STADLER

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Quality Management Agreement (QMA)

between

Stadler Deutschland GmbH
Lessingstraße 102, 13158 Berlin
– hereinafter referred to as "**Client**" –

and

<Supplier Name>
<Address>
– hereinafter referred to as "**Supplier**" –

hereinafter collectively referred to as the "**Parties**" and individually as the "**Party**".

Revision Log					
Index	**Change**	**Datum**	**Created**	**Verified**	**Approved**
00	Initial release	08.06.2016	O. Schwarz	C. Wolter	T. v. Levetzow
01	Revised completely	08.02.2024	K. Ahrenberg	M. Gerber	S. Mönch
01.<Supplier Name>					

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1. Introduction

This Quality Management Agreement (hereinafter referred to as "**QMA**") defines the interface in the Quality Management System between <Supplier Name> and Stadler Deutschland GmbH and takes precedence over any other potentially existing quality-related documents and agreements relevant to the business relationship between the parties.

2. Scope

(1) This QMA (Quality Management Agreement) is applicable to purchased parts that the supplier delivers to the delivery locations of the client. It describes the minimum requirements for the supplier's management system and regulates the rights and obligations regarding quality assurance for the purchased parts to be delivered. The supplier must create the technical and organizational conditions to produce and deliver the purchased parts in flawless quality (defect-free purchased parts).

(2) This QMA replaces all previous versions. The provisions of this QMA apply to all existing and future orders for the production of purchased parts by the supplier for the client.

(3) Agreements on prices and other contractual regulations of the service exchange (in particular, but not limited to delivery times and conditions, default, risk assumption, warranty, intellectual property, etc.) are reserved for a separate and independent commercial agreement between the parties, unless there is no explicit provision here. The effectiveness of this QMA is not affected by the existence of such a commercial agreement.

3. Quality Management System

(1) In principle, the supplier is responsible for the quality of its products and services.

(2) The supplier is obligated to implement a Quality Management System (hereinafter referred to as "**QMS**") in accordance with the requirements of ISO 9001 in its current version, to maintain it, and to have its effectiveness confirmed by an independent, accredited certification company. The contents of this QMA must be considered in the supplier's QMS.

(3) It is the supplier's responsibility to ensure that the sub-suppliers involved in the production of purchased parts and services for the client also use a suitable QMS and can provide evidence of this.

(4) The supplier must establish and maintain an environmental management system based on ISO 14001. Appropriate certification is recommended. Furthermore, the supplier is obligated to comply with the respective applicable national laws and ISO 45001 (occupational safety).

(5) The supplier undertakes to immediately inform the client's purchasing department in writing if certificates are withdrawn or other circumstances in its production facility deviate from the previous standard, in particular regarding negative deviations.

4. Planning

4.1 Manufacturing Feasibility Analysis

(1) The client specifies purchased parts (e.g., through drawings, specifications, etc.). Specifications from the supplier may also be part of the requirements for a purchased part, provided that the parties explicitly agree on them. In case of conflicts, the specifications of the client take precedence. Documents provided by the client's purchasing department must be reviewed immediately by the supplier.

(2) This review includes, in particular, both the manufacturing feasibility analysis of the requested purchased part as well as the examination of the economical and process-capable manufacturability based on the requirements placed on the purchased part. The supplier is requested to contribute its experiences and suggestions for optimizing the purchased part and mutual benefit within the scope of the manufacturing feasibility analysis.

(3) The manufacturing feasibility analysis is to be presented to the client upon order confirmation using

the completed form "KP_Beschaffung.Manufacturing feasibility analysis" and must be updated in the event of changes to the design and/or manufacturing.

4.2 Risk Management

(1) The supplier must determine risks with potential impacts on the conformity of purchased parts through a risk assessment and must plan and implement suitable measures to reduce them. This can be done in the form of a Design and Process FMEA.

(2) Based on the results of the risk assessment, the special characteristics that are crucial for the functionality of the purchased part are to be derived. Suitable measures to ensure these characteristics must be implemented into the production process.

