ABB has a long history of making electrical grids stronger, smarter and greener by improving safety and power quality for producers and consumers. We have built our reputation on providing the world’s most innovative and reliable solutions and are now bringing those same values to Outdoor Air Core Reactors.

ABB Outdoor Air Core Reactors (OACR) utilize a proprietary construction to give the windings the highest levels of mechanical strength and environmental protection. This construction has been proven with reactors across 40 years and thousands of installations operating in extreme conditions for railway rolling stock, mining, offshore oil and gas and many others.

**Advanced construction**
ABB Outdoor Air Core Reactors (OACR) utilize a proprietary construction to give the windings the highest levels of mechanical strength and environmental protection. This construction has been proven with reactors across 40 years and thousands of installations operating in extreme conditions for railway rolling stock, mining, offshore oil and gas and many others.

**Vacuum impregnation process**
using a unique Class H epoxy resin

**Dedicated oven-curing cycle**
to give the reactor additional mechanical strength

**Special protective varnish**
to shield against UV and corrosive elements
**Proven protection**
- Completely sealed windings tested and installed in the most severe outdoor environmental conditions
- Excellent performance against electrodynamic forces caused by short circuit currents and vibrations
- High safety factor in electrical and thermal design for extended lifetimes

**Range of applications**
- Harmonic filters
- Shunts
- Current limiting
- Electric arc furnace (EAF)
- Inrush damping
- Thyristor controlled reactors (TCR)
- Neutral grounding
- Smoothing

**Standard design features**

- Vacuum pressure impregnation with Class H epoxy resin
- UV and corrosion resistant overcoating
- Insulated aluminum or copper conductor
- Weatherproof design suitable for all outdoor environments
- Uniform voltage and current distribution

**Outdoor air core reactors**

**ABB installation design includes:**
- Analysis of the magnetic clearances
- Seismic analysis and design
- Wind vortex induced vibration
- Short circuit stress analysis
- Force calculation between coils, on terminals and anchor points
- Losses calculation at fundamental and specific frequencies

**Testing and quality**
- Each reactor is subjected to a strict testing sequence during manufacturing and before delivery
- In addition to routine tests according to IEC/ANSI/IEEE, type test can be performed through external laboratories
- ABB’s reactor manufacturing quality is certified to ISO 9001, ISO 14001 and OHSAS 18001