Advanced Product Quality Planning

Note:

The most significant changes compared with the previous version of January 2013 are displayed in green text below.

# Purpose

In order to develop and produce a new product that meets the customer’s quality requirements, systematic advanced quality planning is required. The *Advanced Product Quality Planning* procedure (*APQP*) accompanies the development of a product during the customer’s Product Development Process (see *Appendix 1*) and is intended to ensure that the supplier meets all of the customer's requirements on time.

# Responsibility

The supplier is fully responsible for the timely planning, execution and documentation of all activities carried out within the framework of *Advanced Product Quality Planning (APQP).* He specifies persons in his organization who are responsible for the individual activities and stipulates the corresponding deadlines. On the customer’s side, the technical departments (depending on their area of responsibility) or designated project supervisors are responsible for cooperation with the supplier.

In order that development activities can be carried out, it is necessary to define the targets for the project and the communication channels between the parties involved (customer, supplier and subcontractors). To ensure continuous monitoring of the project and adherence to the deadlines specified by the customer, the supplier must set milestones at which the defined activities must be completed.

# Risk Level and requirements

The demands on *Advanced Product Quality Planning* are divided up into three different Risk Levels (RL) by the customer, based on the risk involved:

**Standard requirement**

* Simplified project work (e. g. time scheduling)
* Project discussion(s) where required
* Sampling
* Process release on site, where required

**Medium requirement**

* Project work in acc. with *APQP* method
* *APQP Status Reports*
* Project discussion(s), where required
* Sampling
* Process release on site, where required

**Maximum requirement**

* Project work in acc. with *APQP* method
* *APQP Status Reports* (increased number)
* Project Review(s)
* Sampling
* Process release on-site

**RL 3**

**Standard product**

**RL 2**

**Medium risk**

**RL 1**

**Increased risk**

The supplier is informed of the Risk Level when the order is issued, at the latest. The customer may change the Risk Level during the course of the project as a result of unforeseen circumstances.

Should any requirements change during the course of the project, all affected documents, e. g. Control Plan, FMEA, process flow diagram etc., must be changed accordingly.

## Risk Level RL 1 – Increased risk

The supplier reports to the designated customer contact on his own responsibility using the *APQP Status Report* (see *QAA / S 296001-1, Appendix 3*):

* No later than four weeks after order confirmation
* At initial mass production sampling
* In good time in the event of problems (*APQP* status of an element is "yellow“ or "red“)
* On additional dates which have been agreed between customer and supplier on an individual basis within the framework of the project work.

The customer checks the progress of the project during project reviews held at either the supplier’s premises or the customer’s premises. Documents such as the Control Plan, FMEA, process flow chart etc. must be submitted as evidence.

The customer releases the mass production process after carrying out a process review at the supplier’s premises and, where necessary, at the subcontractor's premises. The date and scope of the on-site inspection are agreed between supplier and customer within the framework of the *APQP*.

## Risk Level RL 2 – Medium risk

The supplier reports to the designated customer contact on his own responsibility using the *APQP* *Status Report* (see *QAA / S 296001-1, Appendix 3)*:

* No later than four weeks after order confirmation
* At initial mass production sampling
* In good time in the event of problems (*APQP* status of an element is "yellow“ or "red“)

The customer can check the progress of the project during project reviews held at either the supplier’s premises or the customer’s premises. Documents such as the Control Plan, FMEA etc. must be submitted as evidence.

The customer can release the mass production process after carrying out a process review at the supplier’s premises and, where necessary, at the subcontractor’s premises. The date and scope of the on-site inspection are agreed between supplier and customer within the framework of the *APQP*.

## Risk Level RL 3 – Standard product

The supplier reports to the designated customer contact on an informal basis (without the use of the *APQP Status Report*):

* In good time in the event of problems

The customer can check the progress of the project during project discussions held at either the supplier’s premises or the customer's premises. Documents such as the Control Plan, FMEA etc. must be submitted as evidence.

# Monitoring project progress

The supplier must monitor the progress of the project independently and report to the customer on the basis of the Risk Level.

Following a request by our customer‘s contacts, the exchange of project-related information, such as the APQP project status for example, is to be managed via the internet marketplace *SupplyOn* using the web-based module *Project Management* (for more detailed information, please see *www.SupplyOn.com*).

In order to plan the project and monitor dates, the target dates for the individual *APQP* elements (see *Appendix 2*) must be entered in the *APQP Status Report* (see *Appendix 3*) at the start of the project. The actual dates are entered to document the completion of the elements.

If the date or individual elements are at risk of not being fulfilled, the supplier must introduce suitable corrective measures and monitor these on his own responsibility. A further course of action must be agreed jointly with the customer.

The status of the individual elements must be indicated in the *APQP Status Report* using the following colour codes:

|  |  |
| --- | --- |
| **Status** | **Meaning** |
| **Green** | * Date / quality of the element are not at risk
* Start of production is not at risk
 |
| **Yellow** | * Date / quality of the element are at risk
* Start of production is not at risk
* Appropriate corrective measures and responsible persons must be defined
 |
| **Red** | * Date / quality of the element will not be observed
* Start of production is at risk
* Appropriate corrective measures and responsible persons must be defined and agreed with the customer
 |

# Product development process

The customer’s Product Development Process (PDP) consists of consecutive phases that are separated by milestones. The current status of the project is reviewed when a milestone is reached. Additional activities must then be defined where necessary.

The procedure proposed by the customer is shown in *Appendix 1* and represents the foundation for handling the project on a joint and structured basis.

In specific cases, e. g. in the case of complex systems or at the request of the end customer, the customer can take the procedure *VDA* (*Verband der Automobilindustrie*) volume *"Maturity Level Assurance for New Parts"* as a base and agree this with the supplier.

# Applicable documents

**Applicable appendices to S 296001-1**(see *www.Schaeffler.de / Suppliers / Quality / Production Material*)

*Appendix 1 Product Development Process*

*Appendix 2 APQP Elements*

*Appendix 3 APQP Status Report*

*Appendix 4 Team Feasibility Commitment*

*Appendix 5 Capacity Confirmation*

**Applicable standards** (cited in *Appendix 2 – APQP Elements*)

Customer specific standards:

*S 102012-1 Technical drawings; Classification of characteristics / special required
 documentation*

*S 296001-2 Quality Assurance Agreement with Production Material Suppliers;
 Production Process and Product Release Procedure*