(3) Capacity planning is also part of risk management. To secure confirmed delivery dates, appropriate buffers must be planned for unforeseeable events. The supplier guarantees that the normal capacity (average working hours per week in the last 12 months, excluding overtime and weekend work) will be planned at a maximum of 90%. If the limit of 90% is exceeded, the supplier is obliged to notify the client within 3 working days and must submit an action plan on how the client's orders can be delivered on time.

(4) During first article inspection and upon request from the client, the supplier is required to provide the risk analysis for review.

4.3 Production Control Plan

(1) The Production Control Plan is part of the quality pre-planning and is to be created by the supplier for the purchased part. It includes all quality inspection steps in the manufacturing process, starting with goods receipt, during production and during final inspection. Each inspection in the Production Control Plan includes at least the listing of:

a. the associated manufacturing step,

b. manufacturing parameters, tolerances, and inspection intervals,

c. the applicable work and inspection instructions,

d. the type of documentation of the inspection results, and

e. the machines/equipment, tools, measuring, and operational resources used.

(2) Special characteristics arising from the risk assessment or specified by the client must be included in the Production Control Plan.

(3) The Production Control Plan is requested during the first article inspection and must be sent to the client.

5. Release of Processes and Production

(1) The release of processes and production occurs after:

a. Internal release of process and production by supplier itself

b. Successful first article inspection by the client

c. Successful first article inspection by the client's customer

(2) The supplier is obliged to carry out an internal release of processes and production on its own responsibility before the start of series production and to document this. The client and their end customer are entitled to review the documentation of this internal release.

(3) The client can conduct first article inspections at the supplier's site. A further inspection may take place together with the client's customer. The necessity of these first article inspections is defined at the time of the order.

(4) The successful completion of all agreed first article inspections is prerequisite for the serial release of processes and production by the client.

(5) Approval of the first article inspection by the client and/or its customer does not release the supplier from the responsibility for the quality of its products. Granting an approval does not exclude claims for defects that were not identified during the first article inspection.

(6) The planning and execution of first article inspections are carried out according to the VDB guideline "First Article Inspection – Aftermarket/RailService" in its latest valid version. In addition, the provisions in following chapter apply.

5.1 Prerequisites

(1) The approval of processes and production is based on first parts produced under serial conditions, at least produced under conditions close to series production. In the following cases, a (renewed) approval is required:

a. First production of a new purchased part (new part number)

b. Product change (e.g., software change, material change)

c. Relocation of production

d. Change of manufacturing process

e. Extended production interruption (unless otherwise agreed: >24 months)

f. New subcontractor

g. After revocation of an existing approval by the client (e.g., due to quality issues)

(2) The first article inspection must be conducted at least 2 weeks before the agreed delivery date with the client.

5.2 Documentation of First Article Inspection

(1) The scope of the first article inspection must be agreed in advance with the client's supplier quality assurance department. The supplier receives a document “KP-04-04-02.CL-02 FAI checklist”, which lists the scope of tests and documents. The documentation must be sent to the client 10 working days before the first article inspection. Missing, incomplete or draft documents must be submitted at the latest during the first article inspection.

(2) The documentation of the first article inspection should follow the report format outlined in VDA Volume 2. The use of a supplier's equivalent form is permissible.

(3) The results of all agreed quality tests must be documented with specified target and determined actual values in the first article inspection report and classified by the supplier as compliant or non-compliant.

5.3 Assembly Monitoring

(1) The client reserves the right to inspect additional components during production at the supplier's site before a first article inspection. This is particularly necessary for components that are no longer accessible at the time of the first article inspection.

(2) The supplier grants the client necessary access to its production facilities. The scope of assembly monitoring is agreed during the planning of the first article inspection. Once the corresponding manufacturing progress for the production of the purchased part is achieved, the supplier will provide an invitation with sufficient lead time.

(3) The client's end customer is entitled to take part in the assembly monitoring.

