Supplier Quality Manual

Introduction

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I. Introduction

1.1 Preface

Viessmann Climate Solutions SE is a leading global manufacturer of intelligent energy and climate solutions. Our name stands for technological excellence and innovation. As an employer, business partner and through our multifaceted community engagement, we assume economic, ecological and social responsibility in everything we do.

We are committed to providing our customers an exceptional life-cycle experience with our products and services, by delivering safe and compliant products that meet Viessmann specifications, technical requirements and legislation/standards. Summarized in one sentence: „Passion for quality“. Our suppliers are an important part of this strategy. Together we want enthusiastic customers.

Viessmann is ready to meet these challenges by driving performance and results and focusing on best quality and innovative technologies. In this context, the continuous improvement of the quality system, processes and product technologies are particularly important to us, as well as the strengthening, support and expansion of our business relationships with our suppliers and the development of our staff.

1.2 Purpose

With this Quality Manual, we would particularly like to fulfill our pursuit of quality excellence, a result of our Supplier Quality & Development purpose.

“We want our suppliers to be our partners in the pursuit of zero failure, zero waste and quality excellence.”

We would like to provide to our suppliers a document that transparently contains our quality values and our specific requirements. It should be the basis of a sustainably strengthened partnership between suppliers and Viessmann.
The requirements presented here have been designed to apply to suppliers of all sizes in accordance with our scope of application. Aspects such as simplicity, risk management, team orientation and preventive thinking therefore form the basis of this Supplier Quality Manual.Viessmann expects its suppliers to internalize these goals. Simply ticking off individual points or methods is not sufficient. Viessmann wants to purchase quality from its suppliers and expects its suppliers to also develop quality, purchase quality, manufacture quality and ensure quality in the long term.

We are aware that the success of Viessmann depends on the high quality, performance and technology provided by our suppliers. With this in mind, let us work together to create products that inspire the world and create living spaces for generations to come.

1.3 Scope of Application

This Quality Manual applies to supplier, which deliver of production material, software, trade goods and products for the aftermarket to Viessmann. It applies to all suppliers in the supply chain who supply Viessmann with products, as well as „directed-buy“ suppliers. The Quality Manual defines standards and requirements for the supplier’s quality management system and quality performance. It is intended to help the supplier to become an excellent partner for Viessmann, with the aim of close cooperation between Viessmann and the supplier.

II. Viessmann-specific Requirements

2.1 General Requirements, Quality Management System and Audits

2.1.1 Quality Management System

An effective and documented quality management system is a prerequisite for a supplier relationship with Viessmann. The supplier is committed to maintaining a quality management system that includes all essential activities for the development, manufacture, testing, delivery and support of the quality of products or services. The minimum requirement is certification in accordance with one of the following international quality management standards:

- ISO 9001 ff.
- IATF 16949 or Minimum Requirements IATF 16949 (MAQMSR)

ISO 9001 is an integral part of this agreement. All certifications and their renewals must be carried out by accredited certification bodies and made available to Viessmann as required. If a supplier does not have a quality management system according to the above standards, it is obliged to fulfill all requirements of ISO 9001 and to confirm its willingness to be certified according to ISO 9001.

The aim of the quality management system is the pursuit of zero failure, the avoidance of waste and the achievement of the excellence target. Furthermore, the supplier is obliged to implement a zero-failure strategy in order to support the pursuit of zero defects for all parts, assemblies and modules along the entire supply chain. In order to monitor, measure and evaluate the quality achieved, the supplier must define quality targets with Viessmann. In relation to these quality targets, Viessmann's minimum requirements are the monitoring of internal and external return rates, preferably with supplier parts per million (sppm), and the monitoring of internal and external defect costs.

2.1.2 Supplier Management

Sub-suppliers have a significant influence on the quality of the end product. Viessmann's suppliers shall only use sub-suppliers that are certified in accordance with the management systems defined in section 2.1.1 and have committed themselves to achieve the zero-failure strategy and the continuous improvement of their performance. The supplier undertakes to oblige its sub-suppliers (this also includes outsourced processes) to comply with the requirements arising from this Quality Manual. Furthermore, all relevant information on significant characteristics of the installation situation, including drawings and specifications, must be passed on to sub-suppliers and the necessary conformity tests must be carried out. The basic responsibility for the sub-supplier lies with the supplier.

