

RAUFOSS

TECHNOLOGY



SQAM

Supplier Quality Assurance Manual

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RAUFOSS SOURCING POLICY AND INTRODUCTION

Raufoss Technology's mission is to have a global supply base with business partners to ensure a strong, competitive & long-term sustainable supply chain.

We are seeking for business partners with experience in global market sourcing and who distinguish themselves by their technology and competitiveness in addition to their engagement and cooperation towards Raufoss.

This engagement starts with a desire to collaborate, to understand Raufoss' needs as a tier 1 to OEMs and to demonstrate technical knowledge resulting in initiatives to optimize product design & manufacturing cost and quality throughout the partnership.



Jean Meredith
CEO Raufoss Group

Raufoss is committed to quality excellence, a customer-focused approach and continuous improvement. These goals are only reachable if these same principles and practices are adopted by all parties along the supply chain. Companies that desire to do business with Raufoss must therefore not be simply suppliers but Business partners.

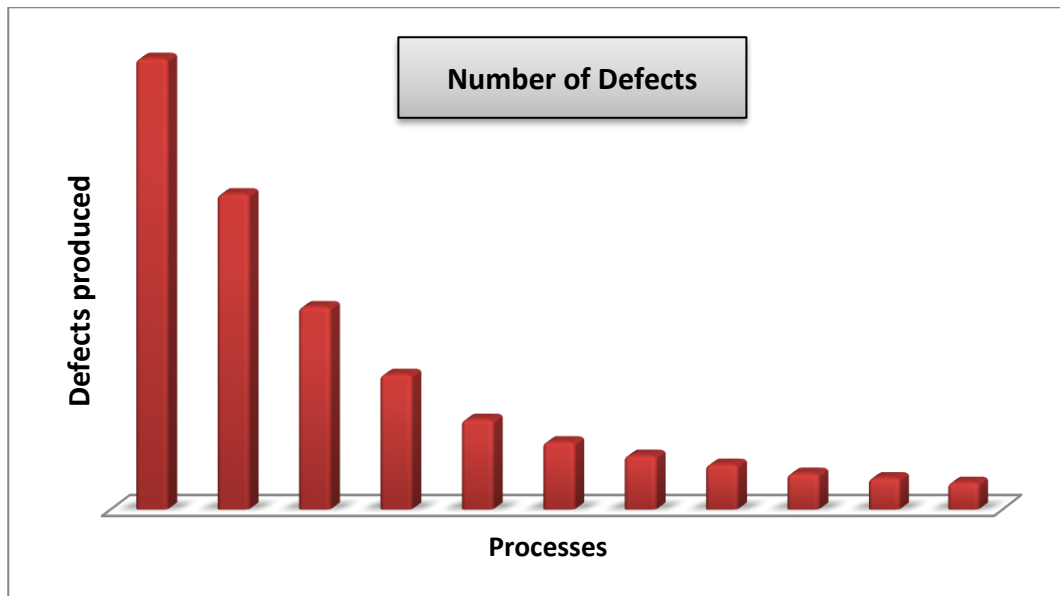
Business partners are expected to be actively involved throughout their relationship with Raufoss with the objective of developing a strong, stable and sustainable partnership. This manual covers the expectations, requirements, guidelines and practices to which companies must adhere in order to do business with Raufoss.

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1 BASIC REQUIREMENTS



OUR ATTITUDE: Strive for ZERO defect performance by focusing on process control

The automotive industry has over the course of its existence developed and perfected specialized processes and systems in order to successfully support the extensive demands of its business.

These processes and systems have been adopted by Raufoss and are an important factor in the expansion of the company over the last decades.

Their adoption by our suppliers is equally important to our success in the eyes of our customers. These are not only constituted by the OEMs but also by the end costumer, which is every single car driver and passenger.

We believe that achieving the highest level of quality and reliability can only be achieved by robust processes and rigorous monitoring. This requires a customer focus mind set, a continuing search for effective solutions and opportunities for continuous improvement.

1.1 PERFORMANCE EXPECTATIONS

- 1.1.1 The table below defines the target performance levels for Raufoss suppliers. Our desire is that all suppliers strive to meet and exceed these target values. All suppliers are expected to adopt a zero defect mindset and continuously strive to achieve the Zero Defect goal.

Measurement	Target
Quality delivered	Non-conformities = 0 NCRs* Monthly and annual rolling PPM = 0
Warranty	IPTV target
Safety Recalls	0 safety recalls
Delivery Precision	98% **
On Time Delivery	98% **

* NCR stands for Non-Conformity Report

**Refer to additional information in section 6

1.2 MANAGEMENT SYSTEMS REQUIREMENTS

Area	Required Level
Quality management system	Preferable: IATF 16949 certified Minimum: to ISO 9001 certified*
Environmental and energy management system	Preferable: ISO 14001 and 50001 certified Minimum: ISO 14001 compliant
Raufoss Qualification Audit	Greater than 80% and compliance to minimum requirements
Health and safety management system	Preferable: OHSAS 18001 / ISO 45001 certified Minimum: Supplier sustainability self-assessment
Ethical requirements (including conflict mineral and cobalt reporting and due diligence)	Minimum: Supplier Sustainability self-assessment and compliant to the Raufoss Supplier Code of Conduct
Special processes requirements	Applicable CQI requirements
Other regulatory requirements	Supplier C-TPAT / AEO self-assessment

*Pending OEM approval. ISO 9001 suppliers are expected to develop and improve their quality management system with the ultimate goal of becoming third party certified to the IATF 16949 standard. ISO 9001 certified suppliers shall comply at all times with the minimum automotive quality management system requirements for sub-tier suppliers (please refer to the IATF global oversight website for all applicable requirements). Suppliers must be third party certified.

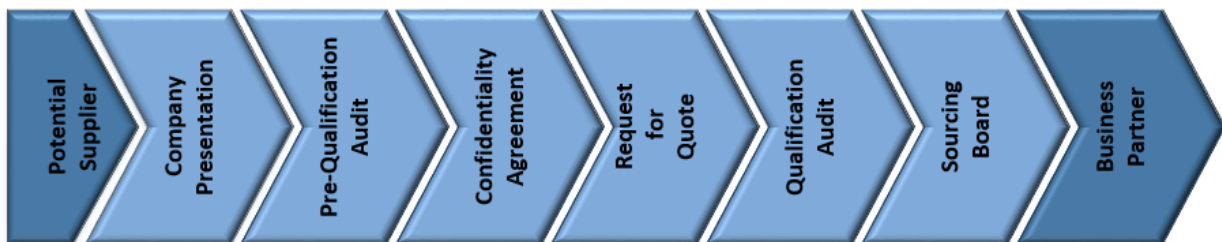
1.3 OFFICIAL LANGUAGE OF COMMUNICATION

- 1.3.1 The official language of all communications with Raufoss is English. Official supplier communication documents such as PPAP documentation, reports, problem resolution documents and emails shall be carried in English unless otherwise agreed.

1.4 DOCUMENT OFFICIAL VERSION AND REVISION

- 1.4.1 The business partner is responsible to ensure that it has the latest revision of the SQAM. The latest revision is available on the Raufoss Technology website:
<https://www.raufosstechnology.com/downloads/>

2 RAUFOSS GLOBAL SOURCING PROCESS



The Raufoss Global Sourcing Process is the first step in building a strong relationship between Raufoss and our business partners.

It is designed to ensure that potential business partners are evaluated based on objective criteria and that action plans can be established in order to allow them to become acceptable for sourcing.

Suppliers have an important role to play in the selection process:

- Actively participating in evaluation audits performed by Raufoss.
- Demonstrating their capability to achieve future quality results.
- Responding to action plans to reach the requested level.

The following chapter describes the main steps in the process required to become a Raufoss business partner. In this section, the information that potential suppliers can expect to receive and the evaluations that are required is further defined.

