

We pioneer motion

# Advanced quality planning for suppliers

Basic principles



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# 1. Scope

This document describes the advanced quality planning of the externally supplied products and services at Schaeffler and is therefore addressed to all suppliers of the final product relevant products and services.

# 2. Purpose

In order to develop and produce a new product that meets the Schaeffler quality requirements, systematic advanced quality planning is required. The Advanced Quality Planning procedure considers the main requirements of APQP (Advanced Product Quality Planning) and Maturity Level Assurance for new Parts. It accompanies the development of a product during the Schaeffler Product Development Process (see chapter 7) and is intended to ensure that the supplier meets all of the Schaeffler requirements on time.

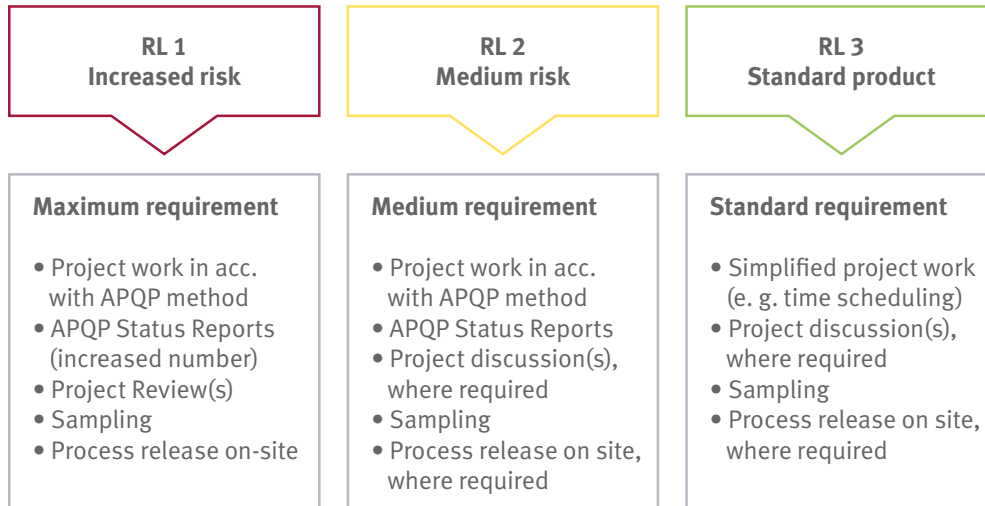
# 3. Responsibility

The supplier is fully responsible for the timely planning, execution and documentation of all activities carried out within the framework of Advanced Quality Planning. He specifies persons in his organization who are responsible for the individual activities and stipulates the corresponding deadlines. On the Schaeffler side, a designated project supervisor is responsible for cooperation with the supplier. Thereby, he is supported by the technical departments (depending on their area of responsibility).

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 (Schaeffler, supplier and subcontractors). To ensure continuous monitoring of the project and adherence to the deadlines specified by the customer, the supplier must set milestones to the elements defined by Schaeffler at which the defined activities must be completed.

# 4. Risk Level and requirements

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



The supplier is informed of the Risk Level when the order is issued, at the latest. Schaeffler 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.

#### 4.1 Risk Level RL 1 - increased risk

The supplier reports to the designated Schaeffler contact on his own responsibility using the APQP Status Report:

- 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 Schaeffler and supplier on an individual basis within the framework of the project work.

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

Schaeffler 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 Schaeffler within the framework of the APQP.

#### 4.2 Risk Level RL 2 - medium risk

The supplier reports to the designated Schaeffler contact on his own responsibility using the APQP Status Report:

- 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 Schaeffler and supplier on an individual basis within the framework of the project work.

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

Schaeffler 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 onsite inspection are agreed between supplier and Schaeffler within the framework of the APQP.

#### 4.3 Risk Level RL 3 - standard product

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

- In good time in the event of problems

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

# 5. Scope of quality advanced planning

The scope of the advance quality planning, i.e. the selection of the relevant elements, is determined based on the product complexity. The product complexity is evaluated by the Schaeffler project team, considering the relevance of e.g. electronics, software or independent product development.

The supplier will be notified of the scope using an APQP Status Report. The selected elements are then to be processed by the supplier in a timely manner. The content of the individual elements is specified in Appendix 1.

# 6. Monitoring project progress

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

Following a request by Schaeffler contact, 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](http://www.SupplyOn.com)).

In order to plan the project and monitor dates, the target dates for the individual APQP elements must be entered in the APQP Status Report 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 Schaeffler.

