SCHERZINGER
PUMP TECHNOLOGY

QAA-1

Quality Assurance Guidelines – Advanced Product Quality Planning

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Purpose

Systematic advanced product quality planning is needed to develop and manufacture a new product which meets the customer's quality requirements. Advanced Product Quality Planning (*APQP*) supports the development of the product and should ensure that all customer requirements are met in a timely manner by the supplier.

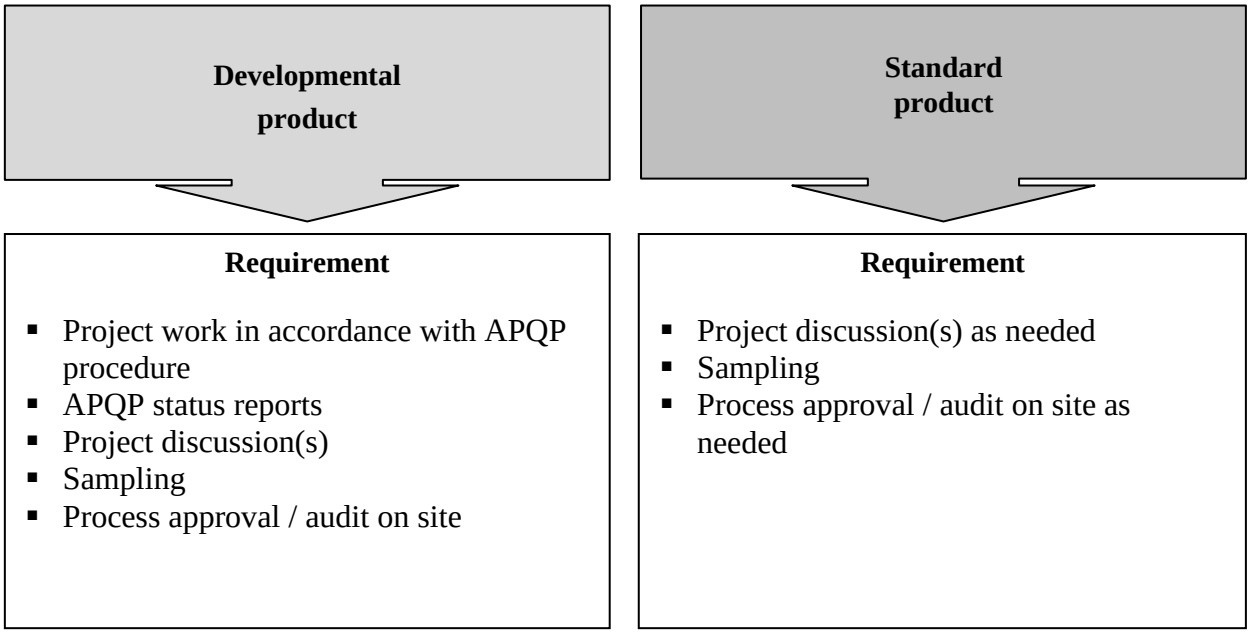
Responsibility

The supplier is completely responsible for the timely planning, implementation and documentation of all activities as regards advanced product quality planning. He determines responsibilities and dates for the individual activities in accordance with his work plan. As for the customers, the specialist departments according to their field of activity or named project managers are responsible for cooperation with the supplier.

To carry out the development activities, the objectives of the project and the communication channels between those responsible (customer, supplier and subcontractors) must be established. For the continuous review of project progress and compliance with the deadlines specified by the customer, the supplier must define his own milestones by which established activities must be completed.

Project classification and requirements

The requirements for the advanced product quality planning are divided by the customer into two different project classifications:



The supplier is informed about the project classification at the latest when the order is placed. In the event of unforeseen risks, the customer may change the project classification during the course of the project.

If requirements change in the course of the project, all affected documents e.g. control plan, FMEA, process flow diagram, etc. are to be suitably adapted.

Project classification for a developmental product

The supplier reports to the customer's contact person on his own authority using the *APQP Status Report* (see *QAA 1, Appendix 3*):

- At the latest four weeks after order confirmation
- For initial production sampling
- Immediately in the case of any problems (*APQP* status of an element is "yellow" or "red")
- For additional dates which have been agreed individually between the customer and supplier as part of the project work.

The progress of the project is reviewed by the customer in project discussions on site at the supplier's premises or at the customer's premises. Documents such as for example control plan, FMEA, process flow diagram, etc. must be presented as evidence of this.

The customer approves the series production process through process approval / audit on site at the supplier's premises and if necessary at his subcontractors' premises. Dates and scope of the onsite review are agreed between the supplier and customer as part of the advanced product quality planning.

Project classification for a standard product

The supplier reports on his own authority informally (without APQP status report) to the customer's contact person:

- In good time if there are any problems

The progress of the project can be reviewed by the customer in product discussions on site at the supplier's premises or at the customer's premises. Documents such as for example control plan, FMEA, etc. must be presented as evidence of this.

Monitoring of the project progress

The project progress must be monitored independently by the supplier and reported to the customer according to the project classification.

The target dates of the individual elements in the APQP status report must be entered at the start of the project for project planning and delivery date monitoring. Completion of the elements is documented with the input of the actual dates.

In the event of a threat to the date or threat to the individual elements, appropriate corrective actions must be initiated and pursued by the supplier on his own authority. Further procedure must be agreed with the customer.

The status of the individual elements must be colour-coded in the APQP status report as follows:

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 ▪ Relevant corrective actions and officers responsible
Red	▪ Date / quality of the element are not complied with ▪ The start of production is at risk ▪ Relevant corrective actions and officers must be determined and agreed with the customer

Product development process

The product development process (PDP) consists of successive phases separated by milestones. Upon reaching a milestone, the current status of the project is reviewed. If necessary, additional activities must be determined.

The process suggested by the customer is presented in *Appendix 1* and forms the basis for mutual, structured management of the project.

In certain cases, e.g. for complex systems or at the request of the end customer, the customer can take the "New Part Maturity Level Assuredness" procedure from the *VDA* (*German Association of the Automotive Industry*) as a basis and negotiate it with the supplier.

Applicable documents

Applicable documents in QAA 1
(see *www.scherzinger.de)*

Appendix 1	*Product Development Process*
Appendix 2	*APQP Elements*
Appendix 3	*APQP Status Report*
Appendix 4	*Feasibility Confirmation*
Appendix 5	*Capacity Confirmation*