2.1 COMPANY PRESENTATION

- 2.1.1 A company presentation must be submitted to Raufoss. This presentation must include the company history, list of major clients, the organizational chart, key contacts, company profile, management system certifications, turnaround/sales, manufacturing footprint, product and services offered and business ownership type.
- 2.1.2 The list of major clients applies for OEMs and Tier I clients for which parts are provided for automotive serial production (as opposed to spare part orders).

2.2 PRE-QUALIFICATION INFORMATION FORM

- 2.2.1 Potential suppliers will be requested to complete the pre-qualification information form and submit their company presentation as evidence of the information submitted. Interested suppliers are also encouraged to take the initiative and pro-actively complete and submit this form.
- 2.2.2 Upon completion, the pre-qualification information form can be submitted to your Raufoss purchasing contact. If you do not have any Raufoss contacts, regional contact emails can be found on our website: <https://www.raufosstechnology.com/contact-us/>
- 2.2.3 Existing Raufoss business partners which have not participated in a recent evaluation and which are not currently supplying parts may be requested to submit an updated company presentation and pre-qualification information form prior to seeking additional business opportunities.

2.3 CONFIDENTIALITY AGREEMENT

- 2.3.1 Before receiving a Request for Quotation (RFQ), suppliers are required to sign and return a confidentiality agreement. The supplier shall treat all information and data related to the business relationship with Raufoss in strict confidence and report any intentional or non-intentional breach of confidentiality to the Raufoss management. The Confidentiality Agreement template will be supplied by the purchasing department.

2.4 REQUEST FOR QUOTATION (RFQ)

- 2.4.1 To be considered for business, suppliers must fully address each section of the RFQ and include all of the requested supporting documents when responding.
- 2.4.2 Quote must respond to all requirements provided by Raufoss such as drawings and material specifications.
- 2.4.3 In the event there are requirements that cannot be fulfilled, suppliers shall make exceptions when quoting.
- 2.4.4 Suppliers shall perform a design review prior to submitting a quote and are expected to give engineering input in order to optimize design, cost and manufacturability.
- 2.4.5 Suppliers shall provide a packaging layout draft for the components that they intent to supply.
- 2.4.6 Suppliers shall provide in their quote a cost breakdown justifying the final price proposed to Raufoss. Basis and assumptions for raw material costs shall be coordinated with the responsible Raufoss purchasing contact.
- 2.4.7 In the context of specific OEM programs, suppliers might be requested to submit documentation detailing

their current carbon footprint and commitment for its reduction in accordance with the targets set by the OEM(s) and Raufoss.

2.5 QUALIFICATION AUDIT

- 2.5.1 The Raufoss Qualification Audit consists of four main parts:
- A quality system basics audit,
 - A manufacturing process audit
 - A self-assessment on sustainability, conflict Mineral reporting, environment, and logistics
- 2.5.2 The first two parts of the audit evaluate the level of commitment from suppliers to ensure that a potential business works according to the IATF16949 and AIAG standards. This evaluation shall take place at each of the proposed manufacturing locations quoted in the RFQ.
- 2.5.3 The supplier may be asked to complete the first two parts first as a self-assessment prior to the visit of the Raufoss representatives. In such cases, the supplier shall complete and return the form to the Raufoss representatives at least 48 hours prior to the on-site evaluation.
- 2.5.4 Suppliers must achieve a global score of 80% and comply with minimum IATF quality system requirements as detailed in the QSB section of the audit in order to be considered as a Raufoss potential business partner. Results higher than 60% are acceptance on the condition that action plans are established to raise the score to 80% by the sourcing board date.
- 2.5.4.1 A potential business partner shall establish an action plan to close all gaps resulting in its non-compliance to the requirements detailed above. The action plan must be approved by the Raufoss SQE.
- 2.5.4.2 Suppliers shall close all items detailed in their action plan prior to the Raufoss sourcing board date.
- 2.5.4.3 At the discretion of its sourcing board, Raufoss may source a supplier with open items in their action plan provided if the supplier agrees to complete all actions at the capacity confirmation event.
- 2.5.5 The Qualification Audit shall also serve to verify that potential suppliers performing special processes (as per CQIs), implement the necessary process and quality controls to satisfy these additional requirements. This survey will take place by verifying that the supplier has completed its annual special process self-assessment.
- 2.5.6 Sub-tier suppliers shall be compliant to the following and work towards implementing a policy containing, but not limited to:
- | | |
|---------------------------------|---|
| • Respect for human rights, | • Non-discrimination, freedom of association, |
| • Forced and compulsory labour, | • Collective bargaining, |
| • Child labour, | • Anti-corruption & bribery, |
| • Working conditions, | • Health & safety, |
| • Wages and benefits, | • Environment management |
| • Management of chemicals | • Sourcing of conflict minerals |

Suppliers are invited to consult the Raufoss supplier code of conduct for the comprehensive list of requirements in regards to corporate responsibility and sustainability.

- 2.5.7 The supplier must make reasonable efforts: a) to know, and to require each supplier to disclose, the sources of Conflict Minerals used in its products; and b) to eliminate procurement, as soon as commercially practicable, of products containing Conflict Minerals obtained from sources that fund or support inhumane

treatment in the Covered Countries.

- 2.5.8 Raufoss requires their suppliers to ensure the integrity of their security practices and communicate and verify the security guidelines of their business partners within the supply chain.
- 2.5.9 We encourage our partners to comply with C-TPAT and AEO requirements.
- 2.5.10 We encourage our partners to complete the Global MMOG/LE self-assessment available on AIAG. This is a continuous improvement tool to enhance material management efficiently and accurately.

2.6 BUSINESS PARTNER

- 2.6.1 The term business partner applies to companies which have successfully passed the qualification process and that can now be proposed to the sourcing board for business award nomination.

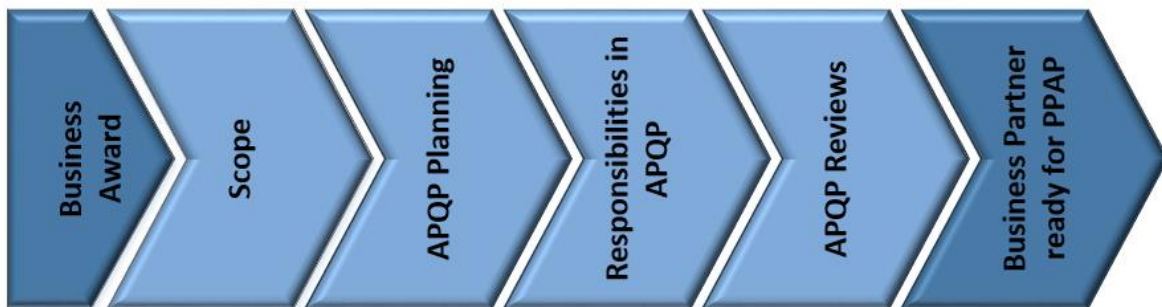
2.7 SOURCING BOARD

- 2.7.1 The Raufoss sourcing board is the responsible entity for deciding whether a supplier will be awarded a project. The sourcing board takes into account all the information provided in the supplier quote, the supplier qualification audit as well as other requirements predefined by the Raufoss buyer. Such additional requirements can be, but are not limited to, a supplier's financial risk evaluation, the current supplier's carbon footprint and the supplier's commitment for its reduction.
- 2.7.2 Potential suppliers on the business partners list will be submitted for business award to the Raufoss sourcing board. The selected supplier will be notified and receive a nomination letter.

2.8 SOURCING AGREEMENT CONTRACT

- 2.8.1 The contract terms, additional terms & conditions and quality requirements as described by this Supplier Quality Assurance Manual are documented in the supplier sourcing agreement contract. All requirements shall be formally accepted by the supplier by providing to Raufoss a signed copy of the sourcing agreement. Any deviations from any of the requirements shall be clearly documented by the supplier on the signed sourcing agreement itself or on a side letter to the latter. The acceptance of the requirements is required no later than the supplier's first delivery of serial production parts.

