



Elektromotorji in gospodinjski aparati, d.o.o.

Otoki 21, 4228 Železniki

GQA (Quality contract)

agreed between:

Domel, d.o.o., Železniki, Otoki 21, Železniki

Identification N°.: 5045401, tax N°.: SI47263512, represented by

Mr. Matjaž Čemažar, M. Sc., director (hereinafter referred to as Domel)

And

Identification N°.: _____, tax N°.: _____, represented by

_____ (hereinafter referred to as the supplier)

»Quality contract« (hereinafter referred to as GQA) defines cooperation between Domel and the supplier. It defines quality assurance and necessary measures, which are valid for all products, parts, components, final products, goods and services (hereinafter referred to as "Products") which are manufactured for or delivered to Domel.

GQA defines quality system elements and provides for conformance, safety, reliability and continuous product quality improvements.

GQA has equal importance as "Purchasing agreement", "General purchasing conditions" and other documentation agreed with the supplier.

Only the quality and the goal of **zero fault** of both, our suppliers and Domel will guarantee zero defects for our customers. **Preventive** actions (instead of **fault inspection**) and continuous improvement in the whole process chain (customer inquiry, offer, order, product development, production launch, mass production and market use) are essential requirements which are to be and are satisfied in cooperation with our suppliers' active support.

Quality assurance

A supplier ensures product quality in accordance with the quality requirements by carrying out effective quality management system based on the principle of zero fault during development, production and other processes. Quality system management is to be based on preventive methods and not on nonconformity inspection.

Due to the high quality level achieved using the above mentioned principle, it is absolutely impossible to inspect faults during inspection of random samples from incoming shipments. Exceptions are possible in case of legislation requirements, visible transport damages as well as quantity and conformity inspection based on the supplier documents (Q certificates, attests,...)

Proof of machine and process capability

The investigation of machine capability and process capability are basically described in Vda, Volume 4, part 1, and must be performed accordingly. The following capability indices are required for special characteristics or process parameters.

Short term machine capability index: $C_{mk} \geq 2,0$

Long-term process capability index: $C_{pk} \geq 1,67$

For other agreed special characteristics, the following capability indices are binding:

Short term machine capability index: $C_{mk} \geq 1,67$

Long-term process capability index: $C_{pk} \geq 1,33$

Sampling mode:

C_{mk} : At least 50 consecutive produced parts from the process shall be taken.

C_{pk} : Sampling at least during 20 manufacturing shifts, 5 pieces/sample. If the required proof cannot be provided within 60 (calendar) days after first sample, 20 samples are taken with the size of 5 pieces/sample during at least 5 shifts/batches. With suppliers who deliver small annual quantities (for example, the yearly quota is produced in less than 5 shifts) the SQA prepares a special agreement according to project needs.

If these minimum requirements are not met, 100% tests or appropriate poka-yoke or similar measures shall be carried out until the capability is achieved through corrective actions. Permanent implementation of measures or deviations from this shall be agreed with Domel.

Quality documentation

The supplier shall record testing and measuring results as well as planned and initiated corrective actions. The complete documentation must be available at the request of Domel and its customers at any time. Quality records of those products which request special documentation must be kept by a supplier for a period of at least ten (10) years after the end of production unless a special agreement defines it differently.

Quality agreement

Domel along with its suppliers set measurable targets for supply. Target values are determined as follows:

$$\text{ppm} = \frac{\text{number of nonconforming units}}{\text{total number of supplied units}} * 10^6$$

number of nonconforming units = sum of count of nonconforming units found at incoming inspection and count of nonconforming units found in production process. (ppm = parts per million – the number of nonconforming units per million of supplied units). Unit is considered according to purchase order (for example, if order is in kg, then unit is kg).

For materials where quantitative, countable pieces are difficult to define (bulk materials) the quality is measured according to quality level of delivered shipments. ABC ranking of shipments.

Goal of quality is generally 0 ppm for all suppliers. During yearly quality review we define current targets for ppm levers, separately for automotive and non-automotive supplies. Domel reserves the right to return nonconforming goods even within the limits of agreed levels. Return of goods shall be agreed case by case.

Environmental requirements

Suppliers are recommended to establish the system of environmental protection in accordance with the ISO 14001 standard in order to meet Domel's environmental requirements. The Purchasing Department of Domel sends the "Environment Management Questionnaire" to a supplier to be filled in and signed for this purpose.

Technical documentation

Suppliers shall keep and maintain the received documentation properly. Therefore, records of received documentation as well as records of all the changes in the documentation shall be kept. Supplier shall not change the product/process after approval. This includes technical requirements, documentation, technology, processes and production locations. A supplier can change any of the above mentioned items in case of prior written consent from Domel. Each change must follow the instructions of this GQA (PPAP sampling). In case PPAP/EMPB procedure is not carried out, a supplier must in advance acquire a written permission from the purchasing to be exempt from procedure.