Products directed or provided by Viessmann must also be included in the supplier's quality management system. The ownership of products provided must be assured by the supplier at all times with suitable labeling.

2.1.3 Verification of Material Properties

The supplier is obliged to comply with all relevant standards regarding material properties. This includes in particular the EU Chemicals Regulation on the Registration, Evaluation, Authorization and Restriction of Chemicals (Regulation (EC) No 1907/2006; „REACH" Regulation), the EU Directive on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (Directive 2011/65/EU; „RoHS" Directive) and the and the German Chemicals Prohibition Ordinance (ChemVerbotsV). Separate specifications from Viessmann regarding substance prohibition must also be taken into account. Products that do not fully comply with these requirements may not be supplied to Viessmann.

2.1.4 ESD Requirements

Viessmann produces intelligent energy and climate solutions with electronic components that are manufactured under ESD-protected conditions and implements all necessary ESD precautions. All parts and assemblies containing electronic components - regardless of their packaging (open or closed) - are considered as sensitive to ESD and must be protected in accordance with the international ESD standards IEC 61340. The implementation of the international ESD standards IEC 61340 is an essential part of the initiatives to ensure the quality and reliability of Viessmann products. In order to prevent ESD damage to electrostatically sensitive components, assemblies and systems, the necessary precautions must be taken by the supplier at all relevant points, whether during manufacture, handling, processing, testing or storage of ESD-sensitive parts.

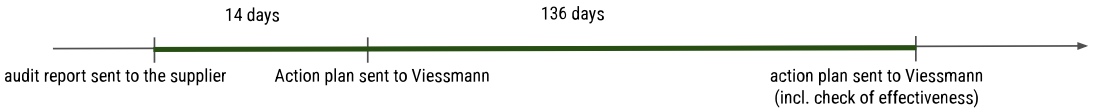
2.1.5 Audits and Verification of Process Quality

Viessmann reserves the right to carry out quality inspections at the supplier's premises, both internally and with the help of external third parties, after prior written notification.
Viessmann will inform the supplier of the type of audit (e.g. VDA 6.3 Potential Analysis, VDA 6.3 Process Audit or Process Sign Off) and its scope prior to the audit taking place. The supplier will nominate a person responsible for preparation and performance of the audit. This person will represent the supplier in the audit and must be furnished with all the necessary powers and authorities.

After every audit the audit results and the resulting actions will be determined in a coordination meeting. Viessmann divides the results into:

New supplier (VDA 6.3 Potential Analysis)	**Process Sign Off (process release prior to SOP)**	**Existing supplier (VDA 6.3 Audit)**
Quality capable supplier: Supplier suitable for Viessmann. If necessary, implementation of the action plan.	Quality capable process: Process released and delivery can be started. If necessary, implementation of the action plan.	Audit Class 1/2: Expected result for an existing supplier. If necessary, implementation of the action plan.
Conditionally quality capable supplier: The supplier has the opportunity to qualify as a supplier for Viessmann by implementing the required measures.	Conditionally quality capable process: The process is released under certain conditions and critical deviations must be eliminated prior to SOP.	Audit Class 3: The Lead Auditor, together with the Lead Buyer, assesses the need to change the supplier classification to „new business on hold" or to define further actions until the action plan is completed.
Not quality capable supplier: Supplier not qualified for Viessmann. Supplier blocked.	Not quality capable process: Process is not released. Risk management must be completed to highlight SOP risks to the Management Board.	Audit Class 4: Supplier classification is changed to at least „new business on hold". The status can only be changed once the action plan has been completed.

It is the responsibility of the supplier to complete the audit action plan and forward it to Viessmann within 14 calendar days. The supplier undertakes to implement these actions within a reasonable period specified by Viessmann, usually 150 calendar days.



Even outside of pre-arranged audits, Viessmann may inspect the production of delivered items, take part in technical approvals and inspections, and examine information, quality records and other documentation relating to the quality management system, ISO certification, products and/or production processes (e.g. ISIR, PPAP, APQP documentation). The supplier will make such documentation available free of charge. The supplier has no right of refusal.
The audit rights described in this section also apply to sub-suppliers. The supplier is responsible for ensuring that Viessmann can also carry out the audits specified in the above provisions at sub-suppliers' premises, if necessary and after consultation.