3 BUSINESS PARTNER APQP PROCESS



Staying competitive in the markets where Raufoss participates requires continuous development of new products and regular improvements to existing ones.

Supporting the introduction of new products requires a well-defined and organized process for project planning and launch. Raufoss organizes all new product introductions into projects. Suppliers are required to have an effective project planning process that is capable of supporting the Raufoss process and timing for project management.

Raufoss adopted the AIAG guideline for APQP as the standard planning method for bringing products into life. Suppliers are expected to follow this structure for process development and validation for Raufoss products.

The following chapter describes the expectations related to APQP and requirements for synchronizing the supplier's and Raufoss' plans.

3.1 SCOPE

- 3.1.1 Raufoss requires suppliers to use Advanced Product Quality Planning (APQP) or VDA as a tool to support process development, integration and prove-out. The AIAG publication “Advanced Product Quality Planning (APQP) and Control Plan” or equivalent should be used as a reference in developing these plans.
- 3.1.2 Suppliers shall take into account Raufoss Specific Requirements as well as applicable OEM Customer Specific Requirements. The supplier is encouraged to communicate with its Raufoss Quality Representative in order to ensure that all specific requirements are well understood and implemented.
- 3.1.3 Suppliers are responsible to develop and drive APQP for all components related either to the introduction of new components or to significant changes to existing components, processes, manufacturing equipment, etc.

3.2 APQP – PLANNING

- 3.2.1 The objective of the planning process is to deliver the project on time, at cost and at a satisfactory level of First Time Quality. The initial development of the APQP should begin upon receipt of the serial production RFQ.

3.3 RESPONSIBILITIES IN APQP

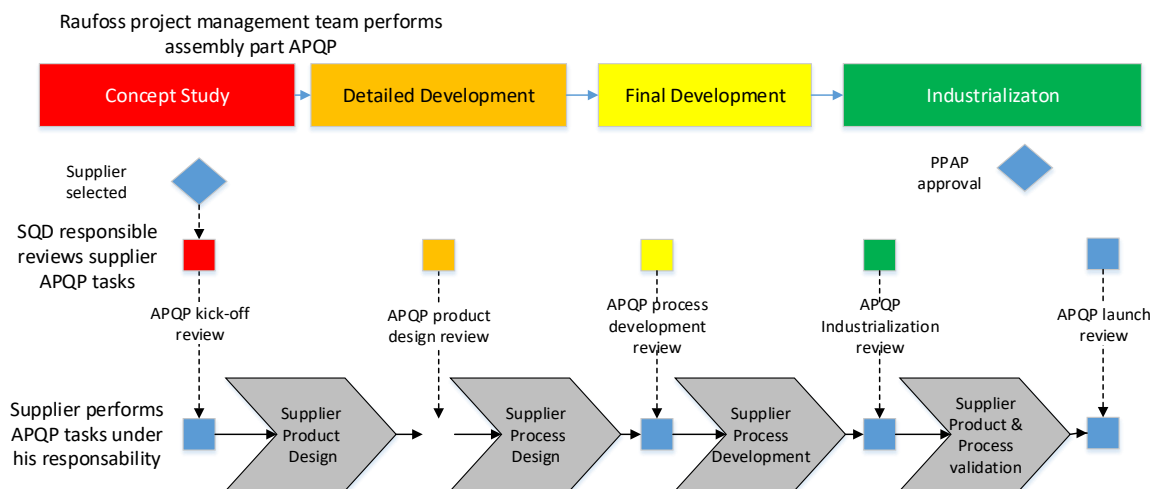
- 3.3.1 Successful projects require a level of cooperation and teamwork between customer and supplier as well as good definition of the project’s responsible resources.

The Supplier is responsible to:	Raufoss is responsible to:
<ul style="list-style-type: none">• Assign a dedicated project manager or APQP leader.• Organize a cross-functional APQP project team.• Develop and execute an APQP Plan to support a successful product launch.	<ul style="list-style-type: none">• Identify the Raufoss project team members and the project manager.• Assign an SQD responsible to support the completion of APQP activities with the project team.• Identify key milestones and project parameters.

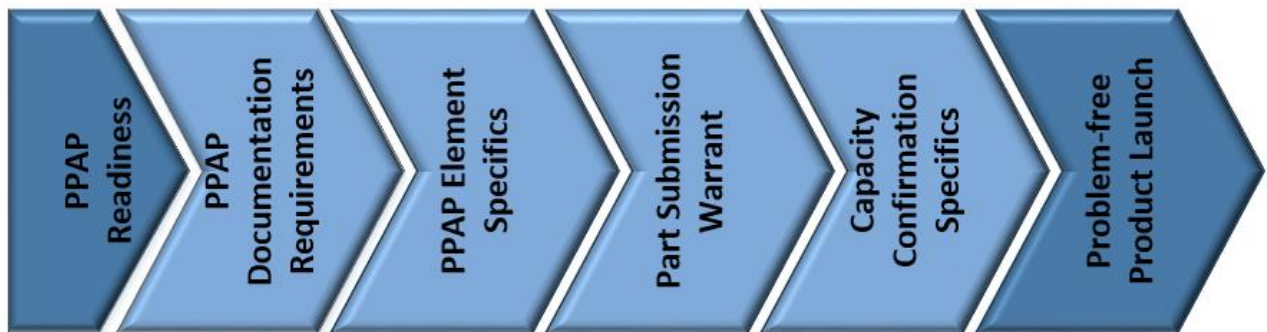
The information above shall be established during the APQP kick-off meeting between the business partner and Raufoss.

3.4 APQP REVIEWS

- 3.4.1 Suppliers are required to report the project status at regular, established intervals during the project development. These reviews are held at the frequencies established by the Raufoss team. Suppliers should prepare for these project review meetings by completing or updating the APQP Gate Review forms, their project plan and the project milestone dates.
- 3.4.2 The initial APQP Review meeting (Kick-Off Review) shall occur within four weeks following the award of business.
- 3.4.3 Suppliers are responsible to complete and maintain the information for each review meeting. Raufoss encourages business partners to develop and use their own APQP gate templates. At the exception of the APQP Kick-off checklist the supplier forms will be used as the basis for evaluating the project advancement.
- 3.4.4 This picture illustrates the relationship between Raufoss' APQP gates and the supplier's project plan. The illustration shown is for a project where the supplier is Design Responsible



4 BUSINESS PARTNER PPAP & CAPACITY REQUIREMENTS



The Production Part Approval Process (PPAP) demonstrates that the manufacturing process used to produce parts for Raufoss is fully developed, thoroughly tested, and capable of serial production of parts conforming to the technical specifications.

The required PPAP for Raufoss suppliers is based on the AIAG requirements.

Sample parts and the supporting documentation shall be submitted as evidence that:

- The design records and specifications have been properly understood and met.
- The manufacturing process has the capability to produce conforming parts in the actual production environment.
- The manufacturing process has the capacity to support the production quantities at a consistent quality level.

4.1 GENERAL GUIDELINES

- 4.1.1 Raufoss requires its suppliers to follow the Customer Notification and PPAP submission as specified in the AIAG PPAP Manual. This includes but is not limited to changes related to:
- Introduction of new components
 - Raw materials
 - Drawing or specification changes
 - Corrections to a prior discrepancy
 - New manufacturing site
 - Supplier process change
 - Changes to an existing part
 - Changes of sub-tier suppliers
 - Change or relocation of machines used for manufacturing of the part.
- 4.1.2 The PPAP run is to be conducted using:
- production tooling
 - production equipment
 - production line layout
 - manpower that will be used for serial production
- 4.1.3 In accordance with the IATF 16949 standard, the AIAG guidelines and the Raufoss Purchasing conditions, a supplier cannot implement a change to a product or production process following PPAP, without prior approval from Raufoss.
- 4.1.4 The supplier shall have received a signed Part Submission Warrant (PSW) or an Interim PSW prior to shipment of any parts destined for serial production.
- 4.1.5 For running change PPAPs, the first shipment of these new parts must be clearly identified by applying labels on the boxes or part containers.
- 4.1.6 PPAP Requested documentation is in accordance of the Raufoss PPAP Checklist.
- 4.1.7 Proprietary documents that cannot be submitted must be available for review. Suppliers may be required to travel to Raufoss sites for review of proprietary documents.