Product change by Domel

In case of product change a supplier will be sent the request notice along with all the needed technical documentation by Domel. Supplier shall check the feasibility of the change and prepare an offer which shall include a detailed list of costs, time-plan of activities and current stock levels. A supplier will be informed about the planned sampling date and the introduction of a change. The costs of change, unusable stocks and eventual price change are all a subject of agreement between a supplier and Domel.

A change proposal by a supplier

Domel's suppliers are expected to carry out activities for continuous improvement in order to improve quality and reliability as well as to lower the costs of production and product. Therefore, a supplier is endorsed to propose a change for a product supplied to Domel at least 6 months before intended change implementation. A proposal is enclosed with the results of all the tests carried out with the changed products. The proposal is checked and the decision is notified to a supplier. Changes are not allowed without approval from Domel.

Non-conformance Approval

If a supplier finds out the non-conformance of its product, the document "**Supplier application for waiver**" is sent to Domel. Domel's decision is sent back in written form. In such case the shipment quantity is not taken into account for ppm ranking.

Non-conformance consequences

Supplier is responsible for eventual damages caused to Domel for deliveries of ascertained faulty Products. Domel has the right to ask for refund of Costs due to:

- production stop,
- sale stoppage,
- transportation, administrative and other costs due to supplier's fault.

Any request of cost refund must be demonstrated, quantified and agreed with supplier. Supplier is also responsible for eventual hidden defects found out by a Domel's customer, provided that Supplier faults are ascertained. In said case too Supplier will be charged of eventual claimed costs which must be previously demonstrated, quantified and agreed with the supplier.

Quality management system

Domel requires its suppliers to establish, carry out and maintain Quality Management System according to the requirements of ISO 9001 standards and recommends them to have this system certified. Whereas the automotive suppliers **are required** to have quality management system certified. Valid certified quality management system according to the requirements of IATF 16949 standards is anticipated, conditionally we can accept ISO 9001 certificate as well.

According to the level of requirements for a supplied product, Domel requires:

Level	Product	Technology	Quality management system according to:
1	Most important parts: Automotive products , commutators, brushes, bearings, permanent magnets, copper wire, springs, resins, switches, rotors, stators, electronics,...	welding, turning, grinding, milling, BMC molding,...	IATF 16949 Conditionally ISO 9001
2	Important parts: plastics, casts, metal semi-products, rubber, insulation materials,...	cutting, casting,...	ISO 9001 at least
3	Standard parts: screws, nuts, washers, packaging,...		Domel approval at least; recommended ISO 9001

The requirements that Domel imposes on its suppliers shall be forwarded to their suppliers.

Quality assurance

Domel expects its suppliers to:

- have an established fault prevention system based on team work,
- have an established system for processing eventual faults,
- implement problem solving methods to prevent fault re-occurrence (based on root cause analysis).

Production process audit

Domel requires its suppliers to regularly carry out own audits of their, process and product. The records of the before mentioned audits as well as those of performed corrective measures shall be available to the Domel's representative on request. Domel reserves the right to carry out an audit at the supplier's according to "General purchasing conditions". These audits shall be agreed in advance.

Training and education

In order to master business processes all employees are expected to acquire new knowledge. Domel expects its supplier to:

- prepare the list of knowledge and qualifications required,
- prepare the annual training and education plan,
- monitor training and education processes,
- analyze the results of training and education.

PPAP/EMPB sample approval procedure

PPAP/EMPB procedure is to be carried out in the following situations:

- a new product,
- a construction change,
- a material change,
- a manufacturing procedure change
- a production location change,
- an interruption of production for more than a year,
- a change of a supplier or the source of material.

In case of any changes, the supplier is obliged to inform Domel and to make arrangements for further steps of PPAP/EMPB procedure.

In order to carry out PPAP/EMPB, a supplier is given two copies of a drawing, one is for the supplier and the other one is to be returned along with the report and samples to Domel. All characteristics are to be numbered on the dimensional drawing. Proper numbering runs in the clockwise direction and it has to be done in every view and detail. The sample pieces are to be numbered with consecutive numbers. If the pieces belong to different nests/cavities in a tool, sample pieces from all nests are to be prepared and the pieces from an individual nest are to be indicated with consecutive numbers. In case of a greater number of sample pieces, the measurements shall be written into a special annex and only the minimal and maximal measurement values are to be written into the report form.

