

Sampling evaluation guideline for production process and product approval - Division Industrial Solution



Table of contents

1. Preamble.....	3
2. Aim & Purpose	3
3. Scope of application	4
4. Initial situation for initial sampling	4
5. Scope of the sampling requirements	5
6. Documentation of proof	10
7. Submission	11
8. Approval, approval with conditions, rejection	11
9. Applicable documents.....	12

1. Preamble

The Guideline for Suppliers for Initial Sample Presentation is a binding and essential part of the contractual relationship between the supplier and the Wagner Group. The requirements and information to be provided therein are supplementary to existing requirements, such as the terms and conditions of purchase and the quality assurance agreement.

The scope of this guideline includes the table below of the respective Wagner Group locations.

Germany	Markdorf (IS Division)	J. Wagner GmbH Otto-Lilienthal-Strasse 18 88677 Markdorf, Germany
	Wuppertal	WALTHER Spritz- und Lackiersysteme GmbH Kärntner Str. 18 42327 Wuppertal
	Struthütten	WALTHER Spritz- und Lackiersysteme GmbH Im Wiesengrund 28 57290 Neunkirchen-Struthütten
	Kierspe	Reinhardt-Technik GmbH Waldheimstraße 3 58566 Kierspe
Switzerland	Altstätten	Wagner International AG Industriestrasse 22 9450 Altstätten
Italy	Valmadrera	Wagner S.p.A. Via Santa Vecchia 109 23868 Valmadrera LC

2. Aim & Purpose

The aim of this guideline is to define and explain the procedure for a successful production process and product approval. The proper implementation of the requirements of the guideline is intended to provide evidence of the conformity of the materials to be supplied on the part of the supplier.

The defined procedure is intended to enable an increase in quality and efficiency during the implementation of the initial sampling process of components, from which the Wagner Group (hereinafter referred to as Wagner) and its suppliers' benefit.

3. Abbreviations

Abbreviations	Meaning
PPAP	Production Part Approval Process
FMEA	Failure mode and effects analysis
ISIR	initial sample inspection report
ESD	electrostatic discharge
RAL	RAL-Colors

4. Scope of application

This guideline is valid for components, parts and other articles that are supplied to the Wagner Group locations. The table in chapter 1 shows the respective locations to which this document applies. The place of delivery of the goods, however, may differ from these according to the order without this guideline losing its validity. Should agreements have been made with the quality department of the responsible Wagner plant, contrary to this guideline, the passages not affected by this agreement shall continue to apply.

5. Initial situation for initial sampling

Initial sampling may become necessary due to various events. Here, Wagner follows the existing standards of the German Association of the Automotive Industry (VDA Volume 2) and the PPAP requirements of the Automotive Industry Action Group (AIAG).

The fulfillment of one of these above-mentioned standards ensures the fulfilment of the requirements on the part of Wagner and is fully recognized.

The supplier must prove in the series EMPB by stating the test results that all characteristics correspond to the customer's specifications, e.g., drawings incl. associated technical delivery conditions and specifications. Deviations must be clearly highlighted in the test report.

The retention periods are based on VDA Volume 1. The documents on initial sampling must be retained by the supplier for the active period of the part plus one calendar year (but for at least 15 years) and must be presented on request. The supplier must keep at least one reserve sample for which the same retention period applies.

The following events may be reason for an initial sampling:

- New part (first order)
- Design change (product, specification or drawing change)
- Change in production technology
- Change to agreed and defined testing processes
- Change of a sub-supplier with essential manufacturing processes
- Relocation of production sites
- Use of modified tools (transfer, replacement, modernisation, etc.), in case of multiple tools for each nest
- Prolonged suspension of production (no production for more than 12 months) provided that the product was previously delivered at least once a year

If one or more of the above events occurs, the sampling process must be triggered. Sampling must be carried out before the subsequent delivery of the material in question.

6. Scope of the sampling requirements

The use of submission levels makes it easy to identify the requirements for the respective level. The actions required for the individual submission level are listed in the table below. However, the exact requirements for this are described in the corresponding sub-chapters.

6.1 Assignment of submission levels

Submission level	Assignment/Description
0	Parts and components that do not require sampling, e.g. catalogue parts, standard parts, semi-finished products, raw materials.
1	Parts and components that can be sampled via an initial sampling cover sheet, e.g. operating instructions, signs, etc.
2	Standard submission level, if nothing else is defined. The submission level is mostly used for mechanically machined parts and for classical drawing parts.
3	Moulded parts and complex components such as plastic injection moulded parts, die-cast aluminium parts, assembled printed circuit boards, etc.