4.2 SPECIAL CHARACTERISTICS

- 4.2.1 Raufoss special characteristics shall be included in all of the supplier's official quality documentation (PFMEAs, Control plan, flowchart, work instructions, etc.) and cascaded down to sub-suppliers' quality documentation.
- 4.2.2 The use of internal logos for special characteristics is allowed provided that the special requirements for these characteristics as listed in this document are permanently met. Customer symbols shall be used unless a symbol conversion table is submitted and approved by customer.
- 4.2.3 The Raufoss special characteristics are illustrated below



Raufoss Fit and Function



Raufoss Safety Characteristic

4.3 DESIGN RECORDS

- 4.3.1 Suppliers shall only submit PPAP packages based on the production-released drawings. A copy of the Raufoss released drawing must be included in the submission package. PPAPs cannot be approved based on supplier's drawings unless otherwise agreed. Balloons drawings supporting dimensional checks must be done on the Raufoss released drawing.

4.4 MATERIAL DATA SHEET

- 4.4.1 Material data sheets shall be submitted to Raufoss through the material data system for PPAP approval – Raufoss IMDS number: 2278. Please contact your assigned Raufoss SQE if your MDS submission is not reviewed within a reasonable amount of time.
- 4.4.2 Suppliers shall comply with the REACH legislation and other applicable market regulations in the countries where the parts are intended for use.
- 4.4.3 If conflict minerals and/or Cobalt are reported in the supplier's MDS, the supplier shall submit to their quality contact their conflict mineral report template (CMRT) or carbon report template (CRT) as well as their responsible material sourcing policy.

4.5 CAPABILITY STUDIES

- 4.5.1 The supplier shall perform capability studies on all KPCs and dimensions checked by gages that appear on the Raufoss released drawing for the final part (excluding basic and reference dimensions).
- 4.5.2 The supplier shall perform these studies on 30 parts for each unique manufacturing process and tooling/cavities. For running changes, dimensions not affected by modifications may be discarded with Raufoss' permission.
- 4.5.3 For PPAP capabilities, acceptable short-term capabilities are the following:
- Special characteristics (RFF and RSC): Ppk superior to 1.66
 - Other dimensions: minimum Ppk of 1.33

The supplier shall implement 100% inspection and corrective action plans for all dimensions failing the requirements stated above unless authorized by Raufoss.

- 4.5.4 Suppliers may be subject to submit capability studies for other dimensions.
- 4.5.5 Customer specific requirements overrule the requirements listed above.

4.6 FULL DIMENSIONAL LAYOUT

- 4.6.1 The supplier shall provide data for all dimensions appearing on Raufoss released drawing.
- 4.6.2 The supplier shall provide data for 3 parts per equipment machine/tooling/cavities. This requirement can be waived, pending approval from the Raufoss SQE, in cases where the production process or the tooling make this requirement unreasonable (for example bushing molds with large number of cavities).

4.7 MASTER SAMPLES

- 4.7.1 The supplier shall conserve the parts taken to perform the dimensional layouts and have them signed by the SQD representative as proof of approval for dimension and appearance conformity.
- 4.7.2 These sample parts shall be available for client review. These sample parts shall be used as the basis for comparison of quality during the life of the program. The quality of production parts shall not be inferior to that of the sample parts.

4.8 PROCESS FLOW DIAGRAM

- 4.8.1 The supplier shall have developed a process flow chart showing all manufacturing processes including raw material reception, incoming inspection, handling, storage, manufacturing steps, final inspections, packaging and labelling.
- 4.8.2 Process flow diagrams shall indicate all steps where process and product inspections (manual or automatic) are performed.

4.9 PRODUCTION CONTROL PLAN

- 4.9.1 The supplier control plan shall indicate all of the following controls:
 - Visual inspections.
 - Gauging operations.
 - Automated controls.
 - Poka yoke detection systems
 - Performance testing
 - Validation of Poka yoke detection systems
 - Incoming material inspections.
 - Laboratory testing.
- 4.9.2 The production control plan shall agree with the process flow diagram (sequence and numbering).
- 4.9.3 Inspection frequencies stated on the control plan shall be adjusted for early production containment (EPC) phase at Raufoss' discretion. The exit criteria for the early production containment phase are discussed in chapter 5.
- 4.9.4 Aluminum extrusion and casting suppliers shall refer to the Raufoss Material Data Sheets (MDS) for material testing frequencies for serial production. All deviations shall be documented with Raufoss SQD approval.

4.10 DESIGN FAILURE MODE AND EFFECTS ANALYSIS

- 4.10.1 Design responsible suppliers shall develop a design FMEA and use the scoring guidelines provided by AIAG.
- 4.10.2 RSCs shall have a minimum severity score of 9.

4.11 PROCESS FAILURE MODE AND EFFECT ANALYSIS

- 4.11.1 Suppliers shall develop a process FMEA and use scoring guidelines provided by AIAG.

- 4.11.2 The supplier shall have action plans for the potential failure modes with the highest Risk Priority Numbers (RPNs) or severity indices. Action plans shall seek to decrease the RPN of the potential failure mode with emphasis placed on preventing the defects rather than detecting them.
- 4.11.3 RSCs shall have a minimum severity score of 9.
- 4.11.4 The supplier shall have a detection score of 3 or less for all items with a severity score equal or superior to 8. Any deviation regarding this guideline shall be notified and discussed with the Raufoss SQE.

4.12 MEASUREMENT SYSTEM ANALYSIS (MSA)

- 4.12.1 MSA shall be carried out for all dimensional KPCs and gauged dimensions as well as RFFs.
- 4.12.2 The supplier may be asked to perform MSA on visual inspections.
- 4.12.3 Part selection, appraiser selection as well as acceptance criteria shall be agreed with the Raufoss quality representative.
- 4.12.4 Customer specific requirements overrule statements listed above

4.13 SUB-SUPPLIER PPAP DOCUMENTATION

- 4.13.1 The supplier shall submit with the PPAP package the signed PSWs of its sub-suppliers as proof of their PPAP approval.
- 4.13.2 Suppliers are required to use the AIAG or VDA guidelines for sub-tier PPAPs.
- 4.13.3 Suppliers may be requested to submit partial or full sub-supplier PPAP documentation specially in the context of outsourced key processes such as heat treatments, coating

4.14 STATISTICAL PROCESS CONTROL (SPC)

- 4.14.1 SPC charts shall be developed for monitoring of RFFs and RSCs characteristics unless a 100% control is planned.
- 4.14.2 SPC validation, where applicable, shall be included on of the process control plan.

4.15 MATERIAL TEST RESULTS

- 4.15.1 Aluminum extrusion, casting and forging suppliers shall refer to the Raufoss MDS for PPAP requirements regarding material testing. All deviations shall be documented with written approval from Raufoss SQD.
- 4.15.2 Suppliers shall demonstrate process capability for applicable mechanical properties following the guidelines described in 4.4
- 4.15.3 Material certificates submitted shall not be older than 1 year prior to PPAP submission. Exceptions are perishable components for which certificates need not be older than shelf-life.

4.16 PERFORMANCE TEST RESULTS

- 4.16.1 At Raufoss' discretion, suppliers may be required to support component performance testing and producing the required reports for approval.

