

Technical note

High voltage generators for diesel and gas engines

Final testing

ABB is a leading supplier of generators for all marine and industrial applications. We have been manufacturing generators for more than 120 years and have extensive application experience with tens of thousands of installations all over the world. ABB offers reliable and efficient power generation with worldwide support.

Numerous tests are performed on the generator components as they progress from one manufacturing stage to the next. These tests include quality monitoring, inspections and insulation reliability evaluations.

A set of final tests is performed once all the parts and components have been assembled, in order to verify that the generator meets or exceeds the customer's requirements.

All tests are performed according to IEC 60034. Testing to NEMA MG 1, IEEE-115 or marine classification society requirements is available upon request.

Routine tests

The routine test program is performed on every generator and is included in the price of the generator.

- visual inspection
- air gap measurement (during final assembly)
- sleeve bearing clearance check (larger generators during final assembly)
- insulation resistance measurement before rotating
- winding resistance measurement
- terminal markings and direction of rotation
- checking of temperature detectors and space heaters
- bearing run
- no load-point
- short circuit point
- testing of the automatic voltage regulator



- overspeed test
- vibration measurement
- auxiliary check
- dielectric tests after rotating
- insulation resistance measurement after rotating

Type tests and additional tests

Type tests are performed in addition to the routine tests. They are normally performed on one machine in a series of generators not previously manufactured, or at the request of the customer. Some tests may incur an additional cost.

- no-load curve
- short circuit curve
- heat run test (temperature rise test)
- losses and efficiency
- transient and subtransient reactance measurement
- voltage wave form analysis

Special tests

Special tests may be performed to verify the performance in special conditions. They may, for example, be based on customer specifications or classification society requirements. Such tests may include:

- determination of reactances and time constants
- measurement of shaft voltage
- voltage wave form analysis
- sound level measurement

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