5.4 Release Decision

(1) The result of the first article inspection is documented on the cover sheet of the first article inspection report by the client's supplier quality assurance as follows:

a. Approved

b. Conditionally approved

c. Rejected, Re-sampling necessary

(2) Deviations and conditions are documented in the first article inspection report with specified duedates. The client classifies failure modes following the VDB guideline:

A - critical failure (safety-related)

B - major failure

C - significant minor failure

D - insignificant minor failure

(3) The supplier is obligated to address the conditions of failure modes A, B, and C and provide evidence of their implementation before delivery. Deviations of failure mode D do not hinder delivery of the first article and must be solved before further parts are manufactured.

(4) The client reserves the right to invoice all associated costs resulting from necessary re-sampling.

6. Support

6.1 Monitoring of testing and measuring equipment

(1) For every inspection and measuring tool used by the supplier, measurement traceability in accordance with ISO 9001 must be ensured.

(2) The client assumes that the supplier uses inspection and measuring tools that are sufficiently accurate, reliable, and demonstrably functional at all times, according to their intended use.

6.2 Control of documented information

(1) The supplier must establish appropriate retention periods for quality-relevant documents and records. The following minimum requirements must be met:

a. 30 years for:

- Design documents and inspection records for purchased parts delivered to the client
- Records of special inspections within the scope of production planning (e.g., type test documents, fire protection tests, ...)

b. At least 10 years for:

- Records of quality measures without specific documentation
- Records of quality management or environmental management evaluations, internal audits, etc.

(2) The retention periods apply from the delivery date of the last purchased part in each order. These provisions do not replace any legal requirements or differing individual contractual demands. In specific cases of customer requirements, different retention periods may apply.

(3) All documented information must be legible and adequately protected from damage or loss. The supplier must, upon request (while safeguarding the manufacturing and business secrets of the supplier), provide the client with access to the mentioned documents.

6.3 Inspection documents

(1) It can be derived from the client's order or specification whether a 3.1 inspection certificate according to DIN EN 10204 is to be provided with the delivery of the purchased parts. The supplier confirms, by providing a 3.1 inspection certificate, that the delivered products meet the requirements of the order documents (drawings, bill of materials, specification) with specified test results based on specified inspections.

(2) The scope of documentation of test results on the 3.1 inspection certificate is to be coordinated during the first article inspection with the client's supplier quality assurance. The inspection certificate should document the part numbers specified in the order and, if available, the serial or batch number of the delivered purchased parts for identification purposes.

(3) The inspection certificate 3.1 must arrive at the customer's incoming goods department at the same time as the goods and the delivery documents.

6.4 Fire Safety Certificates

(1) The order or specification lists the specifications for flammability and toxicity class in accordance with EN 45545 for purchased parts that require proof. The supplier is obliged to ensure compliance with the fire protection requirements for the purchased part to be delivered. Appropriate evidence of fire test results must be available. When delivering vehicle parts that require proof, the test certificates must not be older than 5 years.

(2) If no evidence or no longer valid evidence for conducted fire protection tests is available at the supplier, the supplier must commission the tests at accredited fire protection laboratories according to EN 17025. The current standards and regulations must be applied for the fire testing of parts requiring evidence.

(3) The results of fire protection tests must be submitted to the responsible purchasing employee of the client at least 2 weeks before the start of the delivery to allow a timely document review. The absence of fire protection certificates or the lack of approval for the provided evidence may result in a delivery block during the first article inspection.

7. Operation

7.1 Incoming inspection of the client

(1) The supplier must ensure that the purchased part meets the specified requirements. For this purpose, the necessary inspections or other activities must be defined, established, and carried out.

(2) The client limits the incoming inspection for deliveries from the supplier to the determination of deviations in quantity and identity of the ordered purchased parts, as well as transport and packaging damages. Deviations and damages identified during this inspection will be promptly reported. In this regard, the client is exempted from the obligation to examine and give notice of defects (according to § 377 of the German Commercial Code).

