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REV.	PARAGRAPH / PAGE	CHANGE DESCRIPTION
00		First release
01		Alignment with VDA 6.3 specifications
02		Alignment with IATF 16949

1. General information

The prescriptions indicated in this Specification -considered the Supplier's autonomy in making his own choices for the development of the industrial system and the production means- aim at:

- defining the requirements necessary for the product self-qualification, consisting of the verification of the full compliance with the technical specifications so as to allow the supply authorization before it is delivered to Industrie Metallvakuum Ranger (hereinafter IMR)

- ensuring that all Suppliers have the means and the resources needed to achieve a self-certification that gives assurance of the product conformity so that the systematic checks of the batches supplied to IMR establishments can be eliminated

NOTE: This document is to be considered valid for all Ranger Group production sites; therefore, it is applicable regardless of the origin of the supply orders and the specified delivery destination.

2. Supplier technical documentation

The Supplier shall prepare and implement, with all the necessary updates, the written prescriptions concerning the assurance of the quality and reliability requirements of the products to IMR (drawings, manufacturing cycles and testing, material specifications, etc.).

3. Subcontractor

Regarding the control of subcontracting, it should be noted that the Supplier, once he has previously ascertained the suitability of his subcontractor, must ensure that the latter plans the quality assurance system the same way he does according to the here mentioned perspective. The timely implementation of corrective interventions towards the subcontractors must always be guaranteed to IMR During the supply, any replacement of the subcontractors must be reported to IMR in those cases in which such replacement may involve changes to the production cycle and/or the materials.

4. Control means

The Supplier shall have adequate control means/testing equipment so as to ensure the execution of all inspection and tests, meant to guarantee the compliance with the product characteristics and IMR technical documentation, during all the production phases. Such means will be periodically subjected to efficiency and calibration tests according to a specific written programme and specific instructions for calibration and maintenance.

5. Changes

The Supplier may not make any changes to the product without IMR prior and formal authorization. The Supplier who intends to propose changes to the product, due to specific production needs, must accompany the request with the certification of the tests carried out for its redevelopment as they were performed for the product before the modification.

For changes requested by IMR or authorized by IMR, the Supplier must have an identification system designed to identify the introduction date of the modifications on the product and/or in the production cycle (materials, processes, treatments, etc.).

6. Safety products and/or with compulsory documentation

For security/legislative products and/or with compulsory documentation identified on IMR technical documents with letter **D** or the symbol:

the Supplier must implement what follows:

- highlight the safety features and/or those requiring compulsory documentation on the specific documents of the products themselves (control cycles, control grids, controls documentation, etc.) with the same symbols,
- have a system that allows to identify and unequivocally trace, for each production batch, the manufacturing date, the control/test results performed on the product itself and the possible corrective actions that have affected the product,
- keep the records regarding the checks and the traceability system for 15 years.

7. Reference samples

They are adopted for certain products which have binding characteristics that cannot be expressed or put in a drawing or on the relative standard (e.g. colour, appearance, etc.).

These samples can be established and used for the conformity comparison of the product and in cases of objection; therefore, they should be replaced whenever the product undergoes changes related to the characteristics represented by the sample, or renewed in the case of products subject to ageing (in which case there must be a suitable replacement programme).

The reference sampling is managed by IMR and consists of applying a special signed identification board.

8. Supply

For each new or modified product, before starting the series supply, the Supplier must receive a written approval by IMR as successful conclusion of the product approval process defined below.

8.1. IMDS

In order to obtain the approval, it is necessary to enter the data relating to the product supplied in the IMDS (International Material Data System, in compliance with EU Directive 2000/53 and subsequent amendments). **The lack of approval to the MDS may affect the payment of the ongoing supplies.**

There can be exceptions to this prescription to be agreed upon (e.g. communication to IMR of all the data needed to internally create the MDS).

8.2. Product approval process (Sampling)

In order to obtain the approval, it is necessary to submit a sampling according to the following schemes:

- PPAP-AIAG (Production Part Approval Process) **Level 3**
- EMPB (Erstmusterprüfbericht) **VDA 6.3**
- CQC (Quality and Conformity Certificate)

The required sampling mode is set out and communicated to the supplier by IMR according to the product/supplier.

