

Factory portrait

Wettingen, Switzerland



ABB has a long history of development and production surge arresters. Starting with gapped arresters in 1904 ABB is continuously improving surge arresters design. The in-house production of metal-oxide (MO) arresters directly molded in silicone housing are the state-of-the-art in surge arresters technology. With the product portfolio from 1 kV to 550 kV the factory combines unique solutions for LV, MV and HV systems. With approximately 4 million arresters delivered worldwide ABB Wettingen is a leader in solutions for overvoltage protection.

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Surge arresters factory in
Wettingen, Switzerland

ABB is a pioneer in power and automation technologies that enable utility, industry and traction customers to improve their performance while lowering environmental impact. The ABB Group of companies operates in around 100 countries and employs about 134,000 people.

Surge arresters function is to limit lightning and switching overvoltages. They consist of serially connected MO resistors fixed with patented loop design and directly molded in silicone. This arrangement ensures top electrical performance and highest mechanical strength.

The factory's portfolio offers AC and DC surge arresters for traction and MV systems, HV GIS surge arresters and voltage limiting devices.

Manufacturing Execution System (MES)

The MES allows tracking the surge arresters all the way: from supplies of raw materials, through manufacturing and testing of MO resistors and the surge arresters, until packing and delivery to the customers. The MO resistors and surge arresters are tracked via unique QR-codes, which keep the most important information.

Lean production

The principles of lean production are implemented in the factory. It helps in achieving the best performance of each manufacturing station, continuous unstoppable production flow and the highest safety at the workshop. Such planning enhances the on-time delivery to our customers.

Incoming goods inspection

With the Supply Chain management in-house we are able to control and qualify all our suppliers. The thorough inspection of all incoming goods allows us to maintain the continuously high quality throughout years.

MO resistors production

The MO blocks are the core of the surge arresters. Their characteristics and quality define the lifetime of the surge arrester and its protective capability. Having the blocks production under the same roof with surge arresters we ensure that only the best quality materials and state-of-the-art technology are used. We guarantee no moisture ingress in the MO resistors as no transportation to surge arresters manufacturing location is required.



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01 Inside view of the factory: blocks production

02 Inside view of the factory: surge arresters testing area

Surge arresters production

The surge arresters production is equipped with high performance molding machines to guarantee highest output to meet short delivery times. From assembly of the active MO stacks through priming, molding the quality process is carefully followed. Accessories of various customer requests are fixed at the final stage before packing.

Voltage limiting device (VLD) production

The voltage limiting device is a protecting device for traction systems. It limits the overvoltages and protects people from impermissible touch voltages. We are using our MO blocks in manufacturing the VLD.

High-voltage gas-insulated surge arresters switch-gear (HV GIS) production

Production of high-voltage gas-insulated surge arresters requires top quality and cleanliness. This is ensured by a separate section within the factory. Mounting of the active stacks, assembling the GIS arresters and testing follows tight process control.



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High-voltage lab

All MO resistors and surge arresters go through mandatory procedure of routine testing in order to guarantee highest product quality. Samples from every batch of MO resistors go through testing in an ageing chamber to ensure the continuous quality throughout years. Wettingen laboratory is equipped with the state-of-the-art technology testing equipment. The testing facilities can conduct the tests for medium-voltage and high-voltage equipment, including development tests, insulation high-current tests, acceptance tests and other tests according to customer requirements.

Factory Acceptance Test (FAT)

On the customer's request the factory acceptance test can be carried out. During the FAT the customer can see the surge arresters production as well as participate in the routine testing of surge arresters.

Development

Having the design facilities inside the factory we ensure continuous improvement of our products and processes and develop new solutions for over-voltage protection. Our facilities are equipped with tools and test equipment to develop special solutions for the customers. In Wettingen customer is always in focus.

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