

# **Standards Development Organization (SDO) Guidelines for Preparing Mandatory Qualified Product Lists (QPL) to Standards and Specifications**

## **Scope**

This document provides guidelines for preparing mandatory qualification to requirements in standards and technical specifications. Mandatory qualification requires the manufacturer to be listed or approved for listing on the applicable QPL.

## **Purpose of Qualification**

Qualification is to assure that product meets all technical requirements of the standards and technical specifications prior to, and independent of, any procurement.

## **Reference Documents**

EN3042	Aerospace Series, Quality Assurance, EN Aerospace Products, Qualification Procedure
PD2000	Procedures for an Industry Qualified Product Management Process

## **Determine the Need for Qualification**

1. **Restrictions.** The technical committee shall not include qualification in a standard or technical specification when any one of the following conditions apply:
  - a. When only one manufacturer has the ability to qualify and restriction of trade is intended.
  - b. When the previous editions of a specification did not include a qualification requirement, unless requirements for such qualification can be justified.
  - c. For material specifications which have a standardized, industry-accepted chemical formulation and processing (e.g. 2024 aluminum extrusions, 6Al-4V titanium sheet).

2. **Justification.** Prior to inclusion in the applicable standard or technical specification, the technical committee shall use these guidelines to establish the necessity for a qualification requirement, which results in the establishment of a QPL. Any one of the following situations may be used to justify the qualification requirement:
  - a. The standard or technical specification invokes unique technical requirements which must be satisfied at the time of qualification, but which are not repeated as acceptance tests during routine production.
  - b. The time required to conduct one or more of those tests identified in the applicable standard or technical specification as exclusive to qualification exceeds 30 days (720 hours).
  - c. Qualification tests are expensive or require special equipment not commonly available.
  - d. Qualification tests for survival or emergency life saving equipment.
  - e. Changes to material formulations will impact the product performance.
3. **Decision Matrix.** The restrictions and justifications for qualification inclusion in standards and technical specifications are summarized in Figure 1. This figure combines the process flow and the decision matrix.

### **Preparing a Standard and Technical Specification with a Qualification Requirement**

Once the requirement for a qualification has been justified, the technical committee should include all of the following within the body of the standard or technical specification:

- State that the standard or technical specification or proposed revision requires qualification
- Define qualification tests and evaluation criteria
- Specify who performs the tests, i.e. supplier, user or independent laboratory
- Set forth criteria for retention of qualification status including the time interval for requalification during which one of the following should occur:
  1. Supplier letter certifying that the product has not been changed and meets all qualification requirements
  2. Partial requalification (specify tests)
  3. Full requalification

## **Qualification Statements for Standards and Technical Specifications**

A template of qualification statements to be included into each standard or technical specification is proposed to avoid confusion and achieve standardization. The section numbers refer to those used in the SAE AMSs (Aerospace Materials Specification).

Section 3 - Qualified Product/Materials List:

3.X.1 Materials or Products (Or generic name of item\*) that qualify are placed on a Qualified Product or Material list maintained by the QPL publisher. To qualify, the product or material shall meet the tests specified in section X.XX performed in accordance with the provisions of section 8.X.

3.X.2 Qualification shall be in accordance with the provisions of 3.X.4.

3.X.3 Recertification of qualification is required every (specify) year(s).

(Choose one of the following statements for insertion):

- a) Recertification consists of a letter certifying that there has been no changes in the material ingredients, manufacturing processes or site of production since (generic name of item\*) qualification and that the product meets all of the requirements of this specification.
- b) Recertification consists of a letter certifying that there has been no changes in the material ingredients, manufacturing processes or site of production since the (generic name of item\*) meets all of the requirements of this specification together with a test report (specify testing source if applicable) showing compliance with the following requirements (specify the tests to be conducted).
- c) Recertification consists of a complete qualification test in accordance with the provisions of 3.X.6.

\*i.e. fluid system components, sealants, seals, etc.

3.X.4 Qualification testing, review of test results, approval, reapproval and recertification of qualification for QPL listing shall be in accordance with PD2000 or equivalent and the instructions from the responsible QPL agency.

3.X.5 Materials or Products (Or generic name of item\*) furnished to this specification will be listed or approved for listing on the qualified products list (QPL) in accordance with the provisions of section 8.X.

Changes in product formulation raw material, basic methods of manufacturer, or plant site, for qualified (generic name of item\*), listed or approved for listing on the QPL are not permitted without first notifying the responsible QPL agency to assess the need for requalification and/or revision to the QPL.

## Section 4 - Quality Assurance Provisions

### 4.4 Approval

*The manufacturer shall use ingredients, manufacturing procedures, and methods of inspection on production (generic name of item\*) which are the same as those used on the qualification sample. If it is necessary to make changes in ingredients, type of equipment for processing, or manufacturing procedures, the manufacturer shall submit a statement of the proposed changes for reapproval. When requested, a sample of the (generic name of item\*) shall be submitted in accordance with the provisions of section 3.X.4. Product manufactured using the revised procedure shall not be shipped prior to reapproval of qualification in writing.*

## Section 8 - Notes:

### 8.X Qualification of (generic name of item\*):

8.X.1 *Contract awards requiring qualification to this specification will be made only for (generic name of item\*) which are approved for inclusion in the applicable qualified products list (QPL). Manufacturers are urged to arrange to have their product tested by (specify testing source, i.e. user, independent laboratory, etc.) for qualification so they may be eligible to be awarded contracts or orders for (generic name of item\*) covered by this specification. Information pertaining to qualification may be obtained from the responsible QPL agency identified in Section 8.Y.*

### 8.Y Qualified Product List

8.Y.1 *The Qualified Products List for this specification is (see Note A).*

8.Y.2 *A responsible agency for the QPL is the Performance Review Institute, 161 Thornhill Road, Warrendale PA 15086-7527, Phone 724-772-1616, Fax 724-772-1699, website address [www.pri.sae.org](http://www.pri.sae.org).*

NOTE A: Insert proper organization identification for the agency selected to maintain the QPL.

Figure 1. Decision Matrix for Justifying Mandatory Qualification