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

Status	Meaning
Green	<ul style="list-style-type: none"><li>• Date / quality of the element are not at risk</li><li>• Start of production is not at risk</li></ul>
Yellow	<ul style="list-style-type: none"><li>• Date / quality of the element are at risk</li><li>• Start of production is not at risk</li><li>• Appropriate corrective measures and responsible persons must be defined</li></ul>
Red	<ul style="list-style-type: none"><li>• Date / quality of the element will not be observed</li><li>• Start of production is at risk</li><li>• Appropriate corrective measures and responsible persons must be defined and agreed with Schaeffler</li></ul>



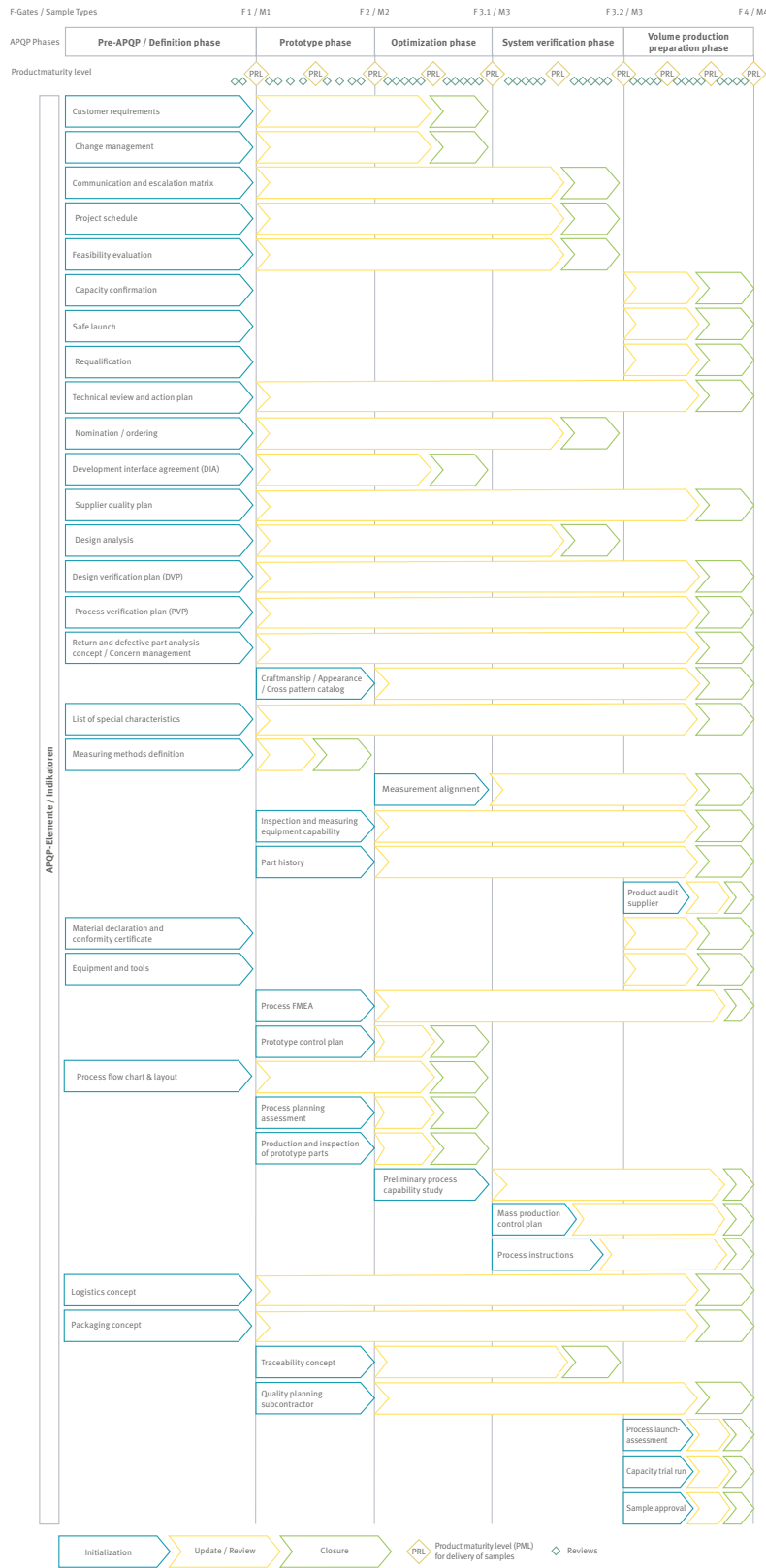
# 7. Product development process

The Schaeffler 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 used by Schaeffler is shown in picture 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, Schaeffler can take the procedure VDA (Verband der Automobilindustrie) volume "Maturity Level Assurance for New Parts" as a base and align this with the supplier.

### Product development process (PDP) / APQP with suppliers



Picture 1: APQP elements and example of the time flow (for the most complex products)