage upgrades – reduced phase-to-phase distance allows the use of existing poles and crossarms



 **amokabel**
power

VIDA

OUR COVERED CONDUCTORS ARE INSTALLED

THROUGHOUT THE WORLD

amokabel's covered conductors can be used in many different environments. They meet the demands of both hot and cold climates, as well as those of urban, rural, coastal and forest areas. This makes our covered conductors an excellent choice the world over.





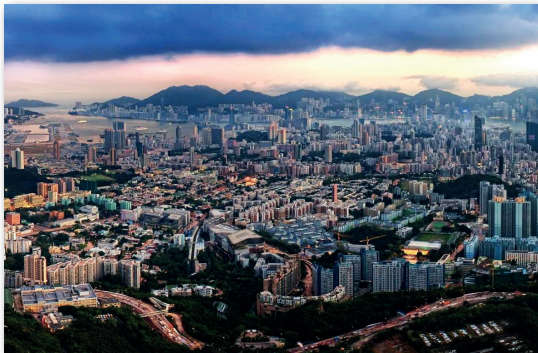
COLD ENVIRONMENTS

In 2013 amokabel supplied 500 km of CCSX conductor (99 mm², 24 kV) to Siberia, Russia. Our CCSX conductors fulfil the demands of extremely cold environments with heavy snow and ice loads.



HOT ENVIRONMENTS

In 2011 amokabel supplied 300 km of CCSX conductor (157 mm², 11 kV) to Muscat, Oman. Our CCSX conductors meet the demands of environments characterised by high temperatures, heavy corrosion and high UV levels.



URBAN AREAS

In urban areas the reduced footprint of covered conductors due to the reduced phase-to-phase distance is particularly important. Another common area of interest in urban areas is the intensity of the electric field, and using a covered conductor reduces this intensity compared to a bare conductor. Moreover, a covered conductor also provides an increased level of public safety.



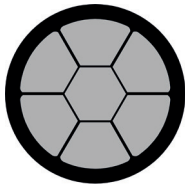
FOREST AREAS

CCSX is frequently used in voltage upgrade projects, such as from 11 kV to 33 kV. As CCSX can be installed with reduced phase-to-phase clearance, utility companies are able to use existing poles and crossarms. The use of CCSX can cut vegetation management costs dramatically. Reduced right-of-way clearance means less impact on the landscape.

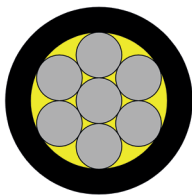
THE DEVELOPMENT OF

COVERED CONDUCTORS

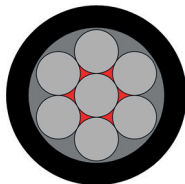
A great deal has happened since covered conductors were first developed. Major development areas include longitudinal water blocking, the use of non-compacted conductors and the change from one to three layers of insulation.



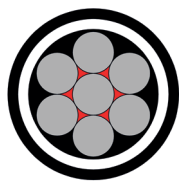
Compacted single-layer black XLPE, poor mechanical performance as the compacted conductor has limitations in withstanding wind-induced vibrations.



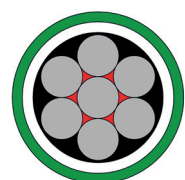
Non-compacted round wire conductor is better at withstanding vibrations as the wires can twist, which enables them to act as dampers. Grease is used for longitudinal water blocking. High risk of slippage between the XLPE and the conductor. Stripping and the use of bare conductor clamps for tensioning recommended.



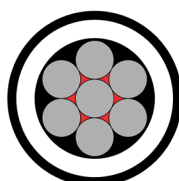
Round wire conductor, water blocking by extruded polymer material. A semi-conductive screen is extruded under the XLPE jacket to spread the electrical field and reduce the stress on the XLPE material.



The outer XLPE jacket is split into two layers. The inner layer is very pure XLPE insulation and the outer layer is an XLPE jacket with UV and weather resistance.



A thermoplastic version developed to meet increased demand for recyclable materials. The XLPE is replaced with PE insulation and an HDPE jacket. This conductor can be 100% recycled. Maximum continuous conductor temperature limited to 70°C.



The demand for higher voltages led to the development of a new standard in Sweden. A 52 kV covered conductor was developed by amokabel. This conductor has been used for higher voltages to cope with slashing effects when reducing the phase-to-phase distance.

