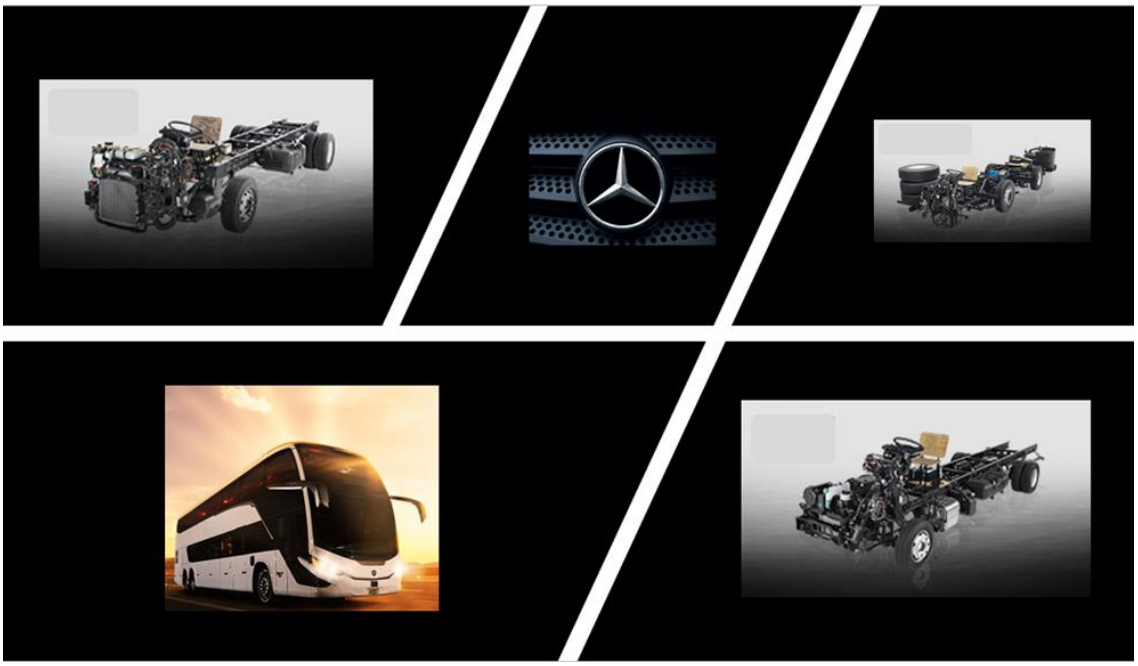
DAIMLER TRUCK

Daimler Vehículos Comerciales Mexico (DVCM)

Planta Daimler Buses
Carretera a García Km 6.5
García, N.L.
C.P. 66000

SUPPLIER QUALITY MANUAL



Content

1.0 Introduction

1.1 Purpose

The main objective of the manual is to communicate the quality requirements of Daimler Buses Monterrey (DBM) to our suppliers. It covers the most important processes and methods related to quality and identifies the assignment of tasks and responsibilities between DBM and its suppliers.

1.2 Scope

This manual applies to all DBM suppliers, whose products and services directly affect the fulfillment of our customers' requirements, such as raw materials, productive parts, assemblies and fluids.

2.0 Quality Requirements for Suppliers

2.1 Certification

All suppliers in all their applicable locations, as a primary requirement to have a business relationship with DBM, must have a Quality Management System based on a valid version of ISO 9001 or IATF16949.

The active supplier must maintain its certification and in the event that the reissuance of its certificate is delayed or cannot be fulfilled, it must notify it immediately and present an official document explaining the situation and commitment dates to obtain it.

DBM may exempt certification under the following rules:

1.The supplier only supplies parts for transporting the chassis, which are removed when the body is placed.

2. The supplier only supplies parts to protect parts susceptible to the environment in the storage yards prior to bodywork.

3. The supplier only supplies accessories and tools not related to safety aspects of the user and of the vehicle.

4. The supplier will postpone its re-certification within a maximum period of 6 months due to some special internal or environmental situation (change, crisis, accident, etc.)