4.17 TOOLING IDENTIFICATION

- 4.17.1 Where applicable, the supplier must submit pictures of tooling that is property of Raufoss or of the OEMs.
- 4.17.2 The supplier shall permanently engrave such tooling according to the identification nomenclature defined by Raufoss.
- 4.17.3 The supplier shall submit the following pictures:
- Close up picture on the engraved identification.
 - Overall picture of tool
 - Where applicable, a picture of the dies in an open configuration

4.18 LABORATORY ACCREDITATION

- 4.18.1 The supplier shall submit its laboratory scope and, where applicable, those of the laboratories used to outsource validations.

4.19 RAUFOSS SPECIFIC REQUIREMENTS

- 4.19.1 Raufoss reserves the right to add specific requirements to the supplier's PPAP package.

4.20 PART SUBMISSION WARRANT (PSW)

- 4.20.1 The supplier shall keep in its records a Raufoss signed copy of the PSW as proof of its PPAP approval.

4.21 MANUFACTURING CAPACITY CONFIRMATION

- 4.21.1 The manufacturing capacity confirmation run shall not necessarily take place simultaneously with the supplier PPAP production run provided it is performed prior to production ramp-up.
- 4.21.2 The manufacturing capacity confirmation run is to be conducted using:
- production tooling
 - production equipment
 - production cycle time
 - production line layout
 - manpower that will be used for serial production
- 4.21.3 The manufacturing capacity confirmation run shall take place over a significant production run of at least 4 hours unless otherwise agreed between Raufoss and the business partner.
- 4.21.4 The actual yearly manufacturing capacity shall be calculated using the contracted shift pattern.
- 4.21.5 The actual yearly manufacturing capacity shall equal or exceed the contracted volume capacity and the maximum capacity rate (MCR).

5 SERIAL PRODUCTION REQUIREMENTS

Following the PPAP and capacity confirmation requirements, additional requirements need to be fulfilled in order to ensure a proper working relationship between Raufoss and its business partners following start of serial production.

Of particular importance is the need for transparency. Business partners are encouraged to report any known suspect or confirmed deviations regarding any of the requirements detailed in this paragraph.

Raufoss expects that each business partner will not only maintain the quality standards of the components provided for PPAP but will strive to surpass them. Business partners are also expected to continue providing timely and precise deliveries, engineering expertise when required and ideas for manufacturing cost reductions when possible.

5.1 EARLY PRODUCTION CONTAINMENT EXIT CRITERIA

- 5.1.1 Suppliers shall conform to the Raufoss agreed validation frequency planning for early production containment until the following conditions have been met:
- The supplier's production has met the LCR targets following manufacturing ramp-up.
 - No issues regarding the validations performed in Early Production Containment conditions have been reported at the Raufoss plants.

5.2 STATISTICAL PROCESS CONTROL

- 5.2.1 KPCs shall be monitored through life of program at supplier with the use of Statistical Process Control (SPC). Long-term capability of RFFs and RSCs shall be equal or superior to 1.33.
- 5.2.2 RFFs or RSCs with Cpk's that do not comply with the above requirement shall be controlled 100% either with the use of an automated and routinely validated Poka Yoke Control or by 100% gauging control.
- 5.2.3 A deviation request shall be submitted for any deviations regarding the above statements as applied to key product characteristics.

5.3 PRODUCT TRACEABILITY

- 5.3.1 When lot control is utilized, the system must establish and maintain one-to-one relationship between a lot/batch traceability number and a certain quantity of produced parts. If a traceability number, other than the serial number, is used for identifying serialized parts, a one-to-one relationship between the traceability number and the serial number must be maintained.
- 5.3.2 Traceability shall be established linking the delivered product to the tooling used for its manufacture. Examples of such tooling are dies, molds, assembly fixtures, cutting tools.
- 5.3.3 Where applicable for multi-cavity tools, traceability extends to cavities (not applicable to extrusions).
- 5.3.4 Traceability shall be established linking the delivered product to the raw material batch used for its manufacturing.
- 5.3.5 Traceability shall be established linking the delivered product to special treatments such as heat treatments, coating, soldering, etc.
- 5.3.6 Additional traceability shall be established linking the delivered product to special process steps such as rework and reprocessing.
- 5.3.7 A deviation request shall be submitted for any known and/or intended deviation regarding product traceability.

5.4 PRODUCT CLEANLINESS REQUIREMENTS

- 5.4.1 All parts shipped to Raufoss shall be clean of any substances not required to the final product or for its preservation during transport and shelving.
- 5.4.2 A deviation request shall be submitted for any known and/or intended deviation regarding product cleanliness.

5.5 PACKAGING

- 5.5.1 Packaging here refers to the containers, pallets as well as the quantity and layout of parts inside the container.
- 5.5.2 The supplier shall retain and submit a Packaging drawing to Raufoss for approval.
- 5.5.3 The supplier shall deliver products using only Raufoss approved packaging.
- 5.5.4 Suppliers are encouraged to present for approval packaging improvement proposals.
- 5.5.5 A deviation request shall be submitted for any known and/or intended deviation regarding product packaging.

5.6 LABELLING

- 5.6.1 The supplier shall deliver products using only Raufoss approved labels.
- 5.6.2 Package labelling should include as a minimum: Supplier name, part number with revision level, date of expedition, quantity of parts contained and batch number.
- 5.6.3 Package labelling for aluminum extrusions shall include die number used for extrusion.

5.7 MATERIAL/PRODUCT CERTIFICATES

- 5.7.1 At Raufoss' discretion, the supplier shall submit material/product certificates with every lot or delivery of manufactured components or raw material.
- 5.7.2 The certificates shall be supplied electronically to the contact specified by the Raufoss quality departments and must be available prior or simultaneous to the arrival of the components.
- 5.7.3 The certificates must contain all requested information as established by Raufoss
- 5.7.4 A deviation request shall be submitted for any known and/or intended deviation regarding raw material or component certificates.

5.8 REQUESTING DEVIATIONS TO SPECIFICATIONS

- 5.8.1 In the case where the supplier wishes to request a deviation to supply parts that do not fully comply with Raufoss requirements, the supplier must inform Raufoss and request approval. The request must be approved prior to shipment.
- 5.8.2 All shipments made under a deviation should be identified on the exterior of the shipping container. Specific labelling type should be agreed between the supplier and the Raufoss quality representative.

5.9 FIRST IN FIRST OUT INVENTORY CONTROL – FIFO

- 5.9.1 Suppliers are responsible to have inventory control systems that positively identify and control obsolete material to prevent inadvertent shipment to Raufoss. Where feasible, suppliers shall maintain first in / first out (FIFO) inventory management practice. The system for FIFO control must ensure controls extend to rework/repair, test activity and off-site (sub-contract) processes. Suppliers are responsible to establish inventory control that takes into account shelf life of their components if applicable

5.10 PRODUCT OR PROCESS CHANGE NOTIFICATION

- 5.10.1 The purpose of this requirement is to prevent quality & delivery issues resulting from unapproved, untested changes or modifications after PPAP approval. This applies, but is not limited to the following cases:
- Transferring of the production line: partial or total; to a new or existing location, plant or building
 - New production layout or changes to production line
 - Change of a sub-tier supplier
 - Changes of a process at a contract supplier
 - Renewal of current tooling
 - Packaging changes or repackaging operations
 - Change to the raw material
 - Outsourcing all or part of production to a sub-tier supplier
 - Request for change to product design including dimensions, tolerance, function, appearance
- 5.10.2 The supplier desiring or requiring a change shall submit a completed Product and Process Change Notification (PPCN) form to Raufoss as soon as the modification project is known, and at least 12 weeks prior to the intended Start of Production. Suppliers may be required to submit additional information to support evaluation of the proposed change.
- 5.10.3 Suppliers must be prepared to support the impact of a change request at all Raufoss facilities. This expectation applies to all changes covered by submission and approval of a PPCN. Suppliers making a process or product change must be capable and willing to provide information and resources required to secure product quality and uninterrupted deliveries.
- 5.10.4 Introduction of changes without Raufoss approval may result in any or all of the actions and costs detailed in 6.1.6 and 6.1.7
- 5.10.5 Once approved by Raufoss, suppliers will be notified. Upon receipt of the approval, suppliers should implement the modification project according to the agreed implementation plan.
- 5.10.6 The level of PPAP documentation required to support the introduction of the change will be determined by the Raufoss quality team. Authorization to start shipping (with the changes implemented) is only granted via the return of the signed PSW following PPAP approval.

