



Cable Accessories

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Cable Accessories factory and Technical Lead Center situated in Alingsås, Sweden.

We work to create safe electrical distribution via power cable networks. To achieve this, we develop, manufacture and market a broad range of cable accessories, for distribution and transmission.

Our main customers are utilities, EPC and OEM. Our core competencies are electrical connections in cable systems and manage electric field grading systems. Our own test laboratories are essential for our product development and quality assurance.

Catalog

This catalog covers cable accessories in the range from 52 to 420 kV.

List of content sorted by name or product category can be found in the end of this catalog. The product catalog can also be downloaded from our website.

Other product catalogs available on request:

- Cable Accessories ≤ 1 kV, XLPE cables
- Cable Accessories 12–42 kV, XLPE cables
- Cable Accessories 12–52 kV, PILC cables

We reserve the right to alter the design and range of our products without prior notice.

Our business idea

“We provide companies that work with electric power with solutions which enable them to joint and connect cables easily and safely, and distribute electricity”.

Satisfying customer needs, Quality and Environment are our priorities.

We work continuously to improve our processes. Important foundations for this work are our quality and environment management systems.

- ISO 9001
- ISO 14001
- OHSAS 18001

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Our five core competencies

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1. Understanding the total cost and value for cable accessories as elements in systems

We as supplier of components that are pieces in a puzzle, the cable system and the related interfaces, need to understand the demand and requirements on the single component in order to optimize the value and performance. The value offer for components is in relationship with the system, we also add value in later stages in this value chain. By knowing the actual expectations and trends we are able to meet the demand in the long term. Our expertise and extensive global footprint ensure we understand the product requirements and future trends.

2. Manufacturing and quality assurance of insulation system based on rubber

With modern manufacturing technology and quality management processes we can keep up the productivity and thereby offer competitive products. We have material expertise as well as test facilities for rubber material development and improvements, by both know-how and know-why we are able deliver insulation systems in the complete range of cable accessories.

3. Workmanship in installation of cable accessories

Joints and terminations are regarded as critical components in cable systems, and the workmanship during installation is very important when considering the risk of future failures. When preparing cable several layers need to be removed or treated without damaging other layers, this requires

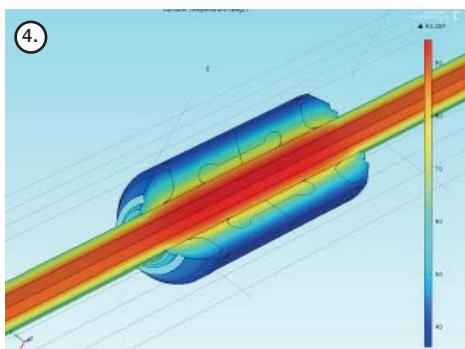
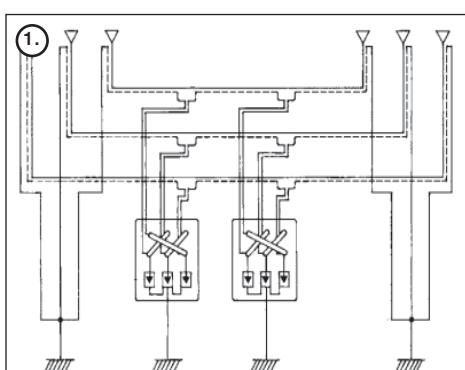
skills and knowledge how to handle tools for this application. Knowledge about what are the critical steps in accessories assembling gives the best foundation for successful and safe installation.

4. Electrical, mechanical and thermal design of insulation systems and connectors

The design of our accessories are based on expertise within electrical, mechanical and thermal performance. It is essential to understand the connection between them since all the three technologies comes down to one parameter namely coupled electrical, mechanical and thermal properties. We have long extensive experience and use modern FEM software that allows us to calculate coupled electrical and thermal fields as well as thermo-mechanical conditions. Our electrical designs involves geometrical, resistive and refractive field controlling involving advanced field grading rubber materials.

5. Performance of rubber and metal materials in outdoor conditions

Cable accessories are exposed to harsh outdoor climate conditions. Insulators are exposed to UV radiation and pollution, joints are operating underground in wet conditions, and they shall perform for many years without breakdown. It is essential for us to keep up the expertise within outdoor insulation performance and corrosion protection, with expertise and our test facilities, e.g. Weather-O-Meter test, we can ensure the product deliver what we promise.



Requirements and approvals

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Definition of voltages

Cables and cable accessories are classified according to the voltages at which they operate. Between standards all over the world the designations are different. However, IEC designations gives a clear definition of commonly used vocabulary. The voltages used in this context are:

U_0 = the rated r.m.s. (root mean square) power-frequency voltage between each conductor and screen or sheath for which cables and accessories are designed.

U = the rated r.m.s power-frequency voltage between two different conductors for which the cables and accessories are designed.

