

TECHNICAL SPECIFICATION

No. TS202™

QUALIFICATION TEST REQUIREMENTS & PROCEDURES FOR AEROSPACE INDUSTRY STANDARD PARTS



RATIONALE

Thirteenth issue of Technical Spec.
Updated to latest SAE ITC format to be compatible for use on new SAE ITC TSC website for free download.
For full details of changes, refer to supplementary SAE ITC Amendment Record document TS202-AR.

To place a document order :

Tel from USA & Canada : 877 606 7323
Tel from outside USA : +1 724 772 7545
Fax : +1 724 776 0790
Email : CustomerService@sae.org
<http://www.itc.sae.org>

SAE ITC web address :

SAE ITC values your input. To provide feedback on this document, please visit :
<http://standards.sae.org/TS202-13>

Issued by: Technical Standards Committee (Aerospace)
SAE Industry Technologies Consortia (ITC)
Registered No. 3916053 (USA)

© 2017 SAE ITC.

AVA Documents
Document Sharing Hub
Issue 13 August 2017

**SAE INDUSTRY TECHNOLOGIES CONSORTIA
AEROSPACE STANDARDS AND PART QUALIFICATION PROGRAM**

FOREWORD

On the 1st January 2015 the SAE Industry Technologies Consortia (SAE ITC) acquired the ADS Aerospace Standards, previously known as the Society of British Aerospace Companies (SBAC) Aerospace Standards. The SAE ITC established in 2003 operates as a trade association as part of the SAE International Enterprise, providing a unique framework serving the automotive, aerospace and commercial vehicle sectors. Clients include private companies, government agencies, individuals and trade associations. Building consensus and breakthrough barriers to achieve solutions, and the ways by which those solutions take shape are tailored to each client's individual needs.

The legal obligations and copyright authority of all Aerospace Standards that were issued by the ADS Group Limited are therefore assigned / transferred to the SAE ITC.

These Standards are produced by the SAE ITC with the assistance of, and for the benefit of the Aerospace Industry, as part of a continuous programme of Standardisation for Aerospace application under the control of the Technical Standards Committee (TSC) of the SAE ITC.

SAE ITC Standards are published as part of the series of SAE ITC Aerospace Industry Standards, and where appropriate, additional manufacturing and inspection requirements are issued as Reference Sheets (RS) or Technical Specifications (TS). It is the responsibility of those using or specifying a Standard to ensure the product, process, or manufacturer so used or specified, is appropriate for the task or role in question. The SAE ITC wishes to draw special attention to the fact Technical Specifications (TS) include testing and procedures by which a user or Design Authority can establish whether a particular manufacturer, *prima facie*, has the capability to produce hardware in accordance with the appropriate standards and related specifications.

The SAE ITC, its servants, or representatives accept no responsibility for the continued quality of hardware items produced against the relevant drawings and specifications; this responsibility remains with the user.

Whilst the SAE ITC takes all reasonable care in the preparation of its Standards, neither the SAE ITC, its officers, employees, servants, agents or representatives, shall have any responsibility or liability whatsoever with respect to any act or omission (whether negligent or not) of whatsoever nature, or in connection with the preparation of the Standards or any part thereof. These responsibilities are those of the user or Design Authority. Users of SAE ITC Standards agree that any such liability on the part of the SAE ITC is excluded to the maximum extent permitted by law. SAE ITC Standards may be changed from time to time, and both users and manufacturers of these parts should ensure they are in possession of the latest issue of the Standards and supporting documentation before adoption or the commencement of production.

It is recommended that Technical Specification TS260, Metallic Materials List of Alternative Material Standards, be consulted prior to manufacture of SAE ITC products.

Each Standard is a facsimile or electronic reproduction of a master drawing, and therefore, any outline view scales stated are not necessarily reproduced accurately. A Master Index of all SAE ITC Aerospace Standards is published separately on the SAE ITC website.

