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#### Revisions:

Compared to VN 3205:2012-06, the following alterations were made:

- a) Nomenclature adapted to J.M. Voith SE & Co. KG and Voith Turbo Division.
- b) Material data sheet per IMDS (expanded multiple times)
- c) Standards and accompanying documents -> current status referenced
- d) Chapter 5: Omission of previous presentation stages due to the new VDA Volume 2 "PPF" (6th Edition 2020)
- e) Chapter 11: Application areas separated
- f) Chapter 13: "Form - Risk analysis FAI interval determination" added
- g) Editorial adjustments

Earlier editions: 2004-02, 2005-11, 2012-06

Changes to the previous version are marked in "*Italic, highlighted in yellow*".

	Name	Signature / Date
Prepared by	Schlemmer, Thomas – VTA – tqqm	Schlemmer, Thomas / 2021-07-07
Checked by	Ludwig, Siegfried – VTA – tops	Ludwig, Siegfried / 2021-07-07
Approved by	Straub, Markus – VPH – zqs	Straub, Markus / 2021-07-07

## 1 Scope

This standard applies across the group to Voith Turbo and its subcontractors. The contents defined in this Standard must be applied and are binding.

## 2 Scope of application

This Voith standard applies to suppliers of Voith Turbo at all locations and Voith Turbo companies in conjunction with the valid order and delivery specification concerned.

## 3 Purpose of product process and product approval (PPF)

The PPF process ensures that the physical products manufactured by the supplier fulfil the requirements specified by **J.M. Voith SE & Co. KG** - hereinafter referred to as "**Voith**". It is integrated in the **Voith** development process and pertains to the approval procedure of system components and production parts which the supplier develops and/or manufactures in the course of product development and modification on behalf of **Voith**.

The PPF process is conducted according to the production process and product approval process (PPF) of VDA Volume 2.

The purpose of the PPF process is to prevent serial occurrences of failures and their severe consequences for **Voith** caused by deficiencies in the product arising from process, production or material faults. This is achieved mainly by the following means:

- Proof of fulfillment of agreed quality requirements before the beginning of series production (stipulated by order and delivery specification QVP; see VN 3206 advance quality planning QVP)
- Proof of the correct implementation of requirements, specifications and statutory requirements for the product and process (master sample approval)
- Verification of product and production planning process whose positive result leads to a documented approval (process audit)
- Clearly defined general conditions between supplier and **Voith**

## 4 Initiators

The supplier is obliged to conduct the PPF process in the following cases:

- New products and/or parts when a product is ordered for the first time.
- After a change in a product, visible from a change in the drawing index, on all characteristics thereby affected.
- After a change in the drawing index, on all characteristics thereby affected.
- After a change in a subcontractor of the supplier.
- After a refused delivery.
- After an interruption of deliveries for longer than one year (**products for the spare parts market and industry may be exempt from this**).
- **If** production facilities are stopped for 12 months or longer (products for the spare parts market **and industry** may be exempt from this).
- For changed production processes.
- After the use of new/modified shaping devices (e.g.: casting, punching, rolling, pressing dies, for several forms or multiple shaping/batch, each cluster).
- After a move of the production location or use of a new or moved machine and/or equipment.
- After use of alternative materials and designs.

In the following cases, the supplier may inform the responsible quality departments of the Voith Turbo factories and apply for approval of exemption from the procedures and scope of the master sample inspection:

- After an interruption of deliveries for longer than one year
- If production facilities are stopped for 12 months or longer (products for the spare parts market may be exempt from this)
- Very small series, customer service parts
- Standard and catalogue parts
- Current approval for series delivery by another division of Voith Turbo

**No PPF process is carried out in the following cases:**

- **Standard and catalogue parts in the rail, industry and marine segments**

## 5 Disregard of the master sample presentation

If a part is newly ordered by a division of Voith Turbo which has already been approved for series delivery by another recipient factory of Voith Turbo according to the production and product approval procedure, a PPF process is no longer necessary in the cases and under the conditions listed below. The decision regarding the necessity of the PPF process will be taken by the QA department of the recipient factory.