In the environmental part, DBM's expectation is that suppliers have or have the intention in the short term to obtain ISO 14001 certification; For suppliers that do not have this certification, they will be asked to complete an environmental self-assessment to determine if specific actions are required to be taken on any of the requirements.

All certifications must be uploaded and updated on the Certus Portal and it is the provider's responsibility to ensure that DBM always has valid certificates.

2.2 Control of Safety Features (DS/DZ)

In DVCM, the safety-relevant features whose malfunction or failure may represent a direct danger to the operator, users and third parties are identified in the designs as DS (Safety Documentation) and as DZ (Certified Documentation). Both characteristics must have special control in the manufacturing process that always ensures their compliance.

This control is part of the requirements for the approval of the EMPB in the parts that indicate it, so the corresponding support that guarantees compliance with the specification must be delivered with the documentation.

2.3 Control of Chemical Substances (IMDS)

In strict compliance with current legislation regarding the declaration of chemical substances, DBM requests that its suppliers declare part of their documentation for approval by the EMPB, if within the raw materials and/or manufacturing processes of the parts, they are used and/or or generate substances that are harmful to health or the environment, as well as, they are within the list or the permitted limits of the IMDS (International Materials Data System) database.

In the event of the declaration of the chemical substance DBM, it reserves the right to corroborate the tests with an accredited external laboratory and, if necessary, will request its direct, indirect and fluid suppliers to replace said substances in the parts and/or processes.

3.0 Quality Process for Suppliers

3.1 First Sample Approval Process (EMPB)

3.1.1 Sample Request (SMu)

This document is generated by the Supplier Quality Engineer (SQE) on the analysis of the design and the supplier assigned to manufacture it, therefore, the supplier must receive it through the commercial area for review and compliance, since it contains the requirements for Prototype samples or to carry out the EMPB process.

The document consists of a section of data on the part, the selected supplier, its classification, type of sample and required PPAP level; a section with the parts, material and testing requirements, and a section with the applicable PPAP requirements.

3.1.2 Production Parts Approval Process (PPAP)

Submitting PPAP documentation to DBM for the EMPB process is a mandatory requirement and requires suppliers to complete the 20 elements defined for each part number delivered and retain records regardless of what is requested to be submitted in the SMu.

For production parts, the product for PPAP will be taken from a significant production lot and carried out on site, at pace, using the tools, measurements, process, materials and production operators.

The supplier must generate and submit to DBM PPAP documentation and the EMPB format in electronic form whenever any of the following circumstances occur:

- When new parts are manufactured.
- When changes are made to the design of the part.
- When alternative materials or production processes are used.
- When modifications are made or manufacturing tooling is replaced.
- After conversion or major maintenance of production tooling.
- If manufacturing methods or production processes are changed.
- By the transfer or introduction of new equipment for production.
- When any of your direct suppliers of materials or services change.
- If the part has not been supplied for more than 12 months.

PPAP information that is requested for submission and that is considered confidential by a provider must be submitted via video conference or on-site.

REQUIREMENTS		LEVEL OF SUBMISSION		
		1	2	3
1	Drawings.		X	X
2	Engineering Change Documents, if applicable.		X	X
3	Customer Engineering Approval, if required.			X
4	Design Failure Mode and Effect Analysis (DFMEA).			X
5	Process Flow Charts		X	X
6	Process Failure Mode and Effect Analysis (PFMEA).		X	X
7	Control Plan.		X	X
8	Measurement System Analysis Studies and list of test equipment.		X	X
9	Dimensional Results in EMPB format.	X	X	X
10	Results of material performance tests, physical and chemical tests of materials, functional and reliability tests.		X	X