8.3. Reference sample

When ordering, IMR sends the Supplier the necessary technical documentation to verify the conformity of the produced item. A reference sample (dated and signed by IMR, for aesthetic or assembly comparisons) is included only if the item itself proves to have been already internally produced by IMR.

8.4. Production Identification label

In case of intermediate processing, the supplier is obliged to keep the IMR identification on the boxes.

8.5. Supplier self-certification (FREE-PASS)

For the supplier, which must comply with the following requirements:

- has a Quality Management System certified according to ISO 9000 and/or IATF 16949
- is able to certify tests performed on the supplied product (e.g. compilation of Mod. 039)
- is able to certify the product supplied with EMPB, PPAP, CQC

Except in the case of performance deemed unsuitable (e.g. following an analysis of Non-Conformities), IMR releases the self-certified supply. The following steps are involved:

a) incoming batches will not be subjected to a systematic Arrivals Acceptance Check (CAA - Controllo Accettazione Arrivi) by IMR, and therefore may be sent to the Client without any further tests other than those performed by the Supplier during the production process

b) supplies will be subjected to periodic tests, the regularity of which will be defined by IMR based on the results of said tests and an analysis of eventual Non-Conformity (NC) reports issued by IMR production departments or by Clients

c) registrations relative to product and/or process approval (EMPB, PPAP, CQC, production), must be filed at the Supplier premises for a period no less than one year after the production's release (for safety products and/or those with obligatory documentation, the period increases to 15 years after the production's release) and made promptly available in the event they are requested by IMR

d) all registrations of tests performed by the Supplier and necessary to ensure the conformity of the product/process must be filed at the Supplier premises for a period no less than 36 months and made promptly available in the event they are requested by IMR

e) if possible, the letter F (in capital letters) or the writing FREE must be indicated and easily visible on the identification label of products/packages that belong to the series production

f) each first supply of a new or modified product must be accompanied by a Sampling Report (e.g. PPAP, CQC, EMPB) which includes, if applicable, the following aspects: materials/treatments, dimensional analysis, functional analysis

Agreed exceptions to this procedure are possible.

8.6. Product/batch identification

The Supplier is obliged to identify each supply, batch or product delivered by providing at least the following information:

- supplier name
- item description and IMR code (notified to Supplier through purchase order)
- design no. and relative modification chart
- quantity (expressed in unit of measurement shown in order)
- production date / production batch

8.7. Production requalification

On a quarterly basis starting from the date the official sampling was approved, the Supplier must schedule the requalification of all elements of a production series underway in order to confirm that initial parameters specified in the design (size, materials, functions, aesthetics) have been maintained.

All products delivered to IMR must be subjected to supplier requalification according to standard IATF 16949 and VDA 6.3

Relative documentation must be filed at the Supplier's premises and made promptly available upon request by IMR.

9. Quality Audit

The supplier allows IMR and eventually IMR's client to perform process, product and system audits. The supplier may stipulate confidentiality agreements relative to all audits concerning IMR supplies. Audits are performed following an agreement on its coverage and duration.
The Supplier agrees to allow an audit at least 48 hours after a quality problem has been identified. IMR has the unlimited right to information on contractual elements.
At the time of the audit, the assessment of quality guarantee measures at supplier premises and the classification of suppliers is based on the current edition of Volume VDA 6.3 (for the end Client VW is considered the latest edition of the Formel-Q-Fähigkeit) and on the PCPA model.
IMR and the supplier undertake to keep all information regarding operations confidential, as well as the results of partner audits, which can be checked only by qualified auditors of the OEMs for which the component is intended.

10. Non-Conformity Management (written response and Corrective Actions)

Each Non-Conformity opened by IMR and notified to the Supplier through the FOR-NCO form, must be followed by a written response by the Supplier clarifying the proposed Corrective Actions (including timeframes), preferably using the form sent by IMR (the same FOR-NCO).