All references to Standards include reference to RS and TS publications.

Details of this and any further information can be obtained from the SAE ITC.

SAE Industry Technologies Consortia provides that this standard is published by SAE ITC to advance the state of technical and engineering sciences. The use of this standard is entirely voluntary and this applicability and suitability for any particular use, including any patent infringement arising therefrom, is the sole responsibility of the user.

© 2017 SAE ITC.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without prior written permission of SAE ITC.

CONTENTS

Title Page
Foreword
Contents

SECTIONS

1. Scope
2. Normative References
3. Definition of Terms
4. Qualification Procedure
5. Qualification Costs and Charges

APPENDICES

- A. Guidelines for the TSC appointed Mandated Body Representative
- B. Example of an SAE ITC Certificate of Qualification

1. SCOPE

- 1.1 This specification defines the rules & procedures to be followed by a manufacturer wishing to become approved to manufacture SAE ITC standard parts that require qualification approval via the SAE ITC Technical Standards Committee (TSC).
- 1.2 TS202 shall be invoked on a Product Standard which requires testing in accordance with a Technical Specification, by selecting YES as shown in Figure 1.

For older Product Standard drawings i.e. those with previous incumbent companies SBAC & ADS formats, qualification may have been invoked by a drawing note.

Products to this standard require Qualification Approval in accordance with TS202.			YES/NO		
Sponsor @Name (Company)@		Approved by SAE ITC TSC @Chairman (Company)@			
 An SAE International Affiliate SAE Aerospace Standards Europe, 1 York Street, London W1U 6PA, United Kingdom Registered No. 3916053 (USA)	Title @title@	Standard No. AS@™			
		Issue #	Date of Iss dd-xxx-yyyy	Sheet 1 of x	
		Scale NTS	First Issued dd-xxx-yyyy	A4	
Prepared by the Technical Standards Committee (Aerospace) of the SAE ITC. © 20xx SAE ITC. Issued in accordance with the terms of the FOREWORD as stated in this Standard.					

Form : SAEITC A4 Drg Frame iss. 7

Figure 1 – Extract from Product Standard title box, showing how TS202 is invoked.

- 1.3 Each part manufacturer & the parts they are approved to manufacture, shall be listed in SAE ITC TS200.
- 1.4 SAE ITC Product Standards which require qualification approval, shall specify a Technical Specification that defines the qualification & production acceptance testing which are required to be performed. This ensures the minimum quality & performance requirements are achieved for the parts, regardless of manufacturer.
- 1.5 Parts produced by different manufacturers shall be qualified to the same Product Standard. Irrespective of manufacturing source, each part shall be fully interchangeable, based upon production batch acceptance criteria being achieved in accordance with the Technical Specification requirements defined by that Product Standard.
- 1.6 Manufacturers who apply to the TSC to obtain part qualification shall have a current quality management system in accordance with EN9100 or AS9100, awarded by an appropriate accredited organisation & shall be registered on the IAQG Oasis database.
- 1.7 A Mandated Body as appointed by the TSC shall witness qualification testing in accordance with the Product Standard & Technical Specification requirements, following the rules & procedures invoked by this Technical Specification.
- 1.8 The Qualification testing requirements are part of the SAE ITC programme of voluntary standardisation & depend upon the understanding of both the manufacturer & the user representative(s) that any information made available during these evaluations shall remain strictly confidential. Information shall **ONLY** be disclosed to the Mandated Body carrying out the qualification & members of the TSC QMB (Qualification Management Board).

2. NORMATIVE REFERENCES

- 2.1 The following documents, in whole or in part, are normatively referenced in this Technical Specification & are indispensable for its application. For dated / revision listed references, only the issue cited applies. For undated / revision listed references, the latest issue of the referenced document (including any amendments) applies.