5.11 SUB-TIER SUPPLIER REQUIREMENTS

- 5.11.1 The sub-tier suppliers shall be 3rd party registered to ISO 9001 with a plan for achieving IATF 16949 or must work accordingly to a quality system compliant to ISO 9001. Raufoss strongly encourages our suppliers to support IATF 16949 certification of their suppliers. Suppliers have full responsibility for the quality assurance and corrective action of products delivered from sub-tier suppliers for use in Raufoss products.
- 5.11.2 Raufoss purchasing reserves the right to have direct access to sub-tier suppliers and processes that could have significant impact on final product quality. Please check with your Raufoss quality representative to determine if your sub-tier or contract suppliers would fall into one or more of these categories
- 5.11.3 The sub-tier suppliers shall have a sustainability policy in place which covers the following topics:
- Respect for human rights,
 - Forced and compulsory labour,
 - Child labour,
 - Working conditions,
 - Wages and benefits,
 - Non-discrimination, freedom of association,
 - Collective bargaining,
 - Anti-corruption & bribery,
 - Health & safety,
 - Environmental management
- 5.11.4 The supplier must make reasonable efforts: a) to know, and to require each supplier to disclose, the sources of Conflict Minerals used in its products; and b) to eliminate procurement, as soon as commercially practicable, of products containing Conflict Minerals obtained from sources that fund or support inhumane treatment in the Covered Countries.
- 5.11.5 Raufoss requires their suppliers to ensure the integrity of their security practices and communicate and verify the security guidelines of their business partners within the supply chain. We encourage our partners to comply with C-TPAT / AEO requirements
- 5.11.6 We encourage our suppliers to complete the Global MMOG/LE self-assessment available on AIAG. MMOG/LE is a self-assessment continuous improvement tool to enhance material management efficiently and accurately.
- 5.11.7 If the sub-tier supplier does not comply with any of the requirements above, the supplier shall establish action plans along with the sub-tier supplier to move towards their compliance.

5.12 RECORD RETENTION

Document type	Examples	Retention period
PPAP documentation	PSW, Control Plan, PFMEA, DFMEA, Drawings, etc.	Life of program + 1 year
Quality records	Inspection records, material certificates	Current year + 1
Quality System Documentation	Internal quality system audits, product and process audits, etc.	Current year + 1
Product safety related records	Fatigue tests, corrosion tests	15 years from manufacturing date
Notes : For Volvo parts, in accordance with their Customer Specific Requirements section 7.5.3.2.1, lifetime + 20 years is required for development documentation and product documentation for legal and safety requirement related parts. Daimler CSR September 2017, referring to VDA Volume 1, section 5, requires 15 years of retention.		

5.13 WARRANTY

- 5.13.1 A warranty issue will be deemed supplier-responsible if the issue is determined to be caused by a quality issue which was not addressed through an approved deviation request to Raufoss.
- 5.13.2 A warranty issue will be deemed supplier-responsible if the issue is determined to be caused by faulty product design and if the supplier is design responsible.
- 5.13.3 For failures determined to be supplier-responsible, suppliers shall be notified through receipt of a warranty claim.
- 5.13.4 Suppliers shall fully participate in the investigation, root cause analysis and corrective action when field failures are identified as supplier-responsible.
- 5.13.5 For failures determined to be supplier-responsible, parts failing under warranty shall be treated as non-conforming parts and a non-conformity report shall be assigned to the supplier (see 6.1).
- 5.13.6 If the non-conformance is generated by a supplier, the quality department may call the responsible supplier for immediate correction or replacement of products.
- 5.13.7 Suppliers shall refer to the Raufoss General Terms & Conditions regarding commercial responsibility for warranty claims.

5.14 SUSTAINABILITY, C-TPAT /AEO & MMOG/LE

- 5.14.1 Suppliers may be asked to complete sustainability, C-TPAT / AEO and MMOG/LE self-assessments annually. This frequency can be subject to change at Raufoss' discretion.
- 5.14.2 Suppliers shall demonstrate improvements throughout these systems based on the scores of the self-assessments. Raufoss may demand action plans for specific requirements.

5.15 REQUALIFICATION PROCESS

- 5.15.1 The requalification process shall cover product and process audit and include validation testing.
- 5.15.2 Process auditing shall be performed using either a VDA 6.3 audit template or the Raufoss audit template. The use of internal audit templates shall be agreed with the Raufoss SQE.
- 5.15.3 Suppliers shall under no circumstances modify their control plans in regards with the validation testing and dimensional layout inspection without Raufoss approval.
- 5.15.4 Suppliers shall document the validation testing performed and the results shall be approved either by a qualified lab manager, the product manager or the quality department.
- 5.15.5 Suppliers shall contact the Raufoss quality representative following any test that does not comply with customer specifications.
- 5.15.6 All reports shall be made available to Raufoss upon request.
- 5.15.7 Where allowed by the OEM, parts can be grouped into part families provided
- 5.15.8 Layout Inspection & validation requalification of the part family shall be performed on a yearly basis as a minimum requirement. The supplier shall however alternate the parts are assigned to the yearly layout and validation with the objective of covering all parts throughout a pre-defined cycle.

5.16 RISK MANAGEMENT AND CONTINGENCY PLANNING

- 5.16.1 Suppliers shall develop a risk assessment process to identify areas within the supply chain that could affect the ability to meet Raufoss requirements.
- 5.16.2 Based on the risk assessments performed, suppliers shall develop contingency plans that would be implemented in the event of a deviation or disruption from the normal business process.
- 5.16.3 Contingency plans should cover EDI, transportation, packaging, equipment failure, etc.
- 5.16.4 Risk assessments shall be periodically performed and contingency plans updated to cover new areas of risk.

5.17 COMMUNICATION AND ESCALATION TO RAUFOSS

- 5.17.1 Suppliers shall have a process and/ or work instruction to immediately notify Raufoss and respond to any situation that could negatively impact Raufoss.
- 5.17.2 This instruction or process shall clearly define who communicates; to whom the communication is sent; and what, how and when to communicate.

5.18 CYBER-SECURITY

- 5.18.1 Suppliers shall develop a policy regarding supply chain cyber security threats. Typical activities that can be applied to reduce security threats include buying only from trusted vendors, disconnected critical machines from outside networks, educating users on security threats, etc.

5.19 SUPPLIER MANUFACTURING PROCESS AUDIT

- 5.19.1 In addition to audits conducted by Raufoss, supplier is expected to conduct internal audits of their manufacturing and supporting processes according to a predetermined schedule.

5.20 SUPPLIER SPECIAL PROCESS ASSESSMENTS

- 5.20.1 Supplier shall evaluate the effectiveness of each of the applicable special processes as defined by AIAG listed below:

- Heat Treating – CQI-9 Special Process: Heat Treat System Assessment
- Plating – CQI-11 Special Process: Plating System Assessment
- Coating – CQI-12 Special Process: Coating System Assessment
- Molding – CQI-23: Special Process: Molding System Assessment
- Casting – CQI-27: Special Process: Casting System Assessment
- Rubber Mixing and Molding – CQI-30: Special Process: Processing System Assessment

- 5.20.2 This requirement shall also apply to sub-suppliers (Tier II to Raufoss) who employ the above-listed special processes.