11	Initial Process Studies.			**X**
12	IMDS Material Data Sheet **(Ant. Nr. 162733).**		**X**	**X**
13	Security features checklist (DS/DZ).		**X**	**X**
14	Laboratory competence documentation.		**X**	**X**
15	Appearance Approval Report (AAR), if applicable.	**X**	**X**	**X**
16	Product Samples. The number of samples must be agreed in advance with the supplier.		**X**	**X**
17	Master sample.			**X**
18	Visual aids.			**X**
19	Records of compliance with the client's specific requirements.	**X**	**X**	**X**
20	Part Submission Warrant (PSW).	**X**	**X**	**X**

3.1.3 Inspection and Internal Testing for the EMPB

The SMu indicates whether the sample part is required and its quantity, it must be identified with the label F160LO24 or a similar label, all measurements of the part and its components, if any, must be recorded in the EMPB F160QS89 format, and They must conform to design tolerances to be shipped.

MATERIAL SPECIMENS: Within the validation, test tubes can also be requested if it is a new specification or due to the revalidation process as it is more than 2 years old after being validated.

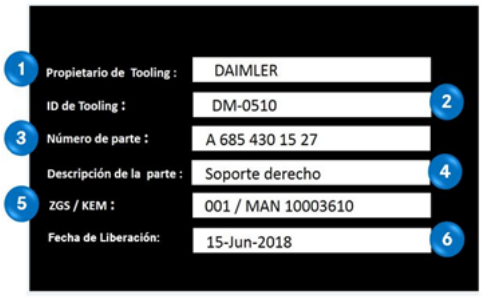
- Paint test tubes, 3 plates of around 75x150 mm and 1 to 3 mm thick.
- Rubber test tubes, 5 buttons of ½" diameter and 6 mm thick in the middle part.
- Welding specimens, at least 2 samples per welding machine.
- Samples of metal parts according to the attached table.

Product	Norm	Nr. of Specimens
Gray Iron Casting	ASTM A48 or DIN 50109 tensile test	At least 3 test specimens
Nodular Iron Casting	Tensile test ASTM A536 or DIN 50125	
General Metal Piece	ASTM AE 8 Tensile Test	
Aluminum parts	ASTM B 557 Tensile Test	

TOOLING: The requested sample must be manufactured with the tooling for series production. Therefore, it is mandatory to include in the EMPB format, its maintenance program, photography and technical specifications.

The tooling must be identified with the following data.

1. Specify if the tooling is property of the provider or DBM.
2. Identification code, assigned by the supplier.
3. Part Number that is manufactured
4. Part Number Description
5. ZGS/KEM according to DBM approved drawing
6. Tooling release date



Subsequently, as part of the monitoring, a checklist will be periodically sent to the supplier so that they can evaluate the condition of the tooling that is owned by DB based on the defined aspects.

MOUNTING: Another test required within the EMPB approval process is the assembly and/or functionality of the part, which is carried out by the Manufacturing area and issues a result; This test is performed with sample parts that conform to the design specification.

To give approval to the EMPB, it is mandatory that all requirements and tests be complete and compliant, and it cannot be given until these discrepancies are closed. The approval of the EMPB will be notified via email to the supplier and the areas involved using the current format.

NOTE: In the event that any of the first 3 productive lots is rejected, the EMPB could be cancelled. Therefore, it will be necessary for the supplier to issue corrective actions in accordance with the deadline established in the receipt inspection process, and with the understanding that it may be necessary to re-approve the EMPB.

3.2 Receipt Inspection of Productive Lots

3.2.1 Inspection and Rejection Process

DBM is focused on continually improving its brand performance through commitment to a goal of zero defects. Inspection of parts upon receipt is aimed at the rapid detection and correction of defects to achieve this goal.

The inspection of batches of productive parts is the responsibility of the Quality area, it applies to new parts or changes in their design level, parts with failure reports in the assembly process or other internal or external process and upon request for any special situation. reported.

When non-conforming parts are detected, the supplier is notified so that they can initiate containment in their process and provide support with what is available at the Monterrey Bus Plant immediately.