The approval must pertain to the valid issue of the drawings and the other Voith Turbo recipient factory must have been supplied without inadmissible interruptions. However, the supplier is then obliged to submit the approval report and the last order for a delivery.

Different assembly conditions may make a PPF process necessary. The same provision applies to the individual parts of assemblies which have been inspected and approved in the past.

*Unless requested by the customer or required to comply with standards, initial sampling can be dropped after a supplier interruption > 1 year or if production equipment is discontinued, or the sampling interval can be extended, as long as a documented risk analysis is available.*

*The risk analysis is conducted according to the criticality of the components/product groups, the quality features to be inspected, the quality position of the supplier and/or component, etc.*

*The specialist departments of purchasing, engineering and quality hold interdisciplinary responsibility for conducting the analysis.*

*An example can be found in chapter 13, the project team is responsible for completing the checklist.*

## 6 Presentation stages

*The publication of the 6th Edition 2020 of VDA Volume 2 "PPF" supersedes the previous usage of the presentation stages as applied by Voith for orientation. Instead, the sampling scope must be defined between Voith and the supplier on a part-specific basis. For this purpose, Voith compiles check lists, which are either sent along with the master sample order or can be requested from the quality departments of the Voith factories.*

## 7 Prototype production / other samples

Other samples are samples in accordance with DIN 55350, Part 15, which have not been manufactured with series-type equipment or not under series conditions or not according to released drawings and other guidelines. Other samples must not be used for production process and product release. These samples can, however, be used for products suitable for the customer if they meet the required specifications. A release of other samples, such as for trial or installation samples by the development or design departments of Voith, does not at the same time mean the series release and does not give reason to waive the PPF process.

Prototype parts are to be treated like other samples and are normally used for trial purposes.

For prototype parts a prototype inspection report (measurement report, material and, if required, function) must be presented on first-time delivery and change (Index / I.D. Number). Use the VDA first sample sheet for this. In this report all drawing features and scopes of changes are to be evidenced on at least one part.

**The main features** are to be documented 100% in the prototype stage in the ordered quantity. **The main features** are marked in the drawing or are to be agreed upon by the supplier with the development and design departments of Voith. The surveyed parts are to be marked and the consecutive number assigned to the measurement report.

For the marking of prototypes and other samples, the yellow master sample label is to be used.

## 8 Master samples

A master sample inspection is regarded here as the verification of samples. The samples are tested according to the agreed, specified requirements, are assessed and the results are documented. The inspection for the production process and product approval must be conducted with master samples.

Master samples are products and materials completely manufactured and tested under series conditions with the planned machines, systems, equipment and test instruments and processing conditions.

Master samples intended for examinations, tests and despatch to the customer should be taken as random samples from production under series conditions.

The number of parts to be documented must be agreed with Voith. The master samples must be supplied with the master sample test report and the documents stipulated according to the presentation stage (see Chapter 1) to the recipient Voith factory by the agreed date and according to the master sample order. They must be explicitly marked as master samples in compliance with Voith master sample marking. To identify the tested characteristics, sequential numbers must be used in the master sample test report and in the current drawings approved by Voith Turbo, which must also be enclosed.

Assemblies manufactured to a Voith design must be subjected together with their individual components to a master sample inspection and must be presented to Voith.

For products manufactured to the supplier's own design, the supplier must inspect the assembly and present this to Voith. Master sample inspections must also be conducted for the individual components and, if applicable, sub-assemblies. Voith must be allowed to view this documentation on request.

Deviations from the specifications of Voith Turbo which are not detected during the process and product approval process will entitle Voith Turbo to reject these at a later time.

With regard to cast and forged parts, the supplier manufactures, possibly in agreement with the QS offices of the facilities, a technically appropriate assortment of component sections and also supplies these, in order to evidence wall thicknesses, radii etc., as fulfilled or, unless otherwise agreed within the framework of quality planning, these sections are used for the assessment of internal errors.

Material properties of cast parts according to DIN EN 1559 (Part 1-6) in the currently valid edition and the designated Voith order and delivery specifications.

