



**GERMAN FASTENERS ASSOCIATION**  
MANUFACTURERS OF MECHANICAL FASTENERS

**DSV - Information**

**Requirements**  
**for a requalification test in accordance to**  
**ISO TS 16949 – 8.2.4.1**

**Stand: March 2015**

## 1. The Facts

Chapter 8.2.4.1 of the quality management system set out in ISO TS 16949 requires the performance of a test for requalification. Requalification as required by ISO TS 16949 means the regular and planned repetition of the complete examination of the items that were the subject of the qualification.

Compliance with this requirement regularly leads to discussions between members of the Deutscher Schraubenverband e.V. and their clients about the manner of carrying out such a test as well as about compliance with individual procedures introduced in the context of certification or of a client audit.

In addition to this, the costs of requalification tests, in terms of time and money, are not insignificant.

This DSV information sheet is intended to provide practical experience in dealing with the requirements for requalification tests as well as with the implementation of such requirements.

## 2. Experiences with the Requalification Test

Usually requalification tests are to be planned and carried out regularly for active products unless customer-specific requirements stipulate different time frames. The requalification test is an element of the production control plan (CP) and is thereby defined as a method of control.

Elements of a requalification test are:

- Complete measurement of geometric characteristics
- Evaluation of product-specific form and position tolerances
- Conduct of mechanical technological tests
- Review of the documentation with regard to the requirements of the individual production steps (e.g. identification of critical attributes and compliance therewith,  $C_{pK}$  values, etc.)

### 3. Procedures for carrying out a requalification test

The following procedure for performing a requalification test is common and accepted in practice:

	Process	Implementation	Comments
1	Creation of product families / product groups (e.g. engine screws, chassis screws)	Variation of item production sequences, for example: Wire acquisition - pressing - rolling - tempering - surface coating - packaging	<ul style="list-style-type: none"> <li>All manufacturing sequences must be taken into account</li> </ul>
2	Cycle	Inclusion in the audit plan: e.g. 1 x annually per product family/product group	-
3	Test Execution	<ul style="list-style-type: none"> <li>Data from mechanical production (e.g. Q - System)</li> <li>Tensile test report / hardness test report, test report of the failure moment from the tempering process, order-related</li> <li>Results of the metallographic examination (structure),</li> <li>Acceptance test certificates 3.1 for primary material</li> <li>Results of periodic reference tests, e.g. corrosion test, friction coefficients</li> <li>Measurement report of layer thickness, order-related</li> <li>Review of documentation to ensure client-specific requirements, if any, have been met</li> </ul>	<ul style="list-style-type: none"> <li>All measurements of the article and their tolerances should be reflected in the Q-System (first piece inspection and production testing)</li> <li>Consistent identification (SC/CC/D-Part/TLD-Parts) in all production-related documents</li> </ul>
4	Documentation	<ul style="list-style-type: none"> <li>Compilation of the results of logged data (e.g. CAQ printout of measurements, laboratory test reports)</li> <li>Cover sheet relating to the product family / product group (explicitly naming all affected items being requalified, if applicable)</li> </ul>	-
5	Publication of the results of the requalification test	<ul style="list-style-type: none"> <li>Access or communication only at the request of the client</li> </ul>	<ul style="list-style-type: none"> <li>The client's request should contain a delivery note number / batch number in order to allow traceability</li> </ul>
6	Description of the execution of the requalification test	<ul style="list-style-type: none"> <li>Flow diagram relating to the individual sources</li> </ul>	-
7	Special agreements as to cycle, number of requalifications or others at additional cost, if applicable; implement in the flow diagram		
8	Integration in the production control plan	<ul style="list-style-type: none"> <li>In accordance with the description of the execution of the requalification test</li> </ul>	-