The certification of new productive lots must be done under the Controlled Shipping scheme, for level 1 the supplier is responsible for reviewing 100% of the parts for the shipment of compliant lots; If it does not show effectiveness, level 2 can be applied so that a third party also certifies the parts from its facilities, this means that the review would be 200% and the payment of the fees involved will be the responsibility of the supplier.

The containment activity continues for a period of production days or number of batches as required after implementation and verification of corrective actions. Suppliers should not leave this type of control without the common agreement of DBM.

3.2.2 Zero Km Guarantee Charges

DBM requires that all parts purchased from its suppliers arrive in accordance with the design specifications with the objective of maintaining a continuous flow of production and delivering the product to customers on time and with the quality that distinguishes it.

Defective parts cause deviations in the functions of the processes that result in unnecessary expenses for the organization, which is why there is a cost recovery process through charges to suppliers for 0 Km warranty.

When a rejection is generated, an administrative expense is directly applied and others can be added by drawing lots of lots in stock, reworking of repairable parts, disassembly of defective parts of the vehicles, damage to other parts of the assembly due to the failure. , production line stoppage and immobilizations that prevent the vehicle flow from continuing.

The charges are given based on the rate defined in the period and are notified with the rejection follow-up; Administrative and man-hour expenses are fixed, and the rest are applicable for movements of material for draws and rework, use of consumables in rework, price of parts damaged in the assembly and freight if necessary, line downtime and Immobilizations and their impact on client deliveries and penalties vary depending on each case.

3.2.3 Corrective Actions

DVCM requires suppliers to develop and execute a corrective action plan upon receipt of a failure notice, a rejection notice.

The problem-solving process must follow a methodology that includes the correct identification of the problem, taking immediate containment actions, root cause analysis using the 5 Whys method, Ishikawa Diagram, etc., the definition of the correct actions. -permanent corrective and preventive measures and their verification.

All information must be executed/documented and submitted within the deadlines defined below:

Containment actions within the supplier's facilities immediately and in the Plant DBM maximum in the first 24 hours after the failure notice. In the absence of action from the supplier or due to the needs of the process, DBM will carry out what is required to maintain the production flow.

Disposal of defective parts in a maximum of 2 business days, otherwise they are sent to disposal at the supplier's expense.

Sending the root cause analysis within 10 business days, with the corrective actions defined and their corresponding implementation dates. It is the supplier's responsibility to share evidence of implementation of the actions with applicable support such as process documents, test reports, photos of equipment and devices, etc.

3.3 Supplier Audits

3.3.1 VDA 6.3 audit

DBM Monterrey Plant, through Supplier Quality, may carry out a Process Audit at the supplier's facilities, remotely or hybridly based on the current VDA 6.3 criteria, considering quality and environmental aspects under the following situations:

1. For a new supplier.
2. For a supplier that currently supplies parts, but without a prior evaluation.
3. For the development of a new part or component.
4. As part of continuous monitoring of suppliers, when the supplier consistently shows poor performance, and its actions are not fully effective.
5. When there is a specific requirement in some area due to quality problems.
6. If there are continuous material rejections in the receipt inspection areas or during the production process.

The processes that may be subject to evaluation under VDA 6.3 are:

Part A: Product Development
1. Potential analysis
2. Project management
3. Planning of product development and production processes
4. Implementation of product development and production processes

Part B: Production Development
5. Supplier management
6. Analysis of the production process
7. Customer Service

Each audited element has a series of questions which are evaluated according to the type of compliance verified.

Points	Evaluation of compliance with requirements
10	The requirements are fully met; no deviations
8	The requirements are mostly met; minor deviations
6	Requirements are partially met, significant deviations
4	The requirements are insufficiently met; important deviations
0	Requirements are not met

Considerations:

1. The audited organization with a total compliance level > 90% is classified as “A”, < 80% and < 90% is classified as “B” and < 80% is classified as “C”. Demotion to B occurs if an element from P2 to P7, a process step or a sub-element of P6 is evaluated < 80%, or a question with an asterisk (*) is evaluated with 4 points or a general question is evaluated with 0 points. The degradation to C occurs if an element from P2 to P7 or a step of the process is evaluated < 70% or a question (*) is evaluated with 0 points; A minimum of 80% is considered to pass the audit.