2.1.1 **SAE Industry Technologies Consortia (ITC)** – available at no charge from
<http://eatsc.saeitc.org/>

TS200	Qualified Manufacturers for SAE ITC Aerospace Industry Standard Parts.
TS201	Method Change Approval for Qualified Parts listed in TS200
Qual Form 1	Application for Product Certification
Qual Form 2	Product Qualification Testing - Summary & Recommendation
Qual Form 3	Manufacturing Change Request (MCR)
Qual Form 4	Application for Renewal of Product Certification

2.1.2 **European Committee for Standardization (CEN) / SAE Aerospace (SAE International)**

EN / AS9100	Quality Management Systems - Requirements for Aviation, Space & Defence Organizations
-------------	---

2.1.3 **International Aerospace Quality Group (IAQG)**

IAQG Oasis	Online Aerospace Supplier Information System
------------	--

3. DEFINITION OF TERMS

3.1 Analogy

The act of granting qualification to a part based on testing that has already been carried out & approval given to a similar part. The Manufacturing Route of the new part shall be substantially the same as the Manufacturing Route of the part already approved. Analogy can also be claimed against a specific test or tests selected from the Technical Specification within a single test program of a given Product Standard, when this same test has already been carried on another Product Standard. This is particularly common practice for Electrical Connectors & Cables.

3.2 Mandated Body

The person(s) authorised by the SAE ITC TSC to oversee & witness the qualification testing.

3.3 Manufacturing Route

Lists in order all the individual manufacturing operations required to produce the part or feature in question.

3.4 Sealed Manufacturing Route

Is an officially stamped (by the SAE ITC TSC) & therefore a sealed presentation of the Manufacturing Route.

3.5 QUAL FORM 1 – Application for Product Certification

The form required to be completed by a manufacturer when applying to the SAE ITC TSC for qualification of their standard parts.

3.6 QUAL FORM 2 – Product Qualification Testing – Summary & Recommendation

The form required to be completed by a manufacturer & then approved by the Mandated Body on completion of the part qualification. The form is submitted to the SAE ITC TSC QMB by the Mandated Body with their recommendation. The SAE ITC TSC Chairman's signature endorses & defines the opinion & recommendations of the committee regarding QUAL FORM 1. The form shall then be forwarded to the manufacturer by the TSC.

3.7 QUAL FORM 3 – Manufacturing Change Request (MCR) per SAE ITC TS201.

The form required to be completed by a manufacturer to submit to the SAE ITC TSC any proposed changes to their Sealed Manufacturing Route.

3.8 QUAL FORM 4 – Application for Renewal of Product Certification

The form required to be completed by a manufacturer when applying for the renewal of their part certification. It shall be submitted at least 90 days prior to their existing certificate(s) expiry date, allowing time for the SAE ITC TSC to consider the application.

3.9 Product Standard

A Product Standard drawing published by the SAE ITC TSC bearing the prefix AS, AGS or ESC to define the part requirements.

3.10 Qualification Testing

Tests performed on the manufactured part to confirm it meets the requirements of the relevant Technical Specification as defined by its Product Standard.

3.11 Qualification Test

A test carried out in the presence of a Mandated Body or at an independent test house (see clause 3.20) as required by the part's Technical Specification.

3.12 OASIS Database

The IAQG's OASIS Database can be accessed through this website <http://www.iagg.org/>. It lists all companies that have a current EN / AS9100 quality system approval certification.

3.13 SAE ITC TSC Website

The TSC's website <http://eatssc.saeitc.org/> (not to be confused with the SAE ITC website as stated on the front sheet of this document) provides information, blank standard forms & certain free specifications to the Aerospace Industry.

3.14 SAE ITC Technical Standards Committee (TSC)

The committee responsible for managing Product Standard development & Part Qualification.

3.15 SAE ITC Qualification Management Board (QMB)

The QMB shall comprise of the TSC Chairman, TSC Vice Chairman & a minimum of at least one other OEM representative, who has recognised expertise in part qualification & / or Quality Management experience. The TSC Secretariat is also a full