As part of a performance test (Run@Rate), the supplier shall provide evidence of the quantities agreed by Viessmann in accordance with the framework supply agreement. If the required volumes cannot be achieved, the supplier is obligated to take appropriate measures.
The performance of any kind of audit does not discharge the supplier from its full responsibility to deliver products free of defects.

2.1.6 Contingency Plan

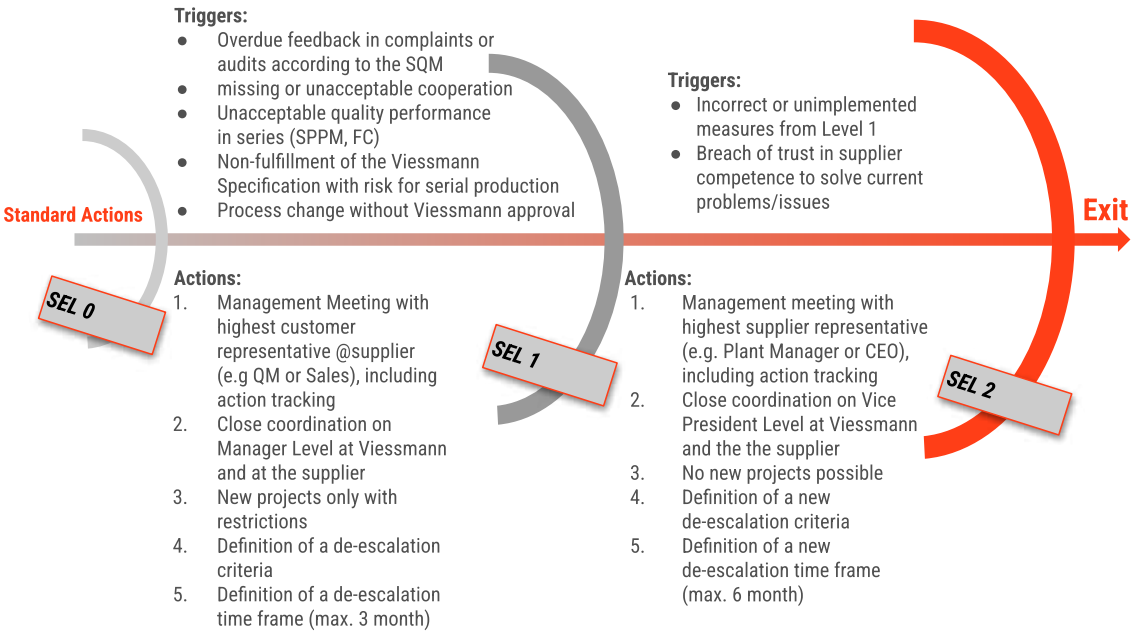
The supplier is obliged to carry out a comprehensive risk assessment of its operations that affect the production facilities, quality requirements and delivery dates for Viessmann. This assessment should at least consider the impact of the following factors:

- Staff shortages (pandemics, strikes, turnover)
- Cyber hacking
- Natural disasters
- Geopolitical risks
- Disruptions to the supply chain
- Intellectual property claims
- Problems with equipment
- Problems with facilities or systems

As an integral part of this planning, the supplier must prepare contingency plans to ensure the continuity of its operations and minimize the risk of supply interruptions to Viessmann. Should a critical risk scenario occur for which no contingency plan exists, the supplier is obliged to notify Viessmann immediately.

2.1.7 Supplier Escalation Process

Viessmann has defined the supplier escalation process to handle cases of increasing problems with quality, timing or communication. This process is meant to support the problem-solving process and has two levels (Supplier Escalation Level, abb. SEL). The supplier is obliged to fully implement all required actions to ensure a de-escalation as soon as possible and prevent an exit strategy.