2. If there are questions valued with zero points, the fulfillment of which may have a decisive influence on the quality of the product or the quality of the process, the auditee may be disqualified from A to B or from B to C. In special cases A disqualification from “A” to “C” is also possible within the audit itself. For example, in those cases where they score 6 points or less in questions marked with an asterisk in the current VDA 6.3 questionnaire, they will be penalized with 10 percentage points less than the total audit score.

3. If, during the evaluation of the manufacturing process at the supplier's facilities, the Supplier Quality Engineer (SQE) detects a condition that would put at risk the integrity of the products or the adequate supply of the parts shipped, the power to classify the supplier as “C”, which will lead the supplier to initiate an action plan that ensures that the process returns to a stable condition.

4. For those questions evaluated with a score of less than 8, the supplier will be requested to perform a root cause analysis within the action plan to be delivered within a maximum period of 30 days with defined corrective actions and commitment dates for implementation.

3.3.2 DS audit

It is a requirement for DBM to verify, through an audit at the supplier's facilities, or remotely by video conference, the manufacturing process of the part and the documentary control to ensure the DS/DZ characteristics as part of the EMPB process. and in the revalidation defined to be carried out every 2 years.

It is the responsibility of the suppliers to maintain these active and current controls, both internal to their process and external with their suppliers if applicable; available for review at any time.

3.3.3 Validation of Implemented Actions

For claims from productive parts, the actions are validated through the evidence sent by the supplier of the implemented actions and with the post-event inspection follow-up within DBM Monterrey Plant; However, if necessary, the review can be done by the SQE directly at the supplier's facilities depending on the degree of impact and criticality of the failure.

For the findings in the VDA 6.3 process audit that require actions, validation is given through the evidence sent by the provider of the implemented actions and it is up to the SQE to consider whether a new on-site or remote review is necessary.

4.0 Master's of Quality

4.1 Criteria for Selection of Winners

The purpose of the Master's of Quality is to recognize the outstanding performance of our productive parts suppliers and encourage them to continue working with excellence, to meet DBM standards and remain in search of continuous improvement.

The following criteria will be taken into account to select the winners of the Master's of Quality recognition.

General performance	- >= 95%
Plant Quality Claims	- 0 PPMs
Quality certification	- Valid certificate approved at Certus
Environmental certification	- Environmental Self Assessment as a minimum
Escalation of other plants in the group	- No escalated themes
. Field campaigns due to supplier	- No open issues

5.0 Miscellaneous

Evaluation of direct suppliers

Direct suppliers are identified as those that supply parts for the assembly of vehicles in series production and their monthly quality performance is evaluated in accordance with the provisions of the ALD07000013 guide of the DVCM Supplier Portal.

Evaluation of indirect and fluid suppliers

They are those suppliers that supply raw materials, inputs with an impact on the final product, and special services such as external assemblies for the production process.

The evaluation is carried out monthly and is treated similarly to that of the productive parts of direct suppliers regarding recurring inconsistencies in the process.

	Evaluation Criteria	Score
1	**Compliance with the specification of the received lots**	
	Compliance with the specified criteria	80
	Non-compliance with specified criteria	tabuador
2	**Corrective actions**	
	Not required or required with delivery <=10 business days and effective	10
	Required with delivery >10 business days and effective	5
	Required not submitted	0
3	**Quality / Environmental Certificate**	
	ISO 9001 or IATF and an environmental certification current and available at Certus	10
	ISO 9001 or IATF current and available at Certus and environmental self-assessment	8
	ISO 9001 or IATF current and available at Certus and without environmental self-assessment	5
	ISO 9001 or IATF missing or expired, not notified and without environmental self-assessment	0

Concerted quality

The companies of the same group are independently evaluated based on the agreements established between both parties and their performance is monitored on a monthly basis based on this.