The required and agreed tests are to be carried out and an appropriate supplier's report is to be sent to Domel. **The measured values which are out of required tolerances shall be indicated.** Deviations of critical and significant characteristics are not allowed and in this case the supplier shall not submit the PPAP samples. The characteristics shall be marked according to instructions described in "Guideline for marking and verification of special characteristics, No. 381". In case the supplier has not carried out all production and/or measurement steps by itself, each characteristic shall have the name of the person/company having done the service (a thermal treatment, special measurements, etc.). Also the material source (manufacturer) for the sampled part shall be stated.

The PPAP sample testing report consists of two forms:

- PPAP/EMPB report about the sample measurements,
- PPAP/EMPB approval about the sample usability.

Domel's forms are to be used or supplier's equivalent ones.

The supplier shall have the necessary testing means available. If testing requires the use of special equipment which is not available to the supplier, testing can be carried out by appropriately authorized contractor. If needed, the supplier and Domel agree how to carry out individual testing procedures.

A supplier is fully responsible for the measurements results of supplied samples and for all hidden defects and non-conformances which are revealed later when a product is in use. After the release of regular shipments, the supplier shall maintain and improve the quality of delivered product(s).

The quantity of required samples:

- material on reels → 1 reel,
- material in rods → 10 rods,
- standard parts (screws, etc...) → 100 pieces,
- ordinary parts → 10 pieces,
- casts and forged parts → 3 pieces/nest,
- plastic parts and rubber → 5 pieces/nest.

The quantity can differ from the given above and depends on the sort of parts and materials, the contents and the sort of obligatory testing.

A supplier and Domel are both obliged to keep the documentation and the samples dealt with in the PPAP/EMPB procedures during the duration of the Purchasing Agreement and at least 7 years after the break of the agreement unless specified differently. The documents are to clearly show the traceability of changes.

PPAP samples are parts, products and other production material which were entirely manufactured with mass production means and in the process of mass production. The samples are normally free of charge except if agreed differently.

Special samples are the samples delivered according to a special agreement.

Having checked/examined the documentation and the PPAP samples, Domel takes one of the following decisions:

- Approved/released: the supplier fulfills Domel's requirements completely and can start its delivery according to the order.
- Temporary approved/released: the supplier does not fulfill all Domel's requirements, therefore, only a certain amount of products or limited timeframe is approved and the following measures are to be taken:
 - Find out the reason for non-conformities.
 - Prepare and submit a plan of corrective actions.
 - Submit PPAP anew in order that complete approval is granted.
- Rejected: Domel's requirements are not fulfilled.

Samples can also be rejected in the following cases:

- the samples are not delivered at the stated time/agreed date,
- the quantity of the samples fails to meet the requirements,
- the samples are not properly indicated/marked.
- the measurement report is not complete,
- the samples have not been manufactured in the process of serial production.

The procedure of sample approval often takes long and expensive final product testing. Sharing of the costs resulting from the repeated product sampling due to inappropriate samples shall be defined case by case.

The supplier's regular supply can only start after Domel's written approval of PPAP/EMPB procedure (PSW use is recommended).

Requalification procedure

After final PPAP confirmation, the product(s) shall be periodically requalified. The extent and frequency of requalification shall be mutually agreed case by case, considering:

- Automotive products. The frequency of requalification shall be once per year (could be defined for one product out of family or one product out of one technological process),
- Non-automotive products. The frequency of requalification shall be once per every three (3) years if not agreed differently (could be defined for one product out of family or one product out of one technological process).

Tools, instruments and measuring tools

Supplier's tool operation is more precisely defined by a special "Tool contract" which is enclosed in "The purchase contract" when needed.

A test batch

A test batch of ordered products is carried out by a supplier in order to check and assess the reliability of production. The statistical analysis of equipment capability is made and the approval of production, measurement equipment and processes is carried out. In case of deviations, the supplier carries out a cause analysis and plans measures to be taken in order to minimize the possibility of fault recurrence. Domel is informed about the test series date. The complexity of a product decides whether Domel will arrange the presence of its team during the test series with supplier.

The activity results connected with the product quality are to be written down and Domel's is allowed to examine them at any time. The records shall be kept at least 7 years for ordinary and 10 years for products with safety characteristics. The time limit

for records retention keeping can be agreed separately. The records retention requirement is binding also after the order stoppage.

Before dispatch, the supplier is obliged to check that a product meets the requirements. The assessment results of the most significant or agreed on characteristics shall be recorded. Certificate shall be sent to Domel on request within the period of one (1) working day. The ways of documentation sending are agreed on within the negotiations about the conditions of the next period co-operation. The supplier is obliged to keep the document according to the last state of Domel's technical documentation.

A supplier is fully responsible for the conformity of its own incoming material, an appropriate inspection of the material is to be carried out and records are to be taken about quality monitoring, also in case of material supplied by Domel.