The percentage of Corrective Actions, in a written form via the 8D Report and communicated following the opening of a Non-Conformity, the speed of communication and the efficiency of Corrective Actions are all assessed by IMR and contribute to establishing a periodic assessment of the Supplier's performance.

The supplier is obliged to adopt immediate corrective measures and supply replacement parts. The supplier must ensure trained personnel is available for the selection, reworking or supply of replacement parts free of defects in the agreed timeframes.

In the event of non-conformities caused by the supplier, IMR will charge the supplier for sustained costs. Ordinary management costs are constituted by the hourly cost of personnel involved in selection, reworking and repair operations, by the eventual cost of scrapping pieces and by administrative costs for the management of the non-conformity. These costs may also be increased by extraordinary costs, for example those due to machinery or production line downtime, or costs charged by the Client.

11. Costs for management of Non-Conformity

In the event of non-conformities caused by the supplier, IMR will charge the supplier for sustained costs. Ordinary management costs are constituted by the hourly cost of personnel involved in selection, reworking and repair operations, by the eventual cost of scrapping pieces and by administrative costs for the management of the non-conformity. These costs may also be increased by extraordinary costs, for example those due to machinery or production line downtime, or costs charged by the Client.

12. Supplier evaluation system

Notification relative to the supplier category will be sent periodically. This category is assigned to the Supplier by IMR following activities designed to assess Supplier performance.

Supplier performance is measured based on four specific performance indicators:

SQ (Quality System Certification – **minimum requirement ISO 9001:2009**), IQ (supply quality, expressed as PPM of rejections - **target 300**), IS (respect for delivery times – **target 100% punctuality**) and IR (reactivity of Supplier, expressed as a percentage of identified Non-Conformities that were followed by efficient Corrective Actions - **target 100% of replies with 8D report**)." Each of these parameters has a certain weighting used to determine the Supplier's general performance index. A category will be assigned based on this index.

Explanatory diagram of categories:

Class	Supply state	Notes
A	Suitable	No action required
AB	Acceptable	Corrective Actions (Action Plan) are required
B	Not suitable second opinion needed	Corrective Actions (Action Plan) are urgently required; in the case of an imposed Supplier, the Client is notified; if this class is maintained for the subsequent two assessments, the Supplier may be removed.
C	Not suitable	Supplier removed from Qualified Supplier List and is excluded from finalising additional contracts until level "B" is reached

New Suppliers are chosen subsequent to the sending of a self-assessment questionnaire, to be completed by the Supplier. The questionnaire is composed of a section for general information and a section for specific information. Suppliers that use a Quality Management System (SGQ - Sistema Gestione per la Qualità) certified according to IATF 16949:2016 must complete only the first section; Suppliers with a certified SGQ but not according to IATF 16949:2016 must answer only the highlighted questions in the second section; Suppliers with an SGQ that is not certified must complete the second section in all its parts.

For suppliers that participate in VW group projects with their activities and supplies, the self-assessment questionnaire must be based on the VDA 6.3 with the additional requirements specified by the latest edition of the Formel-Q (VW group).

The questionnaire will be subsequently assessed by IMR. During this phase, each question is assigned a different weighting depending on the importance of the relative activity in relation to the type of product/process requested. The final evaluation will be obtained by comparing the total point score obtained and the total point score possible, to obtain a percentage.

13. Performance objectives

At the same time as the evaluation relative to the year that has passed, IMR reserves the possibility to communicate performance objectives to the supplier. These objectives must be pursued in order to obtain a positive evaluation by IMR (insertion in category A). Suppliers should prepare a performance monitoring methodology to keep progress under control.

14. Supplier responsibilities

IMR will autonomously perform a supplier evaluation. Basically, suppliers will be classified in category "A", "AB", "B" or "C". Evaluation criteria is based on the quality of supplies, Quality System certification, respect for delivery times and supplier reactivity (corrective actions with 8D report).
The supplier will be informed on a half-yearly basis of the results of said evaluation.
In the event of a "B" classification, improvement actions must be implemented and their efficiency must be reported to IMR.
In the event of a "C" classification, the supplier will be excluded from future contracts until level "B" is reached (business on hold).