6.2 Definition of submission level

		Wagner submission levels			
No.	Scope, insofar as applicable to product	0	1	2	3
0	Cover sheet for test results for product release report	N/A	S	S	S
1	Test results for product approval	N/A	P	S	S
2	Sample	N/A	P	S	S
3	Technical specification	P	P	S	S
4	Product FMEA	N/A	N/A	P	P
5	Design approval	P	P	S	S
6	Compliance with legal requirements	P	P	S	S
7	Material data sheet	N/A	N/A	P	P
8	Software test report	N/A	N/A	P	P
9	Process FMEA	N/A	N/A	P	P
10	Process flow diagram	N/A	N/A	P	S
11	Production inspection plan/goods issue inspection plan	N/A	N/A	S	S
12	Assurance of special characteristics	N/A	P	S	S
13	Test equipment list	N/A	N/A	P	P
14	Tool overview	N/A	N/A	N/A	P
15	Proof of agreed capacity	N/A	N/A	N/A	P

Any printout or local saving of this document constitutes an uncontrolled copy. Persons using uncontrolled copies are responsible for using the current release.

16	Parts history	N/A	N/A	P	P
17	Certificate of suitability for load carrier	P	P	S	S
18	Test results for product release status of supply chain	N/A	N/A	P	P
19	Approval of coating systems	N/A	N/A	P	P
20	Other	Must be decided on a case-by-case basis			

N/A Not applicable !

P Perform

S Show (attach to sampling documents and send along)

Deviations from the above requirements must be approved in writing by Wagner before the goods leave the Supplier's manufacturing plant. Otherwise, Wagner reserves the right to return the goods at the Supplier's expense and/or not to release the initial sampling. If no submission level has been defined, submission level 2 is the default, as already shown in the table above.

Sampling contents (0-20)

0 - Cover sheet for test results for product release report

The cover sheet for the production process and product approval is to be enclosed with the delivered initial sample goods in any case, insofar as one or more of the conditions in Chapter 4 are fulfilled and sent electronically in advance to the responsible office at Wagner. If the initial samples have one or more deviations from the requirements placed on them, a delivery approval must always be obtained in advance from Wagner, before the defective material leaves the manufacturer's plant for Wagner.

1 – Product approval test results

1.1 – Geometry, dimensional check

The geometry and dimensional check during sampling always include a full check of all of the product's characteristics. Several measurements are to be carried out, on the same feature, on a defined numbers of different samples (see point 2 – Samples). It is recommended to use the same five components throughout all characteristic tests.

In the form provided for this purpose, the characteristics from the drawing are to be transferred, together with the associated specification and or acceptance criteria. In the opposite direction, the respective characteristics from the form are also to be entered numbered on the drawing. This is to enable a consistent allocation that favours efficient approval. If numbered features on the drawing have been provided by Wagner, these are to be used throughout the sampling documents.

1.2 – Function test

Just as with the geometry and dimensional check, a test series of five different components must also be used per requirement for the functional test. In the case of destructive tests, a random sample quantity of two pieces should be used. Examples of this can be counterpart tests or tests of pneumatic cylinders.

The function test form provided for this purpose in the ISTR is to be used for recording the results, including the characteristic assignment, designation and specification.

1.3 – Materials testing

The following material classes and requirements are to be observed within the scope of material testing and proof of its conformity.

Class	Requirement
Raw material plastics (general)	<ul style="list-style-type: none"> • Test and material certificate of the manufacturer according to DIN EN 10204 (2.1/3.1) • Safety data sheet according to 91/155/EEC
Raw material elastomers	<ul style="list-style-type: none"> • Test and material certificate of the manufacturer according to DIN EN 10204 (2.1/3.1) • Safety data sheet according to 91/155/EEC
Raw material metals	<ul style="list-style-type: none"> • Test and material certificate of the manufacturer according to DIN EN 10204 (2.1/3.1)
Raw material heat-treated materials/components	<ul style="list-style-type: none"> • Documented evidence of the heat treatment carried out or • Results of the hardness test (surface hardness + hardness penetration depth)
Conductivity	<ul style="list-style-type: none"> • Results of the contact resistance test • Results of the insulation resistance test

1.4 – Haptics test

Should specific requirements exist in this regard, these requirements and their acceptance criteria will be communicated in advance by the Wagner Group.

1.5 – Acoustic test

Should specific requirements exist in this regard, these requirements and their acceptance criteria will be communicated in advance by the Wagner Group.

1.6 – Odour test

Should specific requirements exist in this regard, these requirements and their acceptance criteria will be communicated in advance by the Wagner Group.

1.7 – Appearance test

The appearance test includes all requirements for the appearance of the components, such as colour, gloss, sheen, as well as requirements that are considered usual. As an example, anodised components must have an even coating and be optically flawless, even if this requirement is not explicitly written down. Visible surfaces can be defined by Wagner on the drawing, which place special requirements on the visual appearance for the supplier.

