

MANDATED BODY GUIDELINE



1.0 Review of engineering and design file that shall include

- 1.1 Review of all the elements specifying the product:
 - 1.1.1 Complete Definition File with revision date of each document
 - 1.1.1.1 Rule out any material equivalence
 - 1.1.1.2 Rule out any production/purchase alternative
 - 1.1.2 Material procurement specifications defining the aerospace use (example for metals: AISI 316L according to AMS240; resins exempt from recycling)
 - 1.1.3 Specifications for finished purchased products (springs, balls, washers, etc.)
 - 1.1.3.1 Rule out any purchase alternative (multi-sourcing)

- 1.2 Review of all the elements needed to manufacture the product:
 - 1.2.1 Range of production and installation of assemblies and subassemblies
 - 1.2.1.1 Flow Chart including all the inter-operational inspections
 - 1.2.1.2 Reference and revision of production conditions (NDC programme, operating conditions)
 - 1.2.2 Special Process Inspection Plan (heat treatments, surface treatments, bonding, welding)
 - 1.2.2.1 List of suppliers/subcontractors
 - 1.2.2.2 Company/operator qualification procedure
 - 1.2.2.3 List of key characteristics (see EN9100)
 - 1.2.2.4 Official accreditations (PRI-NADCAP, etc.)
 - 1.2.3 Tooling inspection (overhaul periodicity, qualification renewal procedure)
 - 1.2.4 Qualification procedure plan for finished purchased products

- 1.3 The engineering and design file shall be certified by the Mandated Body at the date of end of review of the complete file.
 - 1.3.1 No change in First Article File shall be permitted before the end of the qualification period.
 - 1.3.2 No further change in the First Article File shall be permitted without prior agreement by ASD-Cert.
 - 1.3.3 The manufacturer is then allowed to manufacture samples for qualification purposes satisfying scrupulously the First Article File.

1.3.4 The Mandated Body can ask to attend certain manufacturing or assembly operations. On that occasion, they will be able to check that the production file in progress is in compliance with the previously certified First Article File.

- 1.4 Any change proposal in the Product Definition File after Qualification shall be previously agreed by the Mandated Body, together with an analysis of the envisaged change and, if necessary, proposal for partial qualification renewal including a Test programme and a Sampling Plan. The Mandated Body shall analyse this proposal and reply not later than one month (if necessary the opinion of an expert could be asked).

2.0 Qualification programme review that shall include

- 2.1 A review of the Sampling Plan and of its compliance with the requirements of the product technical specification.

2.1.1 A material certificate of compliance shall therefore be prepared and be appended to the qualification report. It shall include the certificates of compliance of every element making up the samples.

2.1.2 Dimensions and masses (geometric plot showing the location of insert cavities)

- 2.2 A review of the Qualification test procedures and of their compliance with the requirements of the product technical specifications (Groups, Tests, Test sequencing and Sampling Plan).

2.2.1 Qualification is carried out on all the references to qualify as defined in the Product Technical Specification. Therefore, the Mandated Body shall:

2.2.1.1 Rule out any qualification proposal based on partial similarity (one or several tests) within a group

2.2.1.2 Accept a qualification proposal based on similarity for a complete group provided that no change has been made in the engineering and design file since the date of manufacture of the samples when subjected to the reference test group.

2.2.2 Pass/fail criteria for each test shall be clearly defined and tolerances specified, when necessary.

2.2.3 The inspection methods shall be approved by the Mandated Body.

- 2.3 Implementation of tests

2.3.1 Samples shall be identified individually and may be selected at random during current production.

2.3.2 The implementation of the sample(s) shall be defined in the Test Programme and shall comprise at least:

2.3.2.1 Used installation drawings, references of specific items (tooling, test equipment, etc.)

2.3.2.2 Orientation of specimens when necessary (salt mist, fire, vibrations, rain, sand and dust, etc.)

2.3.2.3 Wiring definition where applicable (reference of used components, origin and procurement specification). For climatic environmental tests, the cables used shall be in accordance with the technical specification of the product.

2.3.2.4 Tightening torques and tooling used when applicable (bolts, fittings, etc.). For the vibration test, required minimum tightening torque shall be used.

2.3.2.5 Material and finish of fittings (bolts, support, etc.).

Consideration shall be given to the various incompatibilities that may have an impact on the successful completion of the test.

- 2.4 The various items in the QTP shall be approved and certified by the Mandated Body at the date of end of review of the complete file.

2.4.1 No further change in QTP shall be permitted without previous approval by the Mandated Body.

2.4.2 The manufacturer is then allowed to select the Laboratory/Laboratories see paragraph 3.2 and to produce the tooling.

2.4.3 The Mandated Body can request to be showed around the selected Laboratory/Laboratories. On that occasion, they will be able to check both Laboratory/Laboratories and operators accreditations.

3.0 Test Plan Review

- 3.1 A detailed Test Plan shall be prepared by the Manufacturer and provided to the Mandated Body for a possible monitoring. Possible revisions of the plan shall be defined in consultation with the Mandated Body.

- 3.2 The tests shall be carried out by a Laboratory or Laboratories approved NF EN ISO/CEI 17025 or equivalent.

3.2.1 Evidence of equivalence shall be provided.

3.2.2 The manufacturer shall give the Mandated Body free access to the sites facilities.

3.2.3 Test resources shall be defined (capability and performances).

3.2.4 Certified operators shall be identified.

- 3.3 The Mandated Body shall specify at least 24 h in advance which tests they want to attend:

3.3.1 Essential presence requiring previous approval to implement and perform tests, for instance:

3.3.1.1 Vibrations (tightening couple applied to supports, positioning of sensors and pilots, fracture limit of screw plate, used materials, possible calculation manual, change of centre line without impact on specimen setup).

3.3.1.2 Fire (wiring conformity, test fixture - timing and video recording, measurement thermocouples, safety conditions, test devices).

3.3.1.3 Lightening (compliance of test installation, safety devices)

3.3.1.4 Fluids (remarks during the tests, photographs of specimens under test).

3.3.2 In the event of a problem during qualification (such as technical impossibility, interpretation of standards, test failure, etc..) the Mandated Body shall be informed thereof within 24 hours. A decision shall be made by agreement with the Mandated Body on the conditions to carry on the qualification. This decision shall be formally drawn up and justified in the Mandated Body report (see CFRR and TIR forms).

- 3.4 The test report shall be drawn up according to the sequencing of the Technical Specification and include the references and the photographs of both installations and samples after tests.