15. Product Safety Officer

A product safety officer **(PSO)** must be nominated with the following tasks:

- Contribute, develop and define priorities to eliminate or avoid defects in products associated with safety during the development phase (error prevention)
- Contribute or initiate and verify which themes are important to the safety of the FMEA of the project/process
- Cooperate in the context of "lesson learned" when releasing a new product to prevent errors relative to safety generated in the production zone, during assembly and process testing
- Create "lesson learned" check-lists for the qualified revision of the project and processes in terms of product safety aspects
- Personally perform or ensure regular checks are performed on the production and products in the current series in order to confirm the product's safe uses (including predictable improper uses) and the introduction and monitoring of measures (emergency) for identified variants
- Assess the probability of a fault in the concerned product and frequency in the event of a fault
- In the event of a claim, verify the corrective actions foreseen for their rapid implementation and long-lasting efficiency
- The efficiency of measures must be confirmed in writing by the supplier - **PSO**

Communication (including voluntary disclosure) must pass via the QA contact for IMR including the transfer of all details.
The **PSO** will guarantee the quality of information as well as the confidentiality of all correspondence

16. Escalation Process

Error-free supplies are the main objective of IMR and have great importance and priority also for our customers Error-free deliveries from our suppliers are an absolute requirement. Our model of Escalation Process is activated in case of incorrect and non-conforming supplies that highlight a systematic criticality with the supplier. In the event that suppliers do not respond with quick and effective actions to resolve the non-compliance of supplies, the escalation model provides for the creation of a problem solving team consisting of the supplier, IMR and, if necessary, an external consultant with the aim of solving criticalities.

The opening criteria for the escalation model can be:

- incorrect supplies
- repetitive errors, despite final delivery of 8D Report
- unsatisfactory management of complaints by the supplier
- repeated and / or protracted exceeding the communicated targets
- customer complaints concerning parts purchased from suppliers
- critical and / or significant error
- consequences of the supplier's failure to produce IMR
- consequences of the supplier's failure to produce IMR customers
- potential network complaints or complaints from the IMR customer network

Based on the criticality and the extent of the aforementioned criteria, the Escalation Process can also start from Level 2 or 3 of the relevant model (see annex).

The conclusion of the Escalation Process can occur in case of return to the previous state of supply (100% conformity of the product)
IMR reserves the right to submit all costs arising from the application of the Escalation Process to the supplier.

17. Definition of packaging

The choice of collection/packaging means may significantly affect the product's Quality. At the time of the order, IMR will send the Supplier a packaging cycle only in the event said product is already internally produced by IMR. Otherwise, it is the responsibility of the Supplier to establish an internal packaging cycle, which must be approved.

For small-sized components, such as metal or plastic inserts, the Supplier simply needs to ensure the packaging is suitable to maintain the product's conformity, without the need for any approval by IMR.

18. Qualification of personnel for special processes

If the Supplier uses special processes (e.g. coating, gluing; for which it is not possible to assess the quality of the product unless destructive tests are performed), IMR must be sent documentation providing evidence that personnel involved in said processes are suitable qualified.

19. SPC and Cpk/Cmk

Statistical Process Control (SPC) and Process Capability and Machine Capability Indexes (Cpk and Cmk) are the responsibility of the Supplier in cases where the Supplier is involved in processes requiring these. Statistical process control is required for all characteristics identified as "critical" or "safety" by IMR in the technical documentation of reference, ensuring compliance with the following requirements:

1- Short-term capability > 1.67
2- Long-term capability > 1.33

Additional requirements may be requested by IMR in the event of special product criticalities (e.g. Safety characteristics).

The results of these activities are to be filed at the Supplier premises and must be promptly available if requested by IMR.

20. Client property maintenance

If the Supplier receives client property (e.g. dies), the Supplier is obliged to take maximum care and eventually perform scheduled maintenance necessary for the production of conformant pieces. In the latter case, IMR will send the Supplier the maintenance cycle that must be performed by the Supplier. Corrective maintenance is the responsibility of IMR.