(3) The client reserves the right to conduct further incoming inspections as needed.

7.2 Control of nonconforming outputs

(1) The supplier must maintain a system to control non-conforming outputs. The inspection status of the products must be visible at all stages of production.

(2) If a non-conformity is identified, the supplier must:

a. interrupt the production process,

b. take corrective actions,

c. label defective parts and store them separately in the quarantine area,

d. inspect pending deliveries and inventory for the defect,

e. verify the effectiveness of any corrective actions taken, and

f. evaluate and update its risk assessment or inspection plan.

(3) If, during the supplier's internal inspection, it is determined that defective products have already been delivered to or could have been delivered to the client, the responsible purchasing employee of the client must be promptly informed in writing about the defect.

(4) If the client identifies defective purchased parts, the supplier will be notified through a non-conformity report. The further process for supplying the client's production with defect-free components will be coordinated, with the following possible actions:

a. Rejection of the entire delivery,

b. Sorting or rework by the supplier,

c. Sorting or rework by the client's employees or by a subcontractor at the expense of the supplier,

d. Delivery conditionally usable – exceptional approval.

(5) The client reserves the right to pass on all costs associated with the rectification of defects by delivering faulty supplied parts to the supplier.

(6) Non-conformities discovered by the client must be transferred into an improvement process according to section "9.2 Non-Conformity and Corrective Actions" and documented for the client.

7.3 Application for Concession

(1) If a non-conformity is identified on a component before delivery and it cannot be brought back to the specified state through suitable rework, the usability is to be evaluated by the supplier. If this risk

assessment determines that the purchased part is still usable and will not have negative consequences in application, the supplier can submit a written application for concession to the client (LP-001.4 Application for concession).

(2) The application for concession will be reviewed by the responsible entities of the client, possibly involving the client's customer. The decision will be communicated to the supplier in writing. If exceptional approved, a copy of the approved concession request has to be included with the delivery.

(3) An exceptional approval is always time-limited or valid for a restricted number of purchased parts. In case of non-compliance, the client reserves the right to invoice the supplier for all costs associated with defect rectification due to the delivery of non-approved purchased parts with deviations.

(4) An exceptional approval (possibly with conditions) does not release the supplier from its obligation to comply with all characteristics or product properties not affected by the concession, as specified in the specifications or based on previously tested and approved samples. The supplier is responsible for the requested concession if the originally approved function and/or properties of the product are negatively affected.

7.4 Change Management

(1) The supplier must implement a documented process for initiating and managing changes. This process includes at least:

a. Description with the reason for the change

b. Impact analysis considering the existing risk assessment

c. Verification of implementation

d. Traceability of the change status for delivered purchased parts (suitable configuration management)"

(2) Changes after the approval of processes and production by the client are to be evaluated to determine whether notification or prior consent of the client is required.

(3) The supplier is required to promptly notify and obtain written approval from the client for the following changes:

a. All changes that affect the client's requirements (Form, Fit, Function)

b. Changes that require re-approval (see “5.1 Prerequisites – Release of Processes and Production”)

c. Changes that are subject to notification based on project-specific agreements."

(4) The supplier is obligated to coordinate with the client's purchasing department regarding the delivery schedule for parts manufactured according to the new change revision.

(5) In case of non-compliance, the client reserves the right to invoice the supplier for all costs associated with defect rectification resulting from the delivery of changed purchased parts without proper approval.

7.5 Packaging

(1) The supplier is responsible for the packaging of the manufactured supplied parts. Packaging must ensure that the purchased part cannot be damaged or soiled by external influences during transportation.

(2) The client's specifications for the packaging of purchased parts are regulated in the document "KP-12.MA-02 Logistics Guideline”. Alternatives proposed by the supplier, deviating from this guideline, must be coordinated with the client's purchasing department before the start of series deliveries.

(3) All purchased parts that can be adversely affected in their function or appearance by interaction with their environment must be appropriately preserved. The required preservation method is to be coordinated with the client's purchasing department by the supplier before the start of series deliveries.