1.8 – Surface inspection

In contrast to appearance testing, surface inspection primarily deals with functional characteristics, whose requirements are placed on the nature of these characteristics. These are, for example, electrical conductivity, thermal conductivity or reflectivity. Additionally, the following classes and requirements must be observed within the scope of surface inspection and proof of its conformity.

Class	Requirement
Coating / Coating materials	<ul style="list-style-type: none"> • Visual inspection of the colour shade according to specification (e.g. RAL) • Visual inspection of the coating according to the VQ sample • Results of the coating thickness test

	<ul style="list-style-type: none">• Results of the crosscut test for durability• Proof of resistance to solvents
Conductivity	<ul style="list-style-type: none">• Results of the surface resistance test

1.9 – ESD test

ESD testing may be necessary for electronic components and components with an electrical function, in which case, the specifically set requirements must be met and their fulfilment must be demonstrated as part of the sampling. This may include an interference immunity test, an emitted interference measurement, as well as other methods to determine conformity.

1.10 – Reliability check

Should specific requirements exist in this regard, these requirements and their acceptance criteria will be communicated in advance by the Wagner Group.

2 – Samples

For the initial sampling, clearly marked samples are to be enclosed with the delivery. Unless otherwise agreed with Wagner Group, the number of samples is as follows:

Mold-bound parts → 3 pieces

Cavity bound parts → 1 piece per cavity

There must be no mixing between the sample parts and the regular delivery. If possible, these shall be noted as a separate item on the delivery bill.

Additional designations include the following items:

- Item number
- Item designation
- Test report number with date
- Revision status with index
- Quantity
- Supplier
- Order number

3 – Technical specification

If there is a technical specification for the material supplied, this must be enclosed as part of the sampling. Examples include products such as electric motors and other systems with complex fields of application.

4 – Product FMEA

If the design responsibility lies with the supplier, it is the supplier's responsibility to create a product FMEA in advance of the development and to maintain it continuously. The status, in the form of a risk matrix and task priorities, is to be attached to the sampling as part of the documentation. The format of the FMEA must follow the specifications in the AIAG & VDA FMEA manual.

5 – Design approval

If the design responsibility lies with the supplier, the design approval is to be demonstrated within the scope of the sampling.

6 – Compliance with legal requirements

Compliance with legal requirements, insofar as they are applicable and valid, is to be confirmed by the supplier.

7 – Material data sheet

Material data sheets are required depending on the submission level and are to be sent as part of the sampling documents.

8 – Software test report

For the procurement of electronic components with specially developed software, as well as specially developed software as such, a test report is required during sampling, which proves the fulfilment of the specified requirements. The proof must be submitted in written form. For this purpose, it is recommended to use the software test report from VDA Volume 2 / Appendix 6.

9 – Process FMEA

Just as with the product FMEA, the process FMEA must also be shown in the form of a risk matrix evaluation and the task priority during sampling, insofar as this is required in the scope of the sampling. The format of the FMEA must follow the specifications in the AIAG & VDA FMEA manual.

10 – Process flow diagram

A process flow diagram, if required by the guideline or other agreements, shall be provided to Wagner with a reasonable amount of details, as part of the sampling process. The following aspects must be addressed in this process flow diagram:

- Status with index
- Creator & releaser
- Process steps
- Test points

11 – Production inspection plan/goods issue inspection plan

A production inspection plan must exist for the production of the commissioned parts, insofar as this is required by the submission level matrix and, if necessary, must also be presented within the scope of the sampling.

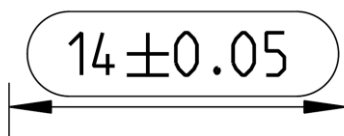
This must include the following:

- Creation or modification date
- Design status (index)
- Customer information (part number, drawing, etc.)
- Internal contact person
- Special features (product- and process-related)
- Specifications and tolerances
- Test and measurement method, as well as means
- Sample size and interval

12 – Assurance of special characteristics

Special characteristics are defined by Wagner and shown accordingly on the product drawing. These are to be entered in the form for safeguarding special features in the ISTR and safeguarded by adequate controlling methods.

Special characteristics are marked on drawings using circled specifications. These are declared as test dimensions in the drawing header.



Above is an example of a special characteristic on a drawing.

13 – Test equipment list

If a test equipment list becomes necessary due to the submission level or other requirements, it shall be communicated in written form.

14 – Tool overview

If a tool overview is required by the submission level or by individual requirements, it shall be prepared and submitted in written form.

15 – Evidence of agreed capacity

In principle, no specific requirements apply here, but Wagner reserves the right to determine these additionally within the scope of a sampling.

