

ASPQP

Aerospace Standards Part Qualification Program

A Program of SAE ITC

GUIDANCE FOR REMOTE QUALIFICATION WITNESS TESTING



Scope

This presentation is intended give a manufacturer comprehensive guidance on how to conduct a remotely witnessed qualification testing activity.

Reason for Use

This presentation gives the minimum requirements that manufacturers shall meet in order for an ASPQP mandated body to witness the qualification testing activity, conducted at the manufacturers facility, whilst the mandated body sits remotely.

Following the introduction of national and international travel restrictions brought on by the COVID-19 pandemic, the ability to conduct in-person witness testing of standard parts qualification activities has been severely hampered.

As a means to ensure continued industry support and provide a degree of sustainability for those manufacturers engaged in Aerospace fasteners production, it has become necessary to develop a method whereby manufacturers can continue to gain qualification for ASPQP standard parts, when it is not possible for the mandated body to travel and satisfy the requirements of TS202 for witness testing.

A number of SAE ITC ASPQP witnessed qualifications have been conducted remotely, and this document sets out to capture the lessons learnt from those testing activities, furthermore it will present manufacturers with clear guidance on the level of infrastructure support required for an ASPQP mandated body with sufficient confidence to grant acceptance of the qualification testing activity.

Remote witness testing shall only be considered when travel restrictions are in effect, or in exceptional circumstances and shall be at the discretion of the SAE ITC ASPQP, in person witness testing at the manufacturers' facilities shall recommence when such restrictions are lifted.

THE USE OF REMOTE WITNESS TESTING ACCEPTANCE CRITERIA

Remote qualification witness testing shall only be conducted with manufacturers currently approved in the ASPQP, TS200 database (<https://ts200.sae-itc.org/>) that are currently producing similar qualified parts. Requests for qualification from new manufacturers will be deferred until travel and visits can re-commence.

MINIMUM REQUIREMENTS

- All tests shall be performed in accordance with the technical specifications and standards component definition and must be witnessed by the mandated body, except where agreed between the manufacturer and the mandated body.
- The qualification test programme is to be approved between the mandated body and the manufacturer prior to any remote qualification testing activity.
- Where possible, preliminary testing should be carried out by the manufacturer and the results sent to the mandated body prior to any formal witness testing.
- Only live video stream shall be accepted for all tests required by the Technical Specification and standards component definition. All testing shall be agreed between the mandated body and the manufacturer. See slide 7 for video and audio requirements.
- Digital measuring equipment should be used where possible; dial types are difficult to read via video link due to glare and may introduce parallax errors. If dial types are used, photographic evidence may be required for each measurement if it is difficult to take the readings via the video link.
- Metallurgy requirements must be carried out by an independent ISO17025 approved third party laboratory e.g. Westmorelands, Elements etc and shall include pictures of grain structure and forging flow lines where applicable.

MINIMUM REQUIREMENTS - CONTINUED

- A schedule of work shall be confirmed with the mandated body prior to the qualification activity taking place. In the interest of Health and Safety, the schedule shall recognise the time the mandated body will be sat reviewing the live feed and shall include regular breaks or split the testing into blocks of time no longer than 2 hours.
- Photos of calibration certificates/stickers to verify equipment is in calibration shall be supplied to the mandated body upon request.
- Footage/images of setting up the test equipment must be viewed prior to the testing activity.
- As all required testing **must** be witnessed by the mandated body, this may require cameras to be moved to other areas of the facility i.e. for dimensional inspection, tensile or vibration etc. so the manufacturer shall take account of this when selecting a suitable video/audio system.

MINIMUM REQUIREMENTS FOR VIDEO AND AUDIO EQUIPMENT

- A minimum of 3 live feed cameras shall be used for the qualification testing that can be viewed simultaneously. These shall:-
 - Show the test engineer and the testing activity.
 - Be focused on the test samples to ensure the correct sample is being tested.
 - Be used as required by the mandated body or manufacturer to further enhance the qualification activity.
- Note: Qualification testing using video link with 1 camera has been found to be lacking due to the limited fields of view that this provides.
- Video resolution shall allow the mandated body to easily read the measuring equipment readings.
 - Audio shall be clear and allow 2 way conversations between the mandated body and the test engineer performing the tests.
- Note: A lag between the video and audio has been experienced with previous qualification activities, meaning the testing process can take much longer than expected. This must be taken into account when planning the testing schedule or mitigated by the video/audio systems used.
- The video and audio software shall be agreed between the mandated body and the manufacturer. Suggestions are Teams, Skype, Zoom, WebEx or CCTV system.
 - A trial of the video and audio system selected shall be conducted prior to any formal qualification activity to verify:
 - The video shall be live feed and not pre-recorded.
 - The operator has the correct level of training and understands the testing process.
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REQUIREMENTS – AFTER TESTING

- Where a nut is being tested, after testing, all samples shall be submitted for Fluorescent Penetrant Inspection (FPI) with the results being communicated to the mandated body for inclusion in their report.
- All supporting documents (Material Release Cert, Manufacturing Route etc) shall be provided to the mandated body in the usual manner for inclusion in the qualification report.
- Where possible print outs of the test results are required for retention on file.
- All qualification activity will be charged in the same manner as for a full witness visit, but shall only consist of technical time, data collation and report writing

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