**WORK INSTRUCTION AND INSPECTION**

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| **Document:** | WII 14.13 |
| **Revision:** | 3 |
| **Responsible:** | Manager of Purchasing/Supplier Quality |
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| **Title:** | Qualification and Selection of Component Suppliers |

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| **Organization Process:** | SP 14 - Purchasing and Procurement |

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| **Document** |

**1 OBJECTIVE**

Define the methodology of qualification and selection of components suppliers.

**2 SCOPE**

Applies to all component vendors.

**3 DEFINITIONS**

APQP *Advanced Product Quality Planning*

*A-sample* Component with the shape and material representative of the intended solution for the production series, but manufactured from a prototype technology, not representative of the serial production solution. For example, stator blades with the material and geometry provided for the series production, manufactured by laser cutting, instead of stamping in a progressive tool.

BOM *Bill of Material*. Applies to products or by-products in series production or at any stage of development.

*B-sample* Component produced from a prototype tool with the same technology, material and design provided for the production series.

*Bulk Material* Any element, part of a BOM, whose unit price is defined in monetary units per unit of mass or volume.

Components Any element that is part of a BOM. Included are off-the-shelf parts, Bulk Materials and customized parts.

*C-sample* Component produced from tools and production equipment series.

CQI Audit of self assessment to special processes according to AIAG benchmarks.

*Customized Part* Any element, part of BOM, specifically designed for or by the company.

Stages of

Development A-samples (or mock-up samples), B-samples (or prototypes) and C-samples (or series production)

KPC *Key Product Characteristic*

NDA *Non-Disclosure Agreement*

*Off-the-Shelf* Any element, part of BOM, which, not falling under the Bulk Materials, is not specifically designed for the company. They are commonly referred to as catalog components.

PDLS *Product Development Launch System*

PPAP *Production Part Approval Process*

PSW *Part Submission Warranty*

RFQ *Request for Quotation*

The supplier qualification process aims to create or update the list of potential suppliers qualified by Component family or by Component Supplier Qualification. It is not necessarily related to a specific development project.

The vendor selection process aims to select one or more suppliers for the production series (C-samples in the case of automotive industry) or prototypes (B-samples, in the case of automotive industry), for a specific Component and project. Excluded from this process are suppliers of Mock-Up samples and A-samples.

**RESPONSIBILITIES**

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|  | Quality Eng. | Supplier Qualtity/Supplier Development  Advanced Purchasing | Engineering  (development center) | Logistics and Procurement | Operations/VST | Quality  (Incoming) |
| Qualification of potential suppliers of components | P | **R** | P |  |  |  |
| Creation and maintenance of the list of qualified suppliers |  | **R** |  |  |  |  |
| Selection of Components Suppliers | **R** | **R** | **R** | **R** | **R** | **R** |
| Creation and updating of the supplier selection matrix - WII14.05 |  | **R** |  |  |  |  |
| Submitting specific customer requirements |  | **R** |  |  |  | P |
| Submission of RFQs and analysis of supplier quotations |  | **R** | P |  |  |  |
| Approval of Components Suppliers | R | **R** |  |  |  |  |

*R - Responsible; P - Participate*

**4 PROCEDURE**

***4.1 Qualification of Potential Component Suppliers***

The component vendor qualification process aims to create or update the list of potential suppliers, by Component or technology family. This list of potential suppliers is organized in the Quality Approved Supplier Database as Potential Component Supplier Qualifications, assigning each supplier, on a given date, the status of "qualified" or "unqualified". The status of "qualified" is valid for a period of 3 years from the date on which this qualification occurred, after which, if the supplier is not selected, it will become "unqualified", having once again assessed according to the qualification criteria in force.

The criteria set out in the Quality Approved Supplier Database and Potential Component Supplier Qualification Criteria are assigned as Potential, Qualified or Unapproved based on the scoring set within each facilities system.

In addition to the eventual approval of the supplier, in support of the subsequent selection process, the supplier is given a risk score, calculated on the basis of the score obtained in each of the qualification criteria.

One of the qualification criteria is the result of the visit to the supplier's location of manufacturing. In cases where the manufacturing process involves the involvement of different manufacturing units of the supplier, the visit should include those units also. The visit follows the checklist - Visit Check-List for Potential Component Supplier Qualification, or Supplier Audit Assessment where each question is valued. In the end, an overall score is awarded according to the criteria defined in the template itself. The timing of the visit is defined by the Supplier Quality & Advanced Purchasing Department, and it is normal that it only takes place after several contacts have been established with the supplier, in order to evaluate whether the supplier has the necessary technical skills to produce the Component.

Another qualification criterion is the verification of the environmental certification, which is not a mandatory requirement, it allows the supplier to obtain a score of 2 in its criterion. However, if the supplier does not have any environmental certification, obtaining the score of 1, he is obliged to respond to the questionnaire, otherwise he can not be qualified.