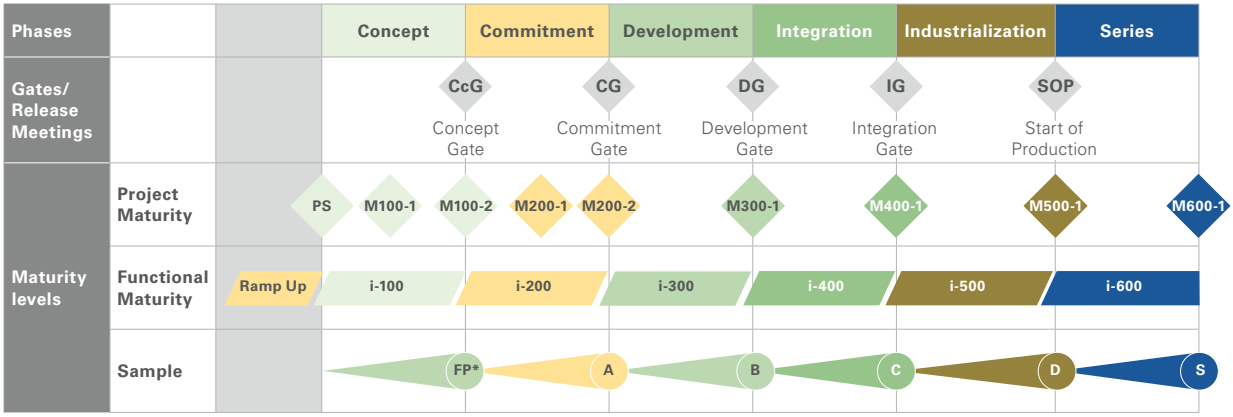
2.2 Specific Requirements Prior to Production Start

2.2.1 Documentation

The product description must ensure that all Viessmann requirements are included in the relevant documents, including warranty requirements. The supplier is responsible for the flawless execution of its products and services in accordance with the agreed documents. In addition to the requirements arising from the quality management system to be maintained by the supplier, the supplier must in particular check the completeness and correctness of the specification, drawings, component specification and other requirements for the quality of the product provided by Viessmann in accordance with its expertise and, if necessary, request further information from Viessmann. The supplier shall notify Viessmann immediately of any identified and recognizable gaps, inaccuracies, risks and other defects. Furthermore, the supplier shall check the feasibility of the product and if this is positive, sign the component specification by way of confirmation. If the feasibility of the product cannot be guaranteed, the supplier shall report this immediately and take appropriate action in consultation with Viessmann. The supplier is obligated to provide all documents, test reports and analyses associated with development to Viessmann for inspection. Series delivery to Viessmann is excluded without positive feasibility and thus a signed component specification.
Documents are transferred via a secure system, e.g. Tresorit, to ensure secure communication. The supplier is obligated to use the data transfer system specified by Viessmann.

2.2.2 Supplier Development Prior to SOP

Viessmann focuses especially on preventive quality work, therefore the supplier development process is very important for the Supplier Quality & Development Strategy. Viessmann has a product development process with several sample phases, as shown in the following schematic diagram:



As soon as the internal requirements for PPAP, APQP and Process Sign-off have been defined and a risk classification has been carried out, Viessmann conducts a kick-off meeting with the supplier. The aim is to define the component qualification and sample phases with a multidisciplinary team and to create an industrialization timing plan. Viessmann expects confirmation of this timing plan within the scope of feasibility. Furthermore, a validation plan must be drawn up with information on the time, type and scope of the validation and the samples. The supplier must evaluate and document its approvals based on the individual stages of product and process development. The manufacturing and test conditions must be agreed and documented between Viessmann and the supplier. Differences to the planned series production or deviations from the specification must be documented. The following requirements for the sample phases have been drawn up by Viessmann:

- **A-sample:**
  A-samples are the basis for the realization concept and are only approved for tests in the laboratory or similar. Parts may originate from prototype production, special production or production by modification of previous or existing products.
- **B-sample:**
  B-samples are used to achieve the design definition or design freeze. Production can be carried out with test or pre-series tools, but must use the final defined materials.
- **C-sample:**
  C-samples originate from series production tools to be usable for field tests. Production must be carried out using series production tools and materials as well as on the planned production lines and processes.
- **D-sample:**
  D-samples are produced with series tools under series conditions. All quality requirements must be met, to ensure that the parts are fully usable and suitable for series production. Facilities, locations, process parameters and the manufacturing process should correspond to the series standard.