- 5.20.3 Supplier shall submit a completed self-assessment of applicable CQIs to Raufoss for PPAP and afterwards on an annual basis.

6 BUSINESS PARTNER PERFORMANCE MEASUREMENT



Raufoss recognizes that the performance of the supply base has a direct and immediate impact on organizational performance. In response to this, Raufoss has developed a system for the measurement and evaluation of supplier performance. The indicators resulting from this process are compiled, reviewed and evaluated by the sourcing and quality departments.

In addition to performance, Raufoss measures a supplier based on their cooperation in seeking to resolve quality or supply chain problems. Suppliers are evaluated on the promptness in response when notified of a problem, the timeliness of their response, and the effectiveness of actions taken to resolve the problem.

6.1 MANAGING NON CONFORMING PARTS

- 6.1.1 All parts not responding to any of the product specifications, which are not declared and authorized by the client through a derogation request and which reach a Raufoss plant shall be treated as non-conforming parts.
- 6.1.2 A non-conformity report (NCR) shall be opened to document the incident involving the delivery of non-conforming parts.
- 6.1.3 All non-conforming parts found between the initial date and the date of delivery of certified parts shall be treated under the same non-conformity report. Re-occurrence of an issue following this date will result in the opening of an additional non-conformity report.
- 6.1.4 The supplier shall contain all finished product in-house and all shipments destined to all Raufoss plants following the non-conformity report time of issue. Containment shall be effective until permanent corrective actions are put in place and their effectivity validated.
- 6.1.5 The supplier shall not delay any shipments due to containments actions unless approval is received by the Raufoss purchasing and/or logistics departments.
- 6.1.6 Depending on the type of non-conformity, suppliers should be prepared to take any or all of the following actions:
- Replacement of non-conforming material
 - Provide resources to perform required sorting or rework
 - Provide third party sorting resources
 - Authorize Raufoss to begin third party activities on the supplier's behalf
 - Provide instructions and acceptance criteria required to support inspection, sorting, or rework.

6.2 COST RECOVERY FOR NON CONFORMING PARTS

- 6.2.1 The supplier shall also accept to pay the following possible variable costs incurred by Raufoss maximum 24 hours following the notification of the deviation:
- Manpower for sorting and rework activities of non-conforming and suspect parts.
 - Rework or certification tooling.
 - Shipping of incoming non-conforming material if paid by Raufoss.
 - Warehouse costs for non-conforming or suspect material that cannot be stored at Raufoss.
 - Added-value cost of Raufoss parts that have to be scrapped due to the use of non-conforming parts delivered by the supplier.
 - Fixed fee equal to USD 500 in the actual currency covering for the administration of the non-conformity report.
 - Handling fees estimated as 3% of material value of non-conforming parts.
- 6.2.2 Nonconforming parts or material will be returned to suppliers or scrapped at Raufoss based on supplier's direction.

6.3 MANAGING DELIVERY TIMELINESS AND PRECISION DEVIATIONS

- 6.3.1 The supplier shall communicate immediately with their Raufoss logistics responsible for any deviations to the Raufoss delivery timeliness requirements (Between 6 days early and 3 days late of purchase order date). The supplier shall confirm to Raufoss the updated delivery date.
- 6.3.2 The supplier shall communicate immediately with their Raufoss logistics responsible for any deviations to the Raufoss quantity precision requirements (90% - 109% of purchase order quantity). The supplier shall confirm to Raufoss the exact quantity to be delivered.
- 6.3.3 The supplier shall also communicate with their Raufoss logistics responsible if premium freights are required in order to expedite deliveries.
- 6.3.4 A non-conformity report (NCR) shall be opened to document the incident involving the deviation.
- 6.3.5 The supplier shall also accept to pay a fixed fee penalty equal to USD 500 in the actual currency covering for the administration of the non-conformity report as well as incurred costs by Raufoss or OEMs related to unplanned down-time, SMEDs, changes to production schedules, overtime or weekend shifts and freight costs (both from the supplier and to the customer).

6.4 CORRECTIVE ACTION RESPONSE REPORTING

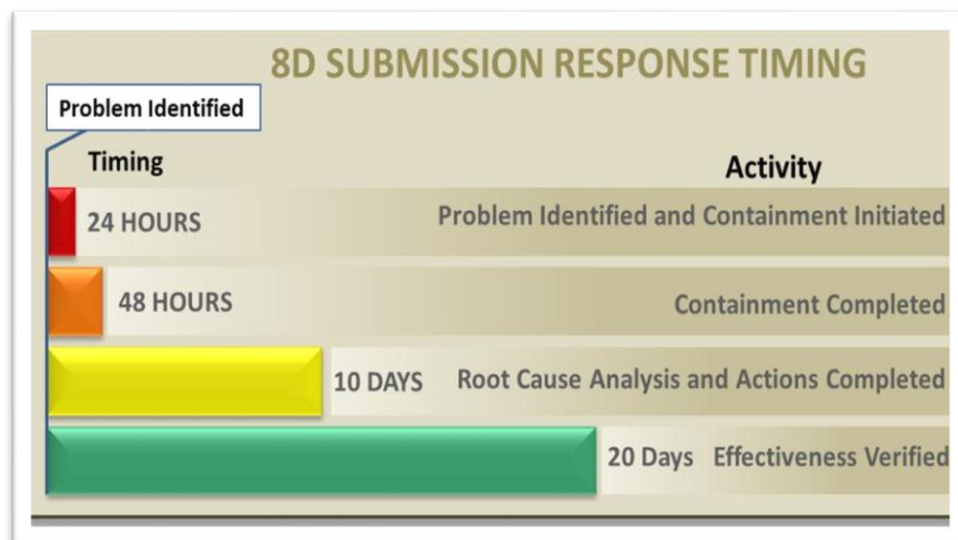
- 6.4.1 The Supplier shall respond to a non-conformity report with the completion of 8 Disciplines (8D) report. This format properly outlines the key steps involved in problem resolution and assists the supplier in properly establishing containment, root cause, correction and future prevention of the problem.
- 6.4.2 The supplier shall also respond to deviations to deliver timeliness or precision with the completion of an 8D report. Targets for delivery timeliness and precision are stipulated in 6.8.
- 6.4.3 The supplier is allowed to use his own 8D report format. The supplier may also contact its Raufoss quality representative in order to receive the Raufoss 8D format to complete his investigation.
- 6.4.4 The supplier 8D report form must contain the following fields to be an accepted form to answer to a Raufoss non-conformity report.
 - Header: Suspected batches or delivery or PO number.
 - Header: Total quantity of suspected parts.
 - Header: Supplier 8D leader.
 - D1: Supplier cross-functional responsible team.
 - D2: Problem description
 - D2: Are any other part numbers affected?
 - D2: Are any other Raufoss plants affected?
 - D3: Containment actions.
 - D4: Root cause analysis of deviation occurrence and non-detection
 - D5: Corrective action on deviation occurrence and detection
 - D6: Validation of corrective action.
 - D7: Modified official documentation.
 - D8: Planned and actual dates for completion of all disciplines.

6.5 CORRECTIVE ACTION RESPONSE TIMING

- 6.5.1 The supplier shall start the problem solving process upon notification. It is critical that appropriate actions occur immediately to contain the problem and avoid any further disturbances to production or potential quality hazard.
- 6.5.2 When notified of non-conformities, suppliers are requested to react in accordance to the following timeline:

Time following NCR issuance	Supplier actions required
24 Hours (one full work day)	<ul style="list-style-type: none"> Acknowledgement of non-conformity report receipt Initiation of internal and external containment. Submission of 8D report with completed header, 1D, 2D and 3D steps.
48 Hours (two full work days)	<ul style="list-style-type: none"> Containment of stock completed and short term corrective actions fully implemented.
10 work days	<ul style="list-style-type: none"> Root cause analysis for occurrence and non-detection completed. Permanent corrective action defined and implemented. Submission of 8D report with completed 4D and 5D steps
20 work days	<ul style="list-style-type: none"> Evaluation of permanent corrective action performed and recurrence prevented Submission of 8D report with completed 6D and 7D steps.