(4) For the delivery of hazardous substances, national regulations regarding labeling and transportation of hazardous substances must be followed. Safety data sheets must be provided to the client before delivery.

8. Performance Evaluation

8.1 Supplier Evaluation

(1) The client may, at regular intervals, generate quality reports on the quality of purchased parts and the supplier's processes.

(2) If the client provides this evaluation and classification to the supplier, the supplier must take this into account in determining customer satisfaction and, if necessary, derive improvement measures from it.

8.2 Auditing

(1) The client reserves the right to assess the supplier's QMS and/or manufacturing processes. The review takes the form of an audit at the supplier's location, where general system or process audits and, if necessary, audits for specific processes can be conducted by auditors appointed by the client.

(2) The need for an audit arises from the criticality of the purchased parts, as assessed by the client. Recurring quality problems can also be a reason for conducting an audit.

(3) The supplier undertakes to provide auditors from the client with free access, with a notice period of 24 hours, to:

a. its production facilities,

b. the quality control processes, and

c. the documentation and records.

(4) Compliance of processes with industry standards or norms and the client's requirements is assessed in the audit as follows:

A = Approval without conditions	Fulfillment level ≥ 90 %
B = Approval with conditions, deviations identified	Fulfillment level ≥ 60 %
C = No approval; requirement not met	Fulfillment level < 60 %

(5) For the supplier to be approved, the audit result must reach at least “B” status. A further development of the audit result to status “A” by the supplier is expected.

(6) Suppliers with an audit result of "C" do not receive an approval.

(7) Measures must be developed by the supplier for identified deviations. These must be presented to the client's supplier quality assurance and implemented promptly. The client reserves the right to verify the implementation of measures at the supplier through a repeat audit.

9. Improvement

9.1 Continuous Improvement

(1) The supplier must continuously improve the suitability, adequacy, and effectiveness of its QMS.

(2) The supplier is committed to the zero-defect goal and must continuously optimize its performance in that regard.

(3) Improvements must be evaluated before implementation to determine whether notification or consent is required from the client (see "7.4 Change Management").

9.2 Non-Conformity and Corrective Actions

(1) Non-conformities identified by the client are opportunities for improvement. In such cases, the supplier must document to the client the corrective and improvement measures taken and demonstrate their effectiveness.

(2) The documentation of measures resulting from a non-conformity must be carried out in writing by the supplier. The client may specify that processing and documentation must follow the 8D methodology.

(3) Processing a non-conformity according to the 8D system is always necessary if the client reports serial damage or a complaint from the end customer to the client.

(4) If a non-conformity is requested to be processed according to the 8D system, escalation level E1

applies, which is described in section “9.3 Escalation procedure”.

(5) The supplier is obligated to take appropriate immediate and containment measures (following the 8D methodology, D3) within 2 working days and inform the client in writing within the same period.

(6) The client reserves the right to invoice all costs associated with defect rectification from further deliveries of purchased parts that still exhibit the reported non-conformity.

(7) All immediate actions and permanent corrective actions implemented by the supplier (following the 8D methodology, D6) must be documented in writing to the client's supplier quality assurance within 10 working days. If this period is insufficient, the supplier sends the status of the corrective actions developed up to that point.

(8) The client reserves the right to verify the content of the statement or 8D report for plausibility and reject the measures taken by the supplier to rectify the non-conformity as inadequate. In this case, a revision by the supplier is required.

9.3 Escalation procedure

(1) If non-conformities caused by the supplier are discovered by the client, an escalation procedure will be applied. The following escalation levels are possible:

a. Escalation level 1 (E1): The supplier carries out a 100% check at its own expenses regarding the non-conformity reported by the client. This test must be carried out until the supplier proves the effectiveness of the permanent corrective measures and this is confirmed by the client.

b. Escalation level 2 (E2): If the supplier delivers further non-conforming purchased parts to the client during escalation level 1, an independent third party will be commissioned to carry out an additional 100% check for conformity. The client reserves the right to invoice the associated costs to the supplier.

