# Evolution of standardisation project on acceptance tests for laser metal powder-bed fusion machines

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*The draft ISO/ASTM DIS 52941 'Additive manufacturing - System performance and reliability - Acceptance tests for laser metal powder-bed fusion machines for metallic materials for aerospace application' has changed from status DIS ('Draft International Standard'- draft for enquiry, subject to public input) to FDIS ('Final Draft International Standard' - draft for final approval vote).*

The purpose of this draft is to specify the requirements and test methods for the (re-)qualification of laser beam machines for metal powder bed fusion AM for aerospace applications.

Environmental and operational conditions during the qualification testing need to be met and measurements need to be performed with a calibrated measuring instrument.

The document addresses the following qualification testing :

- laser beam tests (power, stability, focal point width, positioning, trajectory accuracy, speed, etc.)
- mechanical function test (build platform positioning, powder feed processing and spreading, etc.)
- heating system
- controlled atmosphere
- data recording
- safety systems
- optional tests (demonstrators and test artifacts, build area assessment, etc.)

In the case that the equipment is modified or major changes have been made to the operational conditions, requalification testing has to be repeated.

All (re-)qualification tests need to be fully documented. An example of a test report is given as well as a geometric pattern for the trajectory accuracy test.

If you require any further information, please contact us!

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