U_m = the maximum r.m.s power-frequency voltage between two different conductors for which the cables and accessories are designed. It is the highest voltage that can be sustained under normal operating conditions at any time and at any point in a system. It excludes temporary voltage variations due to fault conditions and the sudden disconnection of large loads.

Standards and approvals

Electrical components must meet numerous requirements in areas such as functional safety, technical performance and personal safety. For cable accessories, compliance with the requirements is checked by type and routine testing. We perform these tests according to various standards, both international and national.

Common standards:

IEC

(International Electrotechnical Commission) An international standard used worldwide.

IEEE

(The Institute of Electrical and Electronics Engineers) This standard is mainly used in the USA.

Voltage range U_m 52–420 kV

IEC standard 60840 covers cable systems with voltages above 36 kV up to 170 kV.

IEC standard 62067 covers cable systems with voltages above 170 kV up to 550 kV.

Both IEC 60840 and IEC 62067 includes testing of outer protection for buried joints and screen separation designs.

IEC voltage classes

U_0	U	U_m
26	45–47	52
36	60–69	72.5
64	110–115	123
76	132–138	145
87	150–161	170
127	220–230	245
160	275–287	300
190	330–345	362
220	380–400	420



Testing in the high voltage laboratory.



We supply cable accessories for various types of cables.

Reasons for choosing ABB Cable Accessories

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A power cable network must be capable of supplying electric power without interruption. If a failure does occur, it is usually the junction points in the network that are at fault, rarely the cable. So it pays to choose cable accessories with care.

One reason for our success is that we have constantly developed cable accessories for all types of cables. This has given us both broad and deep experience base. We have also developed our accessories to manage optical fiber in power cables, and integrated screen separation in cable joints. This enables system designers to improve and optimize their systems.

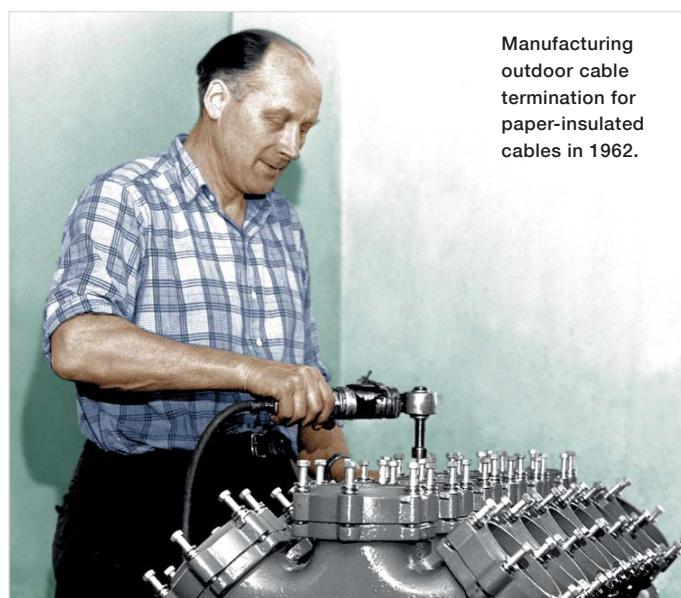
Our products are made with modular design, this makes the accessories exceptionally easy to install. The jointers can easily become familiar with the components, and this reduces the risk of mistakes.

Another advantage is that our cable terminations can be assembled on the ground with controlled conditions and then lifted into place – simple and safe!

Unless otherwise specified, the cable accessories are supplied as standard with bolt connections for conductors.

Experience

Long experience brings great expertise. We have been manufacturing cable accessories for paper-insulated cables for about 100 years. When XLPE-insulated cables were introduced more than 50 years ago, we were involved from the outset. Since then we have been in the forefront of development. We have a long experience in high voltage engineering and have always led the field in research and development.



Research and Development

Our core competence is our expertise in electrical connections in power cable systems. Successful product development requires proper resources. We have an advanced chemistry laboratory, a profound expertise in the field of polymers and well-equipped high voltage and high-current laboratories.

Our corporate research Centers enables us to conduct long term development of new technologies.

Better Economy

ABB Cable Accessories provide greater safety. This means major savings in the long term, as well as lower costs from simplified routines for purchase, delivery and storage.

Also shorter installation time reduces the total cost for the system.

Professional Training

The technology of cables and their installation is constantly developing. We offer a broad range of courses in cable technology and cable accessories. Our instructors are involved in our development projects, so you can be sure that they have access to the latest technology.

We arrange training programmes and practical exercises in the assembly of cable accessories up to 420 kV. All course participants will receive a diploma or a training certificate after successfully passing theoretical and practical tests.

We facilitate the training in our factory or we may arrange in suitable location in agreement with you.

If you would like to know more about the courses, please contact your ABB representative or our training department directly.