(2) The purchased parts delivered during escalation level E1 and escalation level E2 must be marked separately in coordination with the client.

(3) If the corrective measures initiated are not successful, TOP-Q-Meetings will take place between the supplier's management level and the responsible employees of the client's quality assurance and purchasing. The client expects a meaningful action plan for this discussion.

(4) If all measures do not lead to a significant improvement in quality or if the duration of escalation level E2 is too long, the supplier will be temporarily blocked from orders for new projects by the client's purchasing department by granting the status "New Business on Hold (NBH)".

(5) If no significant improvement in quality is subsequently achieved and specified requirements are not met, the supplier will be given “phase-out” status, will be permanently excluded from new projects and the production or processing of the purchased parts will be relocated to another supplier.

10. Component-Specific Requirements

10.1 Requirements for Components with Welded Joints

(1) Suppliers welding components for rail vehicles must demonstrate a valid welding certification according to DIN EN 15085-2. The manufacturer's certificate must include the certification level required on the welding drawing according to DIN EN 15085-2 (CL1-CL3) with the necessary scope.

(2) When subcontracting the production of weldable parts that require certification, it is the supplier's responsibility to ensure the necessary welding certification according to DIN EN 15085-2. The client must be notified in writing and obtain approval for the subcontracting of the manufacturing of welded parts with certification levels CL1 or CL2 according to DIN EN 15085-2.

(3) The client is obligated to audit new manufacturers for welded parts before awarding the contract. A process audit to verify welding requirements according to DIN EN 15085 and DVS 1617 is conducted. The client reserves the right to re-audit already approved series suppliers if the following reasons exist:

a. Assignment of a new welding part with CL1 classification

b. Quality problems with a welded part in assembly or in the field

c. Employee turnover and/or changes in the welding process.

(4) The delivery of welded parts requiring certification is not allowed without proof of the required manufacturer's certification as per drawing/order. The supplier must keep the welding certification up-to-date and send updated certificates to the client's purchasing department without prompting. In case of non-compliance, the client reserves the right to invoice the supplier for all costs associated with defect rectification resulting from deliveries of purchased parts without valid certificates.

(5) Checking the supplier's certificates is part of the first article inspection. A missing or expired certificate leads to a delivery block for the ordered purchased part. In this case, the supplier is excluded from further orders for purchased parts with the same certification requirements.

10.2 Requirements for Components with Adhesive Bonds

(1) If purchased parts with adhesive connections are delivered to the client, the supplier must comply with the requirements of DIN 6701 or EN 17460 as well as relevant technical data sheets (e.g. DVS guidelines).

(2) Suppliers who deliver purchased parts with adhesive connections to the client must have a valid certificate in accordance with DIN 6701/EN 17460. The manufacturer's certificate must contain the certification level A1 - A3 required on the adhesive drawing with the required scope.

(3) If subcontractors are commissioned by the supplier to produce adhesive parts that require proof, the supplier must ensure that the client's provisions also apply there. The subcontracting of adhesive work for purchased parts of class A1 or A2 to subcontractors must be reported to the client in writing and approved by the client.

(4) The supplier must document its adhesive connections, divide them into classes according to the requirements and, depending on their classification, provide mathematical proof and validation. The necessary requirements such as adhesive classes are specifically coordinated with the client's adhesive supervision and quality assurance department.

(5) The durability of an adhesive bond is tested according to DIN 6701 or EN 17460 by determining the load-bearing capacity, including adhesion. The results of ongoing adhesion tests for components classified as A1 or A2 must be submitted to the client's adhesive supervision upon request.

(6) The delivery of components with A1 or A2 classification that require proof is not permitted without proof of the necessary adhesive approval from the manufacturing company. The supplier must always keep the adhesive approval of its manufacturing company up to date and send the current certificates to the client's purchasing department without being asked. In the event of a violation, the client reserves the right to invoice the supplier for all costs associated with rectifying defects through deliveries of purchased parts without valid certificates.