Domel expects all the supplier's products meet the quality requirements therefore non-conforming products will be rejected. Domel provides for incoming inspection and will inform the supplier about the discovery of faulty products. Also immediate information will be given to the supplier regarding eventual hidden defects discovered during Domel production. Supplier may ask for samples for first analysis in order to evaluate possible causes of non-conformance before taking back claimed material.

Dealing with complaints

Domel starts a complaint procedure when non-conformances of a product, according to the requirements, are found out. Complaints can be caused by:

- non-conformances of packaging and marks,
- quantity non-conformances,
- inappropriate quality of delivered products.

Nonconformance can be found out:

- when a shipment is received/accepted,
- during the use in production and,
- at Domel's customer.

According to the seriousness of the non-conformance and possible consequences, a complaint can be:

- a warning complaint (the products delivered are used, costs shall be covered by supplier),
- a complaint (the products delivered are returned to the supplier).

A supplier is to respond to every complaint notice (telephone, e-mail) within the period of one (1) working day. All non-conforming products are to be eliminated and replaced in the period agreed between parties (see also table below).

Actions/measures – corrections

Supplier is expected to immediately and efficiently act with the goal to remove causes of non-conformances and to prevent its reoccurrence in the future.

In a case of non-conformance, the supplier is required to send, within the period of one (1) working day after receiving a complaint report^(*), a written notice to the sender where:

- the possible causes for non-conformances are described,
- the possible immediate measures are suggested to provide undisturbed production in Domel and to eliminate non-conformances (sorting, completion, replacing non-conforming products with appropriate ones, etc.)

According to the possibilities, Domel and a supplier agree on the most appropriate measure to be taken.

(*)Domel shall, upon request and if possible, send a sample of a faulty product and/or pictures together with complaint report to the supplier.

In a case where non-conformances occur which result in higher costs or in case of reoccurring non-conformances, Domel requires a supplier to prepare a written non-conformance elimination plan, which is written in 8D report. Domel's form or a supplier's own form can be used.

The basic purpose of this report is:

- for a supplier to find out and become aware of the causes for the non-conformances,
- to prepare action list and time plan of effective short- and long-term measures for permanent elimination of non-conformances,
- for a supplier to assess the effectiveness of the measures carried out,
- for Domel to assess the effectiveness of the introduced measures.

After receiving a complaint report, a supplier is to prepare and send an 8D report (or equivalent documentation regarding issue cause and mode of its removal) according to the following time schedule:

8D disciplines	Scheduled release
D2: Problem description	Within one (1) working day
D3: Implement containment actions (Firewall)	
D4: Define root cause(s) and escape points	Within three (3) working days
D5: Choose permanent corrective action	Released within ten (10) working days
D6: Implementation of permanent corrective action(s)	According to agreed time plan.
D7: Action(s) to prevent reoccurrence, lessons learned	
D8: Congratulate team	

If Domel estimates that the planned measures will not suffice, the supplier will be required to make a new plan. In case further deliveries prove ineffectiveness of taken measures again and non-conformance reoccurs, Domel shall organize the visit of the quality engineer. The visit shall be mutually agreed upon. A supplier is to enable the engineer:

- to carry out extra process and system audits,
- the insight into the production process and documentation in order to prepare a mutual plan of corrective and preventive measures.

Domel can also initiate a special escalation procedure where, for every escalation level, we have defined which and how frequent activities shall be performed (with agreement of the supplier) in order to solve problem.

In addition to the standards listed in this guideline, Domel documents are binding, e.g. but not limited to:

- Order drawings including the requirements these specify such as DIN, EN, SIST standards, Domel standards, technical conditions of delivery, data sheets etc.
- Agreed test instructions and testing equipment.
- Additional order details e.g. packaging instructions.
- Special legal requirements.
- Special requirements related to sustainability, environmental protection, recycling, health and safety.

If there are no objections to set requirements or different mutual agreement as defined on the said (and other) documents is reached (with reasonable arguments), within 30 days of receipt, supplier is deemed to agree to the terms and conditions set.

Supporting documents and standards for suppliers for automotive program

The following publications are available from the Automotive Industry Action Group (AIAG). These documents contain information that is mandatory for suppliers to for automotive program:

- Quality System Requirements AIAG 16949
- Production Part Approval Process (PPAP)
- Advanced Product Quality Planning and Control Plan (APQP)
- Potential Failure Modes and Effects Analysis (FMEA)
- Measurement Systems Analysis (MSA)
- Fundamental Statistical Process Control (SPC)
- AIAG CQI-9: Heat Treat System Assessment
- AIAG CQI-11: Plating System Assessment
- AIAG CQI-12: Coating System Assessment
- AIAG CQI-23: Molding System Assessment

Domel, d.o.o., Železniki

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