Project-specific deviations from these sample requirements can be determined in consultation with Viessmann. The project meeting is repeated for each sample phase in order to jointly analyze the sample maturity level of the component and ultimately have it approved by Viessmann. This approval or successful validation of the component does not release the supplier from the obligation to provide deliveries free of defects and the resulting warranty claims. The supplier has the exclusive responsibility for the quality and testing of its components. The supplier is responsible for ensuring that its components meet all normative and legal requirements as well as the agreed specifications in accordance with the sample phase and the generally recognized state of the technology. For this reason, Viessmann expects the supplier to act as the technology expert for the component in the technical evaluation of feasibility in the production process. In this way, the supplier shares the responsibility for development, even if the development sovereignty remains with Viessmann. The supplier therefore cannot refuse the responsibility to comply with warranty and guarantee requirements by simply stating that all required validations were passed and approved. At the end of the integration phase, the product is evaluated by Viessmann on the basis of the initial sample process; see details in section 2.2.7. In addition to the initial sample inspection, Viessmann carries out a process sign-off for components with high risk, in order to evaluate not only the product but also the supplier‘s production process including Run@ Rate. As soon as both approvals have been given, the product can be successfully released and transferred to series production.

2.2.3 Special Characteristics

Special characteristics require particular attention, as deviations from these characteristics can have a high impact on product safety, durability, installation capability, the function or quality of subsequent production steps as well as compliance with legal regulations. Special characteristics are specified by Viessmann. In the absence of specifications for special characteristics, the supplier must independently select product and process characteristics that are suitable for ensuring product quality and process assurance. These characteristics can in particular result from the supplier‘s risk analyses, e.g. from the product, (design) and/or process FMEA. Special characteristics must be given special consideration and be monitored in all relevant planning steps. Viessmann distinguishes between the following three types:

- BM S (Safety Relevant Characteristics)
- BM F (Function Relevant Characteristics)
- BM Z (Legal Relevant Characteristics)

Viessmann expects the supplier to consistently identify the special characteristics in FMEAs, drawings, risk analyses, the control plan and other documents, and to monitor the production processes in accordance with section 2.2.4, paragraph 2.

2.2.4 FMEA

The FMEA is a system and risk analysis during the development and planning phase that includes both system optimization and risk minimization. It can be used to detect faults at an early stage and prevent them in advance from occurring. The FMEA must be carried out and documented in accordance with the seven steps from the VDA/AIAG manual. According to these standards, the design/product FMEA is used to analyze the design of products, assemblies, components and their interfaces with regard to their quality over the entire life cycle of the product, such as production, commissioning, use and maintenance through disposal. The process FMEA analyzes possible errors that can occur during production, assembly or logistical processes to ensure that the products meet the design specifications. Viessmann expects a continuous review and updating of FMEAs, especially in the case of the following events:

- Development/production of new parts
- Introduction of new manufacturing processes
- Location changes
- Changes to drawings
- Changes to processes
- Occurrence of errors

The supplier is required to identify and evaluate risks systematically and in time in accordance with the above and to initiate suitable measures to minimize risks with the aim of improving products or processes and avoiding failure costs.

2.2.5 Process Flow Charts and Control Plan

Process flow charts describe the production flow along the entire value chain, including goods receipt (including transportation), all production steps, warehousing and shipping. Alternatively, comparable control elements such as production orders can also be used, which fulfill all the requirements of process flow charts. Process flow charts show influencing variables and are therefore important tools for quality planning. They are also the basis for FMEAs and inspection plans as well as the control plan.

The control plan is a planning tool for preventive process control. It is created on the basis of teamwork through the systematic analysis of production, assembly and testing processes. The results of design and process FMEAs, experiences from similar processes and products and the use of improvement methods shall be taken into consideration when preparing control plans. Special characteristics agreed with Viessmann and those which were defined by the supplier must be documented in control plans as well as their inspection frequency. A further detailed description of the procedure for preparing a control plan is included in VDA Volume 4 and in the AIAG APQP.

2.2.6 Monitoring of Production Processes and Capability Studies

As a fundamental principle, all product and process characteristics are important and must be fully respected. Viessmann therefore expects its suppliers to define the test equipment and corresponding test methodology in a control plan in accordance with the Viessmann specification. The supplier must define the monitoring of the test system as well as the calibration. The supplier is responsible for the determination and proper definition of its process-relevant characteristics and, if necessary, the suitable improvement of the production facilities or the suitable test methods.