(7) Checking the supplier's certificates is part of the first article inspection. A missing or expired certificate leads to a delivery block for adhesive components with A1 or A2 classification.

10.3 Requirements for Components with Coating

(1) For coated purchased parts, the "PA_2295456 General Coating Specification" and, if applicable, project-specific coating specifications of the client apply, whose designation is indicated in the bill of materials or drawing for the part to be coated.

(2) The specifications and procedures listed in the guidelines do not release the supplier from the responsibility for the quality of the coating. This must be ensured by appropriate measures by the supplier.

(3) For wet painting, coating materials must be used according to the agreed specification. Deviations from these specifications must be approved by the client. Additionally, a certified repair concept for minor damages must be submitted in case of a switch to powder coating.

(4) The processing of coating materials must follow the processing instructions of the coating manufacturers. When ordering coating materials, the coating manufacturer must always be informed of the client as the end customer and the project. If the coating facility has never processed the required coating materials and/or is uncertain in handling them, a meeting with the application engineering of the coating manufacturer should be arranged.

(5) For the approval of the processed coating system at the coating facility, the supplier must create at least two DIN A4 test samples for color and structure. These must be labeled according to the general coating specification and sent to the client's supplier quality assurance for approval. After successful inspection, the supplier receives written approval from the client. One sample plate remains as a

retention sample in the ownership of the client. Approval must be obtained before the first article inspection.

(6) After approval, any changes to the coating process (e.g., coating structure, coating facility, etc.) are subject to the client's change management.

10.4 Requirements for Glass Products

(1) Both the European standard ECE R43 and a variety of national standards constitute the legal requirements for the manufacture and testing of glass products in rail vehicles with laminated safety glass (VSG) and toughened safety glass (ESG).

(2) In addition to legal requirements, the client's component specification applies when placing an order. This document includes component-specific requirements such as dimensions, screen printing, glass color, glass structure, company logo, and test stamp, as well as the scope of type testing for the glass product.

(3) With each delivery, an acceptance test certificate 3.1 according to DIN EN 10204 must be provided in addition to the delivery note.

10.5 Requirements for Electrical Components

(1) In addition to the technical specifications of the client, the following standards must generally be considered for construction, qualification, type testing and series testing:

a. EN 50155: Electronic equipment on rail vehicles

b. EN 50121: Electromagnetic compatibility

c. EN 50124: Insulation coordination

d. EN 50153: Protective provisions relating to electrical hazards

e. EN 50343: Rules for installation of cabling

f. Applicable IPC standards (minimum class 2)

(2) For the manufacturing and testing of cable harnesses, E-containers, and control cabinets, specific requirements of the client also apply:

a. PA_2152132: Electrical assembly instructions for suppliers

b. PE_1229150: Assembly instruction for cable harness manufacturing

c. PA_1354887: Manufacturing instruction for grounding

10.6 Requirements for Casted and Forged Parts

(1) Casted and forged parts can be ordered from the supplier as raw parts, machined or as an assembly. All technical requirements and all testing requirements are defined on the drawings or specifications. If the supplier is responsible for creating the raw part drawing, the drawings must be made available to the client for inspection.

(2) Unless otherwise agreed, the supplier provides the following quantities for the first article inspection:

a. 3 unfinished casted or forged parts with an approved raw part drawing

b. at least 1 raw part per nest

10.7 Requirements for Fasteners and Screw Connections

(1) Relevant rail standards for screw connections (e.g., DIN 25200, DIN 25201, DIN 25203) must be considered in the design and assembly of screw connections.

(2) For screw connections in the high and medium risk classes according to the DIN25201 standard, the client's “PA_1222166: Guideline for screw connections” for design, assembly, verification, maintenance and repair also apply.