## 9 Master sample documentation

The production and processing of the master sample inspection report are to be conducted according to the procedure described in VDA Volume 2. The documents to be submitted must be submitted completely in German or English, **in accordance with the agreed sample scope (Chapter 5).**

**Substances of products must be documented in the material data sheet (IMDS-MDB). The conformity of the supplied material with applicable legal regulations (REACH, RoHS, POP,...) must be confirmed.**

The documentation of the master samples must be supplied simultaneously with the master samples. Lacking master sample documentation will lead to a negative assessment of the supplier. Master samples without master sample documentation cannot be processed. If acceptance is necessary for reasons of short time, **Voith** will necessarily produce a minimum of documentation themselves. The expense of this will be charged to the supplier. (reworking at the expense of the supplier).

For repeat inspections, the numbers of the test reports which have made new or repeat inspections necessary must be entered in the master sample inspection report.

**In case of a new supplier or a change of supplier, the features inspected by the component supplier must be validated. In case of inadequate specialist knowledge or qualification for the inspected feature to be assessed, this must be passed to a suitable body in order to guarantee a valid assessment. Internal, secondary and external bodies should be used in preference.**

**In a specific application case, the correctness of the feature inspected by the component supplier and specified by Voith beforehand is ensured by a material specification, an X-ray inspection, etc.**

## 10 Master samples made to CAD data

Measurements must be made according to the valid 3D data model. The number of measuring points must be chosen such that all geometrical features are reliably measured. Details of the measurements must be agreed with the quality department of the recipient Voith factory.

## 11 Material data measurement

**Substances of products (incl. original spare parts) must be documented in the material data sheet (IMDS-MDB). Material data are collected and transmitted along the supplier chain. The International Material Data System (IMDS) is an electronic documentation and reporting tool for substances. (<http://www.mdssystem.com>)**

**Binding and detailed requirements are defined in the valid IMDS Recommendations and are available to any registered IMDS user.**

**To verify the declaration of the material data per IMDS, the MDB ID No. must be indicated as part of the production process and product approval procedure. For each PPF, which contains a change to the reference number, a new material data sheet must also be sent.**

**The procedure described above is valid solely for the Automotive (CV) division.**

**The other divisions of Voith Turbo – Industry, Rail and Marine – each ensure the conformity of their products individually and according to market-specific requirements (REACH, RoHS, RISL). Material data are collected and transmitted along the supplier chain. Confirmations of REACH and RoHS conformity obtained by suppliers, as well as the entries transmitted to the ECHA SCIP database (SCIP number - SSN), must be managed in the leading ERP system and Material Compliance Tool specific for each product specifically. Declarations on product conformity and/or self-generated SCIP notifications (SSN) for Voith Turbo products must be saved with the material masters and transmitted to the customer upon request.**

**12 Delivery and marking of the master samples**

Samples must always be dispatched separately from series-manufactured material; samples must be addressed in separate package units to the goods reception of the recipient factory.

The individual master samples must be numbered to ensure that they can be correlated with the test documents. The master samples must be delivered with a separate delivery notice which must clearly bear the note "Master samples" with the part number and designation.

Each packing unit of the samples must be clearly marked with the yellow label "Initial delivery". The label must be attached externally and must be easily visible to each packing/transport unit. The delivery papers must also be clearly marked (preferably stamped), with the note "Master samples".

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13 Example of a risk analysis for the FAI interval determination

Risikoanalyse zur FAI-Intervall-Bestimmung

Anlage zur VN3205

Produktlinie	Coupler / Frontends
Standort	Salzgitter
SAP Werk	1410 und 1411

An der Risikobewertung beteiligt		Datum:
Name	Fachabteilung	
Hr. Müller	Engineering	
Hr. Meier	Einkauf	
Hr. Schulze	Qualität	

Interdisciplinary with at least the Engineering, Quality and Purchasing specialist chasing departments.