21. Confidentiality

The Supplier is obliged to maintain the confidentiality of sensitive product data (end Client, original designs, IMDS data, PPAP level 3 documentation, reference samples). All exceptions to this prescription must be approved in writing by IMR.

22. Materials from conflict areas

Based on the "Conflict Minerals Rule" IMR is required to maintain records on an annual basis of information relating to the use of its conflict mineral products (as defined below) from the Democratic Republic of the Congo or from neighboring countries such as Angola, Burundi, Central African Republic, Republic of Congo, Rwanda, South Sudan, Tanzania, Uganda and Zambia (the "Covered Countries") adjacent; and, in some cases, conducting due diligence processes (on their own or through a subcontractor) to identify the origin of conflict minerals.
The term "Conflict Minerals" refers to coltan, cassiterite, gold, wolframite and their derivatives, tantalum, tin and tungsten and any other mineral or derivatives thereof indicated by the Secretary of State of the United States, or by any other competent authority, be used to finance the conflict in the Democratic Republic of the Congo or in a neighboring state.

Suppliers signing this contract declare and guarantee to IMR that none of the products, parts or materials delivered to IMR will contain "Conflict Minerals" originating from a "Covered Country". From time to time and to the extent necessary, IMR may request Suppliers for documents, information and other evidence of the accuracy of the previous declarations and warranties.
IMR expects the Suppliers to immediately notify in writing if they have come to know or have reason to believe that the above declaration and warranty is false for products, parts or materials that have been delivered to IMR.

23. Compliance with laws

Suppliers are responsible for ensuring that their directors, officers, employees and subcontractors, representatives or agents understand and comply with applicable regulations and conventions, as well as regional and national legislation, to the extent applicable to the contract in question or to the business relationship.

Incoming inspections

ESCALATION PROCESS

Supplier development – Purchasing Dep.

LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4
A better control during the incoming phase of commodities at IMR Specific case: • 100 % self-control and certification provided by the supplier with verification at IMR warehouse • 100 % control by third parties (in coordination with IMR) • Quality assessment for further and specific controls • See the supplier IMR will define the product characteristics interested by non conformity, the tests to be carried out, the required identification, the modes of the required documentation, the escalation criteria, higher escalation criteria (e.g.: further **Escalation Process**) The supplier must carry out and implement the agreed measures until the problem solving gives a positive result and can be demonstrated with direct confirmation of the product conformity. This leads to the release of the Escalation Process.	**Escalation with letter by IMR Purchase Manager and/or Purchase Director** • Supplier convocation at IMR to detail the activated Action Plan in order to solve the non conformity • Agreement with the supplier for a further 100% control carried out, at IMR premises, by an external service provider charged to the supplier • Visit the supplier to check the production process, the error analyses carried out and the activated control measures If the activated measures with level 1 are not decisive or are insufficient, the Suppliers Quality, cooperating with the Purchase Office, **introduces** the above described level 2. **Specific tasks required by the supplier**: • detailed report with analysis of the causes of non conformity • status of the activated corrections to eliminate the error causes • report with the measurements carried out regarding the process under objection • the supplier must carry out and implement the agreed measures until the problem solving gives a positive result, after checking that the delivery has been performed and is compliant at 100% This leads to the release of the Escalation Process.	**Meeting with the supplier's Management:** Participating people: • IMR Purchasing Manager • IMR Quality Manager • further managers If necessary: • change the suppliers' evaluation • eliminate the suppliers list to assign new businesses • vary the supply volumes • inform IMR clients • inform the supplier's Quality System certifiers If the activated measures with level 2 are not decisive or are insufficient, the Purchasing Manager **can** proceed and introduce the above described level 3.	**Research for alternative suppliers by IMR:** • specific reduction of the commodity volume delivered to the supplier • withdrawal of all the ongoing orders with the supplier If the activated measures with level 3 are not decisive or are insufficient, the Purchasing Manager **will have to** proceed and introduce the above described level 4.

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