Viessmann additionally requires an analysis of the capability of the machines, the production processes and the measuring equipment for the agreed characteristics and for special characteristics specified by the supplier. Measuring equipment capability studies are the basis for carrying out process capability studies. These studies should ensure that the measuring equipment used is suitable and that the results are comparable despite the variation range and position shift of the measured values. Viessmann therefore requires an MSA 1 with cgk ≥ 1.33 and, if applicable, an MSA 2 or 3 with %R&R ≤ 20%. The examination and evaluation is based on VDA Volume 5 or AIAG MSA.

In general, the purpose of the process capability studies is to verify the quality capability of the processes. Viessmann requires a cmk ≥ 1.67 for the machine capability and, if already available at the start of series production, a process capability cpk ≥ 1.33. Viessmann requires a sample size of at least 50 parts for the machine capabilities and at least 125 parts for the process capability. A deviation from the above-mentioned procedure must be individually agreed with Viessmann. If the process capability cannot be guaranteed, a 100% check must be carried out or the process must be safeguarded by using suitable test methods (Poka Yoke). Special characteristics that cannot be measured or can only be tested destructively must be monitored and documented using suitable methods. The examination and evaluation of capabilities shall be based on VDA Volume 4 or AIAG SPC. Proof of process capability shall be collected by the supplier free of charge, handed over on request and also verified for the current series. The supplier's obligation to deliver defect-free products shall remain unaffected even if the required values are achieved.

2.2.7 Initial Sampling (PPAP)

The purpose of the initial sample inspection is to determine whether all agreed requirements for the product are correctly executed by the supplier and whether production is capable of manufacturing products that meet these requirements during the production ramp-up with the required production quantity. The supplier is exclusively responsible for the execution and correctness of the test and measurement results of the initial sample inspection. The basic requirements for the initial samples or the initial sample process are listed in the initial sample order and the associated „PPAP" form. It must be clarified with the responsible Purchasing, R&D and Quality Engineering departments whether the parts produced under the current production conditions meet the requirements as initial samples. It must also be determined to which contact person or unloading point the initial samples are to be sent. The following steps apply:

- The supplier carries out all necessary activities for sampling on the basis of the defined criteria, characteristics and documentation. Viessmann defines the necessary PPAP level for this; see table below.
- The supplier checks the completeness and fulfillment of the requirements, prepares and signs the part submission warrant. The supplier then sends the initial samples, including the required documentation, to Viessmann as scheduled. If deviations occur during the release procedure with regard to completeness and fulfillment of the requirements, the root causes must be determined and appropriate corrective actions must be initiated.
- Viessmann evaluates the documents and sample parts submitted or presented. The part submission warrant of the report is supplemented by the release status. The release status is sent to the supplier with the part submission warrant.

The part submission warrant is an elementary component of the PPAP process and must always be sent to Viessmann. In accordance with the AIAG PPAP manual, all elements should be completed. Viessmann divides the part submission warrant into the following levels:

Level 1	Warrant only submitted to Viessmann.
Level 2	Warrant with product samples and limited supporting data submitted to Viessmann.
Level 3	Warrant with product samples and complete supporting data submitted to Viessmann.
Level 4	Warrant and other requirements as defined by Viessmann.
Level 5	Review of initial sampling by Viessmann at the supplier's premises.

2.3 Specific Requirements after Production Start

2.3.1 Identification and Traceability

Standardized part marking ensures the unique identification of purchased parts and assemblies in Viessmann devices, as well as accessories and spare parts. During the component development process, a part type is assigned according to the component. This assignment distinguishes between four types of parts, ranging from batch traceability to individual traceability with a manually readable individual number. The supplier is obliged to fulfill all the requirements in accordance with the assigned part type.

The supplier is also obliged to ensure the traceability of the supplied products. This includes the consideration of all sub-suppliers as well as complete documentation of all relevant production, testing and status data as well as changes to the product and manufacturing process. In the event of a defect being detected, traceability and localization of the defective parts/products/batches/etc. must be ensured. The requirements specified by Viessmann regarding the labeling of products and parts must be complied with. It must be ensured that the labeling of the packaged products is also visible during transport and storage.