SERVICES PROVIDED BY

AMOKABEL

TRAINING AND SUPPORT

amokabel can offer full assistance in all covered conductor projects, from planning to installation.

From initial schematic design to project completion.

This includes:

- Arc protection requirements, accessories and integration with existing network
- Training for contractors, engineers and project managers
- Supervision during installation

PROJECT DELIVERY SUPPORT

- Delivery of all materials, tooling and conductors in kit form
- Supply of specific drum lengths of conductor labelled with pole references



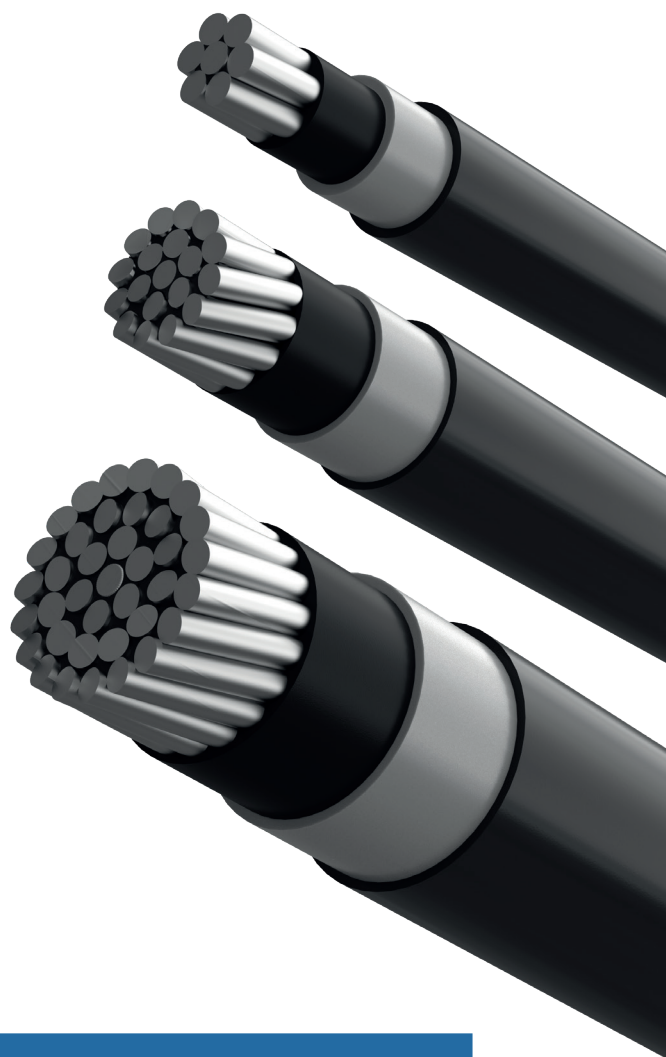
CCSX 1-66kV

APPLICATION

CCSX is a round wire, non-compacted covered overhead conductor. The conductor is longitudinal water blocked and have three simultaneously extruded layers. The outer jacket is UV-protected and track resistant.

- Conductor - AAAC/ACSR
- Extruded - longitudinal waterblocking layer
- Extruded - inner semiconductive layer
- Insulation of XLPE
- Outer layer of UV-resistant XLPE

Minimum bending radius	15xD
Lowest temperature for installation	-15°C
Maximum continuously temperature	+80°C



Crossection [mm ²]	Construction [-]	Type [-]
50	7 wires	AAAC
62	7 wires	AAAC/ACSR
70	7 wires	AAAC
99	7 wires	AAAC/ACSR
120	7 wires	AAAC
157	19 wires	AAAC
185	19 wires	AAAC
241	19 wires	AAAC
329	37 wires	AAAC