Die Freigabe erfolgt im Sycat. Ersteller: QAP, Freigeber 1: Leiter operativer Einkauf, Freigeber 2: COE-Leiter Produktlinie

No	Einteilung nach Warengruppen / Bestell und Liefervorschriften / Teilgruppen/ etc,	Zusatzbezeichnung	Beispiele	Niedriges Q-Risiko - geringe Fehlerrisiko /-folge oder abgedeckt über Serienprüfung	geringes Q-Risiko	mittleres Q-Risiko	hohes Q-Risiko - nur durch Wiederhol-EMP werden Fehler entdeckt!	Begründung der Risikoeinstufung
1	Roh-, Hilfs- und Betriebsstoffe			kein Q-Risiko	geringes Q-Risiko	mittleres Q-Risiko	hohes Q-Risiko	Begründung der Risikoeinstufung
2	Halbzeuge							
3	Guß, Feuguß und Schmiede							
4	Zeichnungsteile, Baugruppen nach Zeichnung							
5	VN 1758-1.1 B+1 Druckfeder Retarder 2.2	900000252		keine FAI nach Lieferunterbrechung	FAI alle 3 Jahre nach Lieferunterbrechung	FAI alle 2 Jahre nach Lieferunterbrechung	FAI jedes Jahr nach Lieferunterbrechung	
6	VN 1758-4.2 B+1 Ret. Teile bearbeitet 2.2	900000257						
7	VN 1758-4.3 B+1 Ret.Schaukeln bearb. 2.2	900000258						
7								

The classification can be defined according to the circumstances and suitability for use

The FAI intervals can be defined using the risk analysis, deviating from the examples shown here

Clear reasoning

**14 Normative references**

All standards and legal directives indicated in this VN must be listed:

Number	Title
DIN 55350-11	Concepts for quality management - Part 11: Supplement to DIN EN ISO 9000:2005
<b>DIN 55350-15</b>	<b>Concepts of quality management and statistics; concepts of types (models)</b>
EN 1559-1	Founding – Technical conditions of delivery - Part 1: General
EN 1559-2	Founding – Technical conditions of delivery - Part 2: Additional requirements for steel castings
EN 1559-3	Founding – Technical conditions of delivery – Part 3: Additional requirements for iron castings
EN 1559-4	Founding – Technical conditions of delivery – Part 4: Additional requirements for aluminium alloy castings
EN 1559-5	Founding – Technical conditions of delivery – Part 5: Additional requirements for magnesium alloy castings
EN 1559-6	Founding – Technical conditions of delivery – Part 6: Additional requirements for zinc alloy castings
<b>IATF 16949</b>	<b>Quality management system requirements for automotive production and relevant service parts organisations</b>
<b>ISO 9000</b>	<b>Quality Management Systems - Fundamentals and vocabulary</b>
ISO 9001	Quality management systems - Requirements
ISO 14001	Environmental management systems - Requirements with guidance for use
<b>VDA Volume 1</b>	<b>Documented information and storage</b>
<b>VDA Volume 2</b>	<b>Ensuring the quality of deliveries, product process and product approval (PPF)</b>
<b>VDA Volume 4</b>	<b>Quality assurance in the process landscape</b>
VN 3068	<b>Voith Turbo - Technical Terms of Delivery - Aluminum Alloy Components and Castings</b>
VN 3206	Documentation - Quality pre-planning for purchased parts suppliers (QVP)
<b>VN 3232</b>	<b>Business Unit Road Voith Turbo - Components of Cast Iron Technical Terms of Delivery - Technical delivery conditions</b>
<b>Regulation (EC) No 1907/2006</b>	<b>Ordinance on the Registration, Evaluation, Approval and Limitation of Chemical Substances (REACH)</b>
<b>Directive 2011/65/EU</b>	<b>Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS 2)</b>

- Unless stated otherwise, the most recent version of this standard shall apply -

Jointly applicable documents which may only be distributed within Voith Turbo:

<b>QRL</b>	<b>Quality Guideline for VOITH TURBO suppliers</b>
<b>QRL02</b>	<b>Quality Guideline – Voith Turbo Material Compliance</b>
<b>QSV</b>	<b>Voith quality assurance agreement</b>
<b>RISL</b>	<b>Railway Industry Substance List (<a href="#">Unife</a>)</b>

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