16 – Parts history

The parts history of the components must always be proven. In practical implementation, this refers to the traceability of process and product status to a specific drawing status. Consequently, a certain production process status should always be assignable to a drawing status as well as to a specific product status. The form of proof of this assignment can be freely selected.

17 – Certificate of suitability for load carrier

Different requirements are placed on the load carriers and packaging for the different types of products. Unless otherwise defined and communicated by Wagner, the supplier is responsible for the type and design of the packaging. The basis of the packaging is the shipping instructions, which define the minimum requirements of the packaging. The shipping instructions are printed on the order and must be observed in any case. Furthermore, the generally applicable General Transport and Packaging Regulations of Wagner must be taken into account and complied with.

18 – Test results for product release status of supply chain

The supply chain must have already been successfully sampled against the sub-supplier prior to sampling to Wagner. Proof must be provided if required by Wagner.

19 – Approval of coating systems

If requirements are placed on a coating system, the fulfilment of these is part of the approval by the Wagner Group. The requirements will be communicated in writing by Wagner.

20 – Other

Wagner reserves the right to include additional requirements, outside the classes listed here, in the scope of the sampling order. However, these shall always be communicated expressly and in writing to the supplier.

7. Documentation of proof

If templates are available and provided by the Wagner Group, these are to be used. Other templates and formats can be used after consultation and approval by Wagner. Should deviations in form and content from the requirements become apparent, these must be reported to the Wagner Group as soon as possible.

8. Submission

The sampling documents must be submitted electronically to the following e-mail address of the receiving plant before the associated goods are dispatched.

Receiving plant & address	E-mail address
Wagner International AG Industriestrasse 22 9450 Altstätten	Supplier_quality_is@wagner-group.com
J. Wagner GmbH Otto-Lilienthal-Strasse 18 88677 Markdorf, Germany	Quality_IS@wagner-group.com
WALTHER Spritz- und Lackiersysteme GmbH Kärntner Str. 18 42327 Wuppertal	Quality_DEWP@walther-pilot.de
WALTHER Spritz- und Lackiersysteme GmbH Im Wiesengrund 28 57290 Neunkirchen-Struthütten	Quality_DEST@walther-pilot.de
Reinhardt-Technik GmbH Waldheimstraße 3 58566 Kierspe	Werner.Dahlum@wagner-group.com
Wagner S.p.A. Via Santa Vecchia 109 23868 Valmadrera LC	Giovanni.lipira@wagner-group.com

Language of the documents to be submitted

In principle, the national language of the receiving plant of the Wagner Group is to be selected for the complete sampling. However, if deliveries are made from a country with a foreign language, the central documents in particular must be kept in English.

9. Approval, approval with conditions, rejection

The possible outcomes of sampling each entail certain consequences, which are explained in more detail in this chapter.

9.1 Approval

An approval means that the degree of fulfilment of the requirements on the part of the supplier has been accepted by Wagner. For the supplier, an approval means that no additional efforts have to be made to achieve series delivery status. This applies until one or more circumstances from Chapter 4 occur and make a new or re-sampling mandatory.

9.2 Approval with conditions

If the requirements are only partially fulfilled during sampling, Wagner can issue an approval with conditions, which gives the supplier a series delivery status for a limited period of time. The supplier must resubmit the outstanding or insufficient elements of the sampling within the granted period. In the event of unsuccessful re-sampling, a new sampling shall be carried out to the full extent.

9.3 Rejection

If the requirements of the sampling are not met, the sampling will be rejected. This is done in cases where the initial sample parts cannot be used by Wagner. This rules out the possibility of subsequent re-sampling, as is the case with an approval with conditions. The full sampling scope must be carried out again to achieve series delivery status.

9.4 Deviations on initial sample parts

In the event of deviations on initial sample parts, these shall be marked in the sampling documents in a correspondingly easily recognisable manner. There must be explicit reference to the deviations. As mentioned in chapter 6, deviations must be reported to Wagner before the actual delivery of the components.

9.5 Documentation check

Wagner reserves the right to place both initial samples and incoming series goods in stock without checking them. For initial samples, Wagner may only perform a documentation check. Approval of the sampling does not mean that hidden defects and/or non-disclosed deviations are accepted and cannot be complained about in the future.

9.6 Decision notice

After a decision has been made regarding the sampling, the decision is sent by e-mail to the submitter of the documents. If this is no longer available, the decision will be sent to a front desk address, provided this is available and known.

10. Applicable documents

- General terms and conditions of purchase
- Quality assurance agreement (QAA)
- Initial sample test report (ISTR)

Document control

Change history

Date	Author	Version	Changes	Status
02.06.2022	Dominik Schnücker	01	Initial creation	inactive
12.05.2023	Dominik Schnücker	02	Complete revision	Released

Test and approval history

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