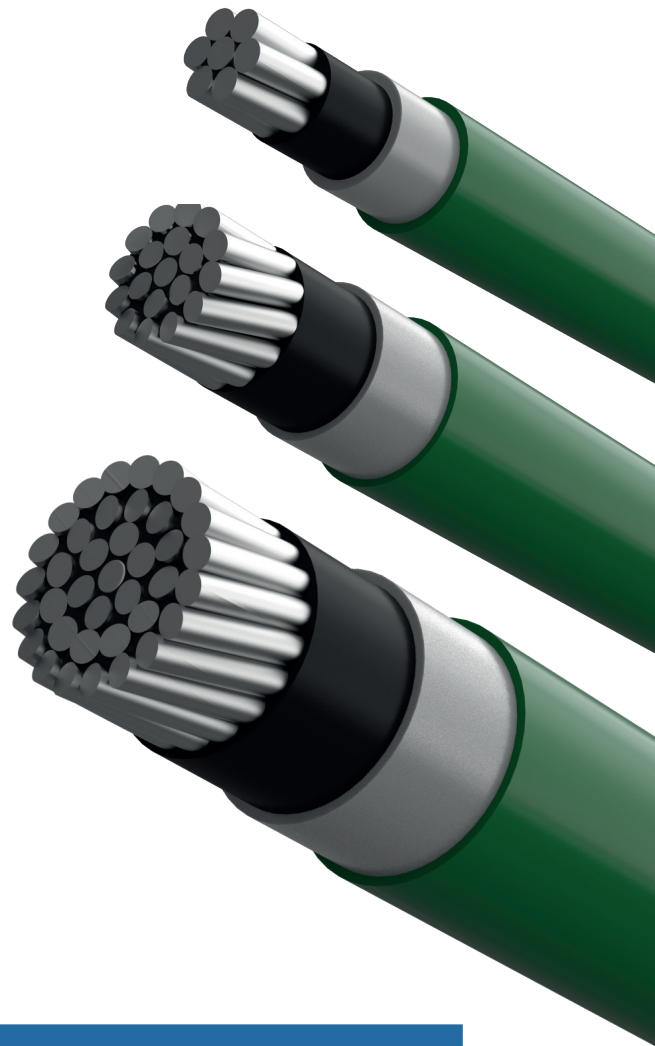
CCST 1-66kV

APPLICATION

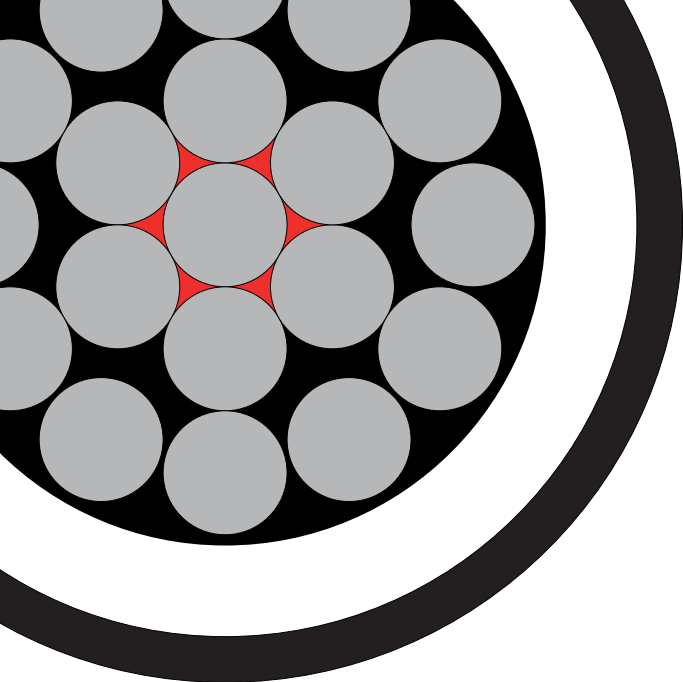
CCST is a round wire, non-compacted covered overhead conductor. The conductor is longitudinal water blocked and have three simultaneously extruded layers. The outer jacket is UV-protected and track resistant.

- Conductor - AAAC/ACSR
- Extruded - longitudinal waterblocking layer
- Extruded - inner semiconductive layer
- Insulation of PE
- Outer layer of UV-resistant HDPE

Minimum bending radius	15xD
Lowest temperature for installation	-15°C
Maximum continuously temperature	+70°C



Crossection [mm ²]	Construction [-]	Type [-]
50	7 wires	AAAC
62	7 wires	AAAC/ACSR
70	7 wires	AAAC
99	7 wires	AAAC/ACSR
120	7 wires	AAAC
157	19 wires	AAAC
185	19 wires	AAAC
241	19 wires	AAAC
329	37 wires	AAAC



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