(3) For screw connections with increased requirements, the results of the tests to demonstrate the required strength properties and corrosion resistance must be confirmed by the manufacturer of the screws or nuts with an acceptance test certificate 3.1 in accordance with DIN EN 10204. Screw connections with increased requirements are:

a. Screws and nuts from strength class 10.9 made of tempered steel
b. Screws and nuts from strength class 8.8 with thread M ≥16 made of tempered steel
c. Rustproof and corrosion-resistant screws and nuts made of stainless steel with thread M ≥10

11. Project-Specific Requirements

(1) As a supplier of rail vehicles, the client is obliged to fully observe and implement the project-specific requirements of the client's end customer and/or their operators.

(2) These requirements are agreed upon on a project-specific basis with the supplier. The project-specific agreements are built upon this QMA.

12. Confidentiality

(1) The supplier undertakes to treat confidentially all technical or commercial documents, information, vehicle and operating data that arise or arise in connection with the execution of the contract, which it obtains in connection with the implementation of the respective project, and to ensure confidential treatment by its employees and not to pass on, reproduce or use outside of the respective project.

(2) In particular, the supplier is not permitted to collect operating data and/or use it for purposes outside the project without the consent of the client or the client's respective end customer. The consent must be in writing.

(3) Furthermore, the regulations regarding the confidentiality of the framework agreement, individual contract and/or a non-disclosure agreement concluded between the parties apply.

13. Liability

(1) The agreement on quality and environmental objectives, as well as the provisions of this agreement in general, do not exclude and/or limit the liability of the supplier for claims of the client on any legal grounds, especially warranty and/or damages claims.

(2) The corresponding claims of the client on any legal grounds, especially warranty and/or damages claims, are governed by the delivery contracts agreed upon between the parties and/or by legal requirements.

14. Effectiveness and Termination

(1) This QMA comes into effect upon signing by the parties and can be terminated by either party with a notice period of three months at the end of a calendar year. Terminations must be made in writing and sent by registered mail.

(2) Terminations of this QMA do not affect the execution of an ongoing project-specific individual contract or the unrestricted applicability of all provisions of this QMA to the execution of an ongoing project-specific individual contract.

(3) In the case of the existence of a framework contract between the parties, this QMA forms an integrative part of the framework contract concluded between the parties and remains in effect for its duration, subject to any differing agreements between the parties. In this case as well, the termination of this QMA or the framework contract does not affect the execution of ongoing individual contracts.

15. Referenced Standards, Guidelines and Documents

(1) The following standards and guidelines are referenced in this document and must be considered in their most current editions:

a. ISO 9001: Quality management systems

b. ISO/TS 22163: Railway applications – Quality management system
c. ISO 14001: Environmental management systems
d. ISO 45001: Occupational health and safety management systems
e. VDB Guideline "First Article Inspection – Aftermarket/RailService"
f. VDA Volume 2 "Securing the Quality of Deliveries" – PPF Documentation
g. EN 10204: Types of inspection documents
h. EN 45545: Fire protection on railway vehicles
i. EN 15085: Railway applications – Welding of railway vehicles and components
j. DVS 1617: Quality requirements for subcontractors for welding railway vehicles and components
k. DIN 6701: Adhesive bonding of railway vehicles and components

(2) The following documents of the client are referenced in this QMA and are applicable. The current valid editions will be provided to the supplier by the client's procurement or supplier quality assurance upon request:

a. KP_Beschaffung.Manufacturing feasibility analysis
b. KP-04-04-02.CL-02 FAI checklist
c. LP-001.4 Application for concession
d. PA_2295456 General Coating Specification
e. KP-12.MA-02 Logistics Guideline
f. PA_2152132: Electrical assembly instructions for suppliers
g. PE_1229150: Assembly instruction for cable harness manufacturing
h. PA_1354887: Manufacturing instruction for grounding
i. PA_1222166: Guideline for screw connections

16. Signatures

<Supplier Name>	**Stadler Deutschland GmbH**
_____	_____
Date and Location	Date and Location
_____	_____
Name	Name
Function	Function
_____	_____
Name	Name
Function	Function