In the case of suppliers of Components Bulk Materials, the visit to the supplier's premises is not mandatory for their qualification. However, in substitution for the visit, the supplier should respond to the questionnaire - Bulk Materials Supplier Questionnaire. The qualification of suppliers of Bulk Materials can only be completed after a first experimental evaluation of the characteristics of the product provided and with positive results.

In the case of suppliers of Off-the-Shelf Components, a visit to the supplier's premises is not mandatory, if the supplier is already a serial producer of a product of the same family of Components in question, there has been a retroactive date of qualification or requalification.

Qualification of suppliers of components of the client's property is not done, as these are indicated by the client.

The process for initiating the qualification of a supplier goes through a request for quotation, RFQ, which follows that described in WII 14.12. In this process the supplier receives from Allied Motion specific documents defined in the RFQ, some of these documents being returned signed within the requested deadlines.

**4.2 Component Supplier Selection**

The selection of Components suppliers is made based on the selection document for the specific project, defined according to - Component Supplier Selection.

Only qualified suppliers can be selected for series production (or C-samples, in the case of the automotive industry). However, suppliers that are not yet qualified may integrate the selection document duly classified as such.

The component vendor selection process aims to select one or more suppliers for the production series (C-samples, in the case of the automotive industry) or another project development phase (prototypes or B-samples) for a Component and specific projects. Excluded from this process are suppliers of Mock-Up samples and A-samples.

Vendors of Selected Components for Series Production are registered in the list of approved vendors for a given component, and this list is maintained in the electronic database.

**4.2.1 Selection of Components Suppliers for the Automotive Industry - Customized Part and Off-the-Shelf**

The selection of suppliers of components of the customer's property is not made, insofar as these are indicated by the same.

**4.2.1.1 *B-samples***

The selection is made by a multidisciplinary team and the selection document should contain a comparison between the different quotations of the suppliers. Non-qualified suppliers can be selected because only the onsite audit and visit report is missing.

**4.2.1.2 *C samples***

The selection is made by a multidisciplinary team and the selection document should contain:

* a comparison of the different quotes of suppliers;
* the classification obtained in the qualification process;
* the classification obtained in the supplier's visit report (when applicable);
* the status of approval of the quality documents whose filling and / or signature has been requested from the supplier;
* the risk classification of each supplier's selection for a specific project and / or component;
* the fulfillment of specific customer requirements.

Only suppliers whose classification obtained in the visit report is A, B or C can be selected.

Suppliers for whom there is no visit report or the classification obtained in it is E, can not be selected.

**4.2.2 Selection of Component Suppliers for the Non-Automotive Industry - Customized Part and Off-the-Shelf**

The selection of each supplier is recorded in the selection document.

**4.2.2.1 Prototypes**

The selection is made by the Advanced Purchasing department and the selection document should contain a comparison between the different quotations of the suppliers. It is the intent and desire to utilize those suppliers who have previously been qualified and utilized for production components and services.

**4.2.2.2 Production Series**

The selection is made by a multidisciplinary team and the selection document should contain:

a comparison between the different quotes of suppliers;

* the classification obtained in the qualification process;
* the classification obtained in the supplier's visit report (when applicable);
* the status of approval of the quality documents whose filling and / or signature has been requested from the supplier;
* the fulfillment of specific customer requirements.

Suppliers whose rating on the visit report is A, B, C, or D can be selected.

Suppliers for whom there is no visit report or the classification obtained in it is E, can not be selected.

**4.2.3 Selection of Component Suppliers Bulk Materials**

In the case of suppliers of Bulk Materials, only qualified suppliers can be selected and when experimental tests with positive results are carried out, in the context of the final product or project for which the selection is intended.

The selection of each supplier is recorded in the selection document.

**4.3 Approval of Component Suppliers**

Supplier approval is done by a cross functional team that may include, but not limited to, engineering, program management, supplier quality and purchasing departments.

The supplier passes to the approved state when integrated into the list of approved suppliers for a given serial production Component. This list is maintained in the company's electronic database system.

Following the approval of the supplier, there is also the transfer of management responsibility from the Cross Functional Team to the Quality Department.

This transfer of responsibility may only occur when the following conditions are met:

* PSW / PPAP is approved by the Supplier Quality/Supplier Development and VST (applicable only in the automotive industry);
* the actions of the supplier associated with the approval of PPAP in the case of the automotive industry or of the first series samples in the case of the non-automotive industry are considered closed by the Cross Functional Team.
* the component is created as a valued item in the company’s electronic database system, that is, it has a reference that corresponds to the number of its design and without the “P” section; the supplier is part of the list of suppliers approved in the electronic database system for the component in question.



**Revision Log**

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| Revision | Description | Authorization | Date |
| 1 | Initial Release | Steve Strickland | 11/1/2017 |
| 2 | Updated process and added process flow | Joan Danley | 5/18/2020 |
| 3 | Reworded Section 4.3 to define cross functional team to match SPM 12.02 and amended flow to match | Billy Rahaim/Karlee Klawon/Alex Rossbach/Beth Arthur | 9/9/2020 |