To avoid mixing batches and to ensure the traceability of batches, raw materials, purchased parts from sub-suppliers and parts from the supplier's own production, all processes and deliveries must follow the „First In - First Out" principle. The supplier must ensure the traceability of its products, starting with its customer Viessmann through to its own suppliers. For this purpose, the parts or containers must be appropriately labeled with the batch number and revision status. The revision status must also be indicated on the delivery note.

2.3.2 Requalification

Possible requirements for requalification are described in the component specification. After previous agreement with Viessmann, the requalification for similar parts can be carried out for one product group or results from current series tests can be included. The basis for requalification are the applicable specifications. A requalification test usually includes the dimensional tests and material function; other test scopes as well as the quantity of parts to be tested for requalification are to be agreed with Viessmann. The requalification test must be included in the control plan. The results are documented by the supplier and must be made available to Viessmann for evaluation if requested. In the event of negative results, the supplier must contact Viessmann immediately. The supplier shall submit the results of the requalification test to Viessmann on request.

2.3.3 Change Management

Before implementing changes that could have an impact on the product and the relevant production process (form, fit and function), written approval must be obtained from Viessmann and the change must be documented in the product life cycle. The announcement of a planned change must be made in writing and in advance, but at least six months before the planned implementation, with all necessary data and facts. Possible changes that require an official announcement include:

- New parts
- Design, specification or material changes
- Application of alternative materials or designs
- Application of new, modified or replaced molding tools
- Change to manufacturing methods or production processes
- Relocation of production or usage of new production resources
- Change of sub-supplier or third-party services
- Change based on a complaint
- If production facilities have been shut down for 12 months or longer

If at least one of the above criteria is applicable (based on VDA 2), Viessmann must be informed of the proposed change in writing without delay. In addition to the Process Change Notification (abb. PCN), a risk analysis as well as a plan for validating the change must also be available. For this purpose, the official "PCN" form, which is available on the Viessmann homepage, can be used. All changes must be sent to the email address provided by Viessmann: SupplierPCN@Viessmann.com. The supplier is obliged to obtain the information on the release method specified by Viessmann. The delivery of the products affected by the change can only be approved after the written and successful release of the change notification. The supplier shall ensure that the modified products are labeled and recognizable accordingly.

2.3.4 Special Release

In case of deviations from the Viessmann specification, a special release must always be obtained from Viessmann prior to delivery. For this purpose, the official "special release/ rework" form, which is available on the Viessmann homepage, must be used. If products have already been delivered, the receiving Viessmann production plant must also be informed immediately. The next steps will then be determined. All deliveries made on the basis of a special release shall also have special labeling on all load carriers.

2.3.5 Complaints Management

Viessmann only inspects the products upon delivery with regard to their identity, delivery quantity and any transport damage that may be externally visible on the packaging. Defects discovered during this inspection shall be reported to the supplier immediately upon discovery. Hidden defects shall also be reported immediately after their detection. Any further statutory obligations of Viessmann to investigate are excluded. In this respect, the supplier waives the objection of delayed notification of defects. The supplier must align its quality management system and quality assurance measures with this reduced incoming goods inspection.

As soon as the supplier learns of complaints in connection with delivered products that are used by other customers for comparable applications, the supplier will notify Viessmann without delay. The supplier and Viessmann agree on a direct and open exchange of information with respect to these matters so that potential impacts on the end customer can be prevented or at least minimized. This procedure serves to mitigate losses in the interest of both partners. Both shall therefore cooperate fully in the investigation of the root causes and possible solutions within their sphere of responsibility, even where the cause of the complaint between the partners is in dispute.

In the case that defective products are discovered at Viessmann or at the end customer's premises, the supplier is obliged to immediately take appropriate corrective action and on request carry out a problem-solving process in accordance with the 8D methodology. For this purpose, the "8D-Report" form and the "8D-Assessment" form, which are available on the Viessmann homepage, can be used. The status of the immediate actions (D3 in the 8D-Report) must be reported to Viessmann within 24 hours and updated regularly. As part of the immediate actions, the supplier is obligated to:

- install a Q-Gate immediately so that only parts free of defects come to Viessmann (e.g. 100% inspection)
- supply replacements immediately
- collect the suspect goods from Viessmann
- immediately organize sorting or rework at Viessmann by external service providers specified by Viessmann

Root cause analyses for the occurrence and non-detection must be carried out using suitable problem-solving methods and must be submitted to Viessmann. In addition, detailed analyses (such as Ishikawa, 3x5 Why questions, fault simulations, etc.) must be carried out. Viessmann is entitled to participate in the tests and diagnostics carried out by the supplier and its sub-suppliers, to have such tests observed by third parties authorized by Viessmann or to carry out such tests itself at the supplier's premises with the supplier.

