

AC and DC Rewinding and overhauls

ABB's workshops in Hamilton and Christchurch are fully equipped to provide both comprehensive AC and DC overhauls and rewinding.

Rewinding

ABB's workshops are experienced with all stator, rotor, DC field coil and DC armature rewinding. Whether it be an AC machine from <1kW or >9MW, or an 1800kW DC armature – our team are equipped to perform a quality repair.

Rewinding competencies

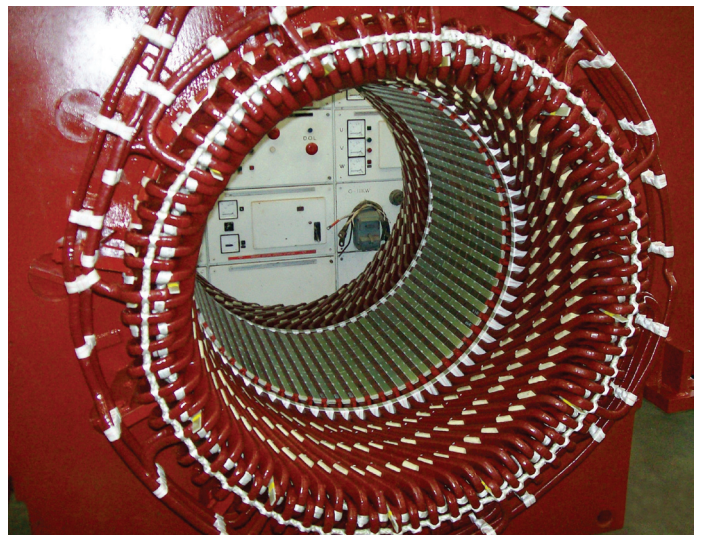
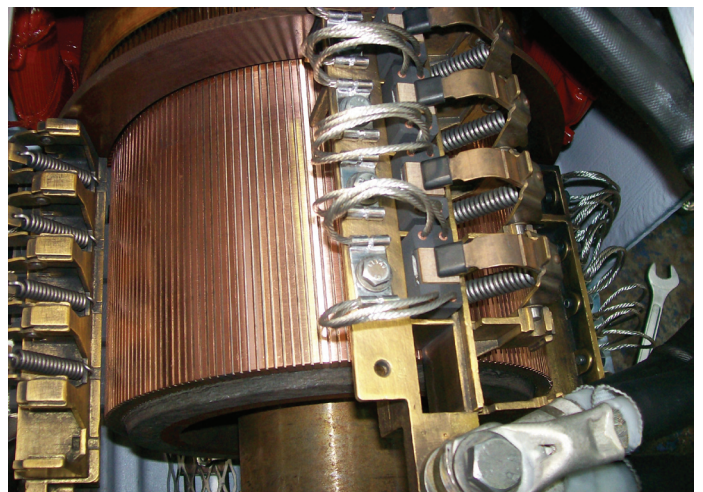
- Low- and high-voltage – with full testing
- AC & DC
- Rotors and armatures
- Stators and field coils
- Round wire and bar wound copper
- Class F and H (Class C in some cases)
- Specialised winding equipment
- Core loss testing*
- Fully submerged varnishing
- Large curing oven
- 10,000kg and 50,000kg* gantry cranes

Avoiding thermal degradation

All the stators we rewind are run through our large burn-out oven* to ensure a temperature controlled burn-out of insulation materials – while remaining below the recommended 350°C limit.

To further ensure that there is no core damage, we perform core loss testing on cores that have suffered from poling or short circuit damage.

* Hamilton workshop only



Overhauls

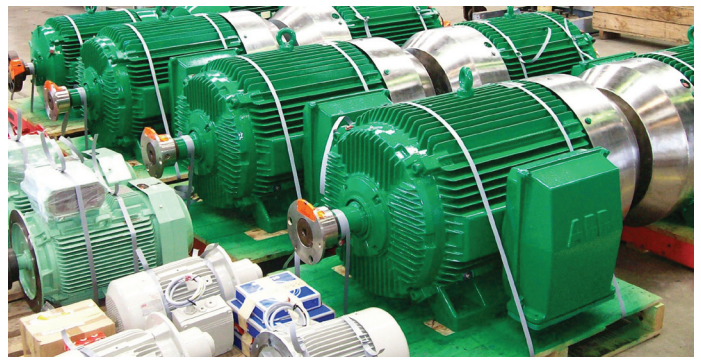
Approximately 70% of our workshop rotating machine services is overhauls.

Due to modern preventive maintenance techniques, there has been a noticeable reduction in sudden and unplanned machine failures. This has, in turn, seen a reduction in the number of rewinds.

Many customers now recognise the benefits of predictive techniques, such as vibration analysis, complemented with regular preventive machine inspections and overhauls.

ABB's AC and DC overhauls include:

- No-load test run
- Disassembly
- Assessment (quotes provide as required)
- Cleaning all parts, stator, rotor
- Oven dry out
- Measure shafts and housings
- Machining DC commutator
- General mechanical repairs (machining)
- Metal spray repairs (shafts and housings)
- New bearings and seals
- New brushes (DC or AC slip-ring mtrs)
- Dynamic balance



- Assembly
- Painting machine exterior
- Electrical testing
- Final no-load test

Many examples of internal damage to machines can be attributed to bearing faults and other anomalies which could have been identified through vibration analysis, and avoided by inspections and overhauls. By performing a workshop-based overhaul, an accurate appraisal of the entire condition of the machine can be made.

This creates opportunities within a controlled and well equipped environment to affect optimum repairs; ensuring increased reliability and enhanced operational performance.