- 6.5.3 The supplier shall reach an agreement with a Raufoss quality representative if the resolving time lasts longer than 20 working days.



6.6 SUPPLIER EVALUATION

- 6.6.1 Raufoss maintains a scorecard of the quality and delivery performance for each supplier that delivers parts to a Raufoss facility. The measurements on this scorecard are reviewed to track supplier performance.
- 6.6.2 All supplier performances are evaluated every six months
- 6.6.3 Critical suppliers, as identified by Raufoss, will also receive a monthly scorecard.

6.7 SUPPLIER EVALUATION – QUALITY

- 6.7.1 The supplier shall be scored in its ability to supply products of the expected quality, its responsiveness following the assignation of non-conformity reports and its ability to supply proper documentation such as 8D reports and PPAP documentation.
- 6.7.2 Points will be deducted from the supplier's quality evaluation following the issuance of non-conforming reports given that Raufoss expects a Zero defect approach from its suppliers.
- 6.7.3 Points will be deducted from the supplier's quality evaluation following failures to complete the non-conforming report supplier actions in the timeframe presented in 6.5.2.
- 6.7.4 Points will be deducted from the supplier quality evaluation if reports do not contain the proper information as detailed in 6.4.4
- 6.7.5 Points will be deducted from the supplier quality evaluation if component quality non-conformities result in yard-holds or warranty spills at the OEMs.

6.8 SUPPLIER EVALUATION – DELIVERY

- 6.8.1 The supplier shall be scored in its ability to supply products according to the established delivery schedules and the established delivery quantities.
- 6.8.2 Raufoss expects the supplier to deliver products in time. Delivery timeliness for each shipment will be graded as follows:

Delay between actual and planned delivery date	timeliness score
Between 6 days early and 3 days late	100%
Between 4-5 days late	80%
7 Less early and earlier	80%
6 days late and later	0%

- 6.8.3 Raufoss expects the supplier to deliver product according to the required quantities. Delivery precision for each shipment will be graded as follows:

Percent accuracy in delivered quantity	precision score
0% - 75%	0%
76% - 89%	75%
90% - 109%	100%
110% and more	75 %

- 6.8.4 Points will be deducted from the supplier quality evaluation for all expedite deliveries.

6.9 SUPPLIER EVALUATION – RESPONSIVENESS

- 6.9.1 The supplier shall be scored in its ability to provide technical and purchasing support to Raufoss.
- 6.9.2 Raufoss expects that its suppliers will be cooperative and responsive if PO dates and quantities have to be modified.
- 6.9.3 Raufoss also expects that the supplier will provide technical expertise in a timely manner upon request even for issues not related to quality.

6.10 SUPPLIER EVALUATION –CERTIFICATION

- 6.10.1 The supplier shall be scored in their progress towards being certified ISO 9001 or IATF 16949.

6.11 SUPPLIER PROCESS CONTROL PLAN AUDIT (PCPA)

- 6.11.1 If a supplier's evaluation score is under 60%, it will be subject to pass an onsite PCPA.
- 6.11.2 Raufoss reserves the right to perform process audits whenever it is deemed necessary. Suppliers will be given reasonable advance notice of a pending audit. The supplier may contact its Raufoss quality representative to receive a copy of the PCPA template used by Raufoss.
- 6.11.3 Raufoss also reserves the right to visit sub-suppliers (Tier II to Raufoss) and perform process audits whenever it is deemed necessary. Suppliers will be given reasonable advance notice of a pending audit.
- 6.11.4 One or more process audits may be required during the development and launch phases of the introduction of a new product or process. The respective Raufoss quality representative will communicate this requirement to the supplier during the development of the APQP activities.

6.12 CONTROL SHIPPING: LEVEL 1 AND 2

- 6.12.1 Following the Process Control Plan audit, the supplier shall establish and submit to Raufoss an action plan to address the reported issues.

- 6.12.2 If the supplier action plan is not deemed acceptable by Raufoss, the supplier will be placed under controlled shipping level 1 for 30 days. Controlled shipping level 1 requires the supplier to have internal dedicated personnel to certify the conformity of 100% of the products prior to their expeditions.
- 6.12.3 The supplier shall be placed in controlled shipping level 2 for 30 additional days if it fails to contain non-conform material while in control shipping level 1. Controlled shipping level 2 grants authorization to Raufoss to hire a third party company to certify 100% of the products at the supplier's facility prior to their expedition.
- 6.12.4 The supplier shall be prepared to assume all costs related to the establishment of Controlled shipping levels 1 and 2.
- 6.12.5 Failure to regain control following controlled shipping level 2 might trigger re-sourcing for new business partners.

REVISION LOG

Revision Date	Revision Modification
July 26 th , 2016	Initial Release of Raufoss SQAM
October 24 th , 2016	Modification to Raufoss sourcing policy
May 10 th , 2018	1.2 – modified to minimum compliant with ISO 9001 and ISO 14001 2.5.4 – Supplier qualification modified based on IATF 16949 requirements. 4.5.5 – Precedence of CSRs for Capability requirements 4.10.3 – FMEA high severity rule 4.12.4 – Precedence of CSRs for MSA guidelines 4.15.3 – Expiry of material certificates 5.13.7 – Commercial responsibility for warranty is addressed through General Terms & Conditions 5.15 – Annual validation + dimensional layout requirements 6.2.1 – Clarification on notification and agreement for cost recoveries 6.5.2 – time for 8D response 6.7.5 – Deduction of points for yard holes and warranty spills 6.8.4 – Deduction of points for expedite deliveries General: added definition and requirements for special characteristics.
August 13 th , 2018	General: correction of typos
February 5 th , 2019	1.4 – document available on the Raufoss Neuman website 6.2 – fixed recovery fee – “equal to USD 500 in the actual currency” 6.3 – Addition of section for delivery and timeliness deviations.
November 6 th , 2019	1.3.1 – Clarification on types of communications and waiver issuance possibility. 4.2.2 – Added specifications about special characteristics usage. 5.12 – Note added on Volvo and Daimler specification for record retention.

August 21 st , 2020	<p>General: revisions to section numbering and references in the revision log.</p> <p>4.11.2 Clarifications on action plans for top potential failures modes.</p>
March 14 th , 2022	<p>Overall review of document</p> <p>1.2 added preference for energy management and health and safety management system certifications.</p> <p>2.4 addition of possible carbon footprint and financial risk assessment requirements for request for quotation process.</p> <p>2.7 added clarifications to the role of the Raufoss sourcing board</p> <p>2.8 added paragraph for sourcing agreement and requirement to have a signed sourcing agreement before the supplier's first delivery.</p> <p>4.4 clarification to the MDS submission process</p> <p>4.6 clarification to sampling size for PPAP full dimensional layout</p> <p>4.21 added minimum requirement of a 4-hour production for capacity confirmation exercise.</p> <p>5.15 added clarifications to the requalification process</p> <p>5.16 added requirements for supplier risk assessments and contingency planning</p> <p>5.17 added requirements for the communication /escalation of issues to Raufoss</p> <p>6.3.5 addition to supplier cost recovery of Raufoss and OEM customer downtime, overtime, SMED due to supplier delivery or quality issues</p>
August 1 st , 2022	<p>Change of company logo and references to Neuman Aluminum Raufoss (now Raufoss Technology)</p>
December 6 th , 2022	<p>3.1.2 Added reference to OEM Customer Specific Requirements</p> <p>5.19 New section - SUPPLIER MANUFACTURING PROCESS AUDIT</p> <p>5.20 New section - SUPPLIER SPECIAL PROCESS ASSESSMENTS</p>