A detailed action plan (D5 in the 8D-Report) for effective problem solving of the root cause, occurrence and non-detection must be submitted to Viessmann within 14 calendar days of receipt of the complaint. The complete 8D-Report must be submitted to Viessmann in writing within 60 calendar days at the latest. If actions need to be corrected, the 8D-Report must be updated. If necessary, different deadlines can be agreed between the supplier and Viessmann. The 8D process can only be completed with the approval of Viessmann.

In the case of complaints from the field, the requirements of the framework supply agreement and the Viessmann Terms and Conditions of Purchase apply. The basis for this is the risk-minimizing approach to partnership-based co-operation. Viessmann therefore expects a consistent review of the product liability insurance and information on any changes to the conditions of the contract. Viessmann also requires a contractual agreement on warranty periods that apply from product design to the end of production and the implementation of preventive and corrective measures to ensure this.
All costs incurred in connection with a complaint caused by the supplier are the responsibility of the supplier.

2.3.6 Supplier Monitoring

Viessmann evaluates regularly the supplier's delivery quality using amongst other things the following key figures:

- SPPM (supplier parts per million): All defective parts which were detected by Viessmann are taken into account
- Field complaints: Quantity of complaints about parts which have left the Viessmann plant
- Audit result: See section 2.1.4
- Communication behavior

With the help of the above-mentioned key figures, an overall key figure is calculated and the supplier is assigned to a quality level and classified in the Q-pyramid strategy.
The supplier is obliged to regularly obtain information about its quality performance at Viessmann; this is possible via the website supplierportal.viessmann.com.

2.3.7 Supplier Improvement after SOP

In case of deviations in the supplier monitoring, see 2.3.6 and for supplier development, Viessmann has established a supplier improvement process to develop supplier performance in line with the agreed targets. An action plan with a timetable is drawn up jointly, milestones are determined, critical process steps are identified and improvement measures are established. The supplier declares its willingness to cooperate and provides the necessary capacities and resources. The supplier supports an open exchange of information in regular recurring meetings as well as in site visits and audits. The aim is to reduce risk and move towards a stable quality situation and excellent supplier evaluation - for a collaborative partnership, that places the pursuit of zero failure, zero waste and quality excellence at the heart of everything we do.

III. References and Appendix

3.1 Applicable Documents

Viessmann draws on the following references when implementing the individual tools and methods:
www.beuth.de
www.AIAG.org
www.vda-qmc.de

3.2 Index of Abbreviations

%R&R	% Repeatability & Reproducibility
8D-Report	8 Disziplin- Report
AIAG	Automotive Industry Action Group
APQP	Advanced Product Quality Planning
CEO	Chief Executive Officer
cgk	index for measurement capability
cmk	index for machine capability
cpk	index for process capability
D3	3th discipline in the 8D Report: Determine immediate actions
D5	5th discipline im 8D Report: Determine corrective actions
EG	European Community
ESD	Electro Static Discharge
EU	European Union
R&D	Research & Development
FC	Field complaint
FMEA	Failure Mode and Effects Analysis
IATF	International Automotive Task Force
IEC	International Electrotechnical Commission
ISIR	Initial Sample Inspection Report
ISO	International Organization for Standardization
MAQMSR	Minimum Automotive Quality Management System Requirements IATF 16949
MSA	Measurement systems analysis
PCN	Process Change Notification
PPAP	Production Part Approval Process
QM	Quality Management
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RoHS	Restriction of certain Hazardous Substances
SC	Special Characteristics
SE	Societas Europaea
SEL	Supplier Escalation Level
SOP	Start of Production
SPC	Statistical Process Control
SPPM	Supplier Parts Per Million
VDA	German Association of the Automotive Industry

3.3 Recording of Document updates

Change	Revision Description	Approved by & Title	Date
01	Initial Creation	Peter Eitner (Vice President Quality and Global Processes) & Hans-Arno Linkenheil (Senior Vice President Global Procurement and Logistic)	07/2024

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