

Enabling the
Electronics Revolution



Supplier Manual

Amphenol Tuchel Industrial GmbH

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Foreword

Amphenol Tuchel Industrial GmbH (hereinafter referred to as ATI) is one of the world's leading manufacturers of electrical connectors. With our high-tech products, which are used in almost all end user markets, we enable the electrical revolution. To always meet and even exceed the high expectations of our customers, as well as to contribute to the preservation of the environment for ourselves and our children by acting in a socially responsible and sustainable way, is our ultimate goal.

To achieve this goal, we need reliable partners in our global supply chains.

A zero defect strategy, outstanding delivery performance and sustainable thinking and acting are basic requirements for a successful cooperation.

ATI expects proactive collaboration from its suppliers. This means addressing potential issues before they arise, informing the customer of existing risks and opportunities at an early stage, and taking the initiative to obtain the necessary information.

In addition, we require our suppliers to actively and systematically work on the continuous improvement of products and processes with the aim of improving quality, ensuring delivery reliability in the long term, sustainably increasing resource efficiency and reducing costs.

Purpose and Scope

This manual describes ATI's requirements towards its suppliers for production material in the different product life phases and is, as well as the purchasing conditions, part of every purchase contract.

The requirements of this manual are always valid. Exceptions will only be accepted if documented in writing.

The following exceptions apply:

- For **suppliers of plastic granules**, items 2.2.8. and 2.2.9. (sampling) do not apply to the extent described. Here ATI requires an acceptance test certificate 3.1 according to DIN EN 10204 in the respective valid version for release.
- **Dealers / service providers** are responsible for the implementation of the contents of this supplier manual at their suppliers. This is confirmed by the acceptance of the supplier manual. The dealer / service provider does not have to be certified at least according to ISO 9001, but has to certify in writing that the products sold to ATI are only procured from verifiably certified suppliers.

Advice

If individual sections or text passages cannot be accepted, please enter comments in the addendum on the last page of this document. Crossed-out text passages are not acceptable.

1. Social,- Ethical- and Environmental Responsibility

1.1. Social Responsibility

ATI expects its suppliers to comply with the applicable laws of their country and to respect international environmental and ethical standards.

We are committed to promoting fair labor conditions throughout our supply chain and prohibiting the use of forced labor and slavery. We are firm in our commitment to oppose the use of conflict minerals. ATI consistently implements Amphenol Corporation's comprehensive programs and actively audits compliance with Group policies annually (<https://amphenol.com/sustainability/supply-chain>). Supplier agrees to participate in the respective surveys conducted by ATI or a service provider contracted by ATI.

1.2. Conflict Minerals

Delivery must comply with the requirements of the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High Risk Areas and the associated Conflict Substances Regulation under (EU) 2017/821, as well as the Dodd-Frank Act (tantalum, tin, tungsten, gold and cobalt) in the respective valid version.

1.3. REACH

Delivery of products to ATI must be in accordance with the EU Chemicals Regulation 1907/2006 (REACH Regulation) in the respective valid version.

1.4. Environmental Management System

ATI expects its suppliers to implement and maintain an environmental management system that ideally complies with ISO 14001 or EMAS requirements. Certification has a positive effect on the supplier evaluation.

1.5. Reduction of CO2 Emissions

Climate change is one of the greatest challenges facing society. To counteract the rapid global warming, CO2 emissions must be drastically reduced in all sectors. ATI expects its suppliers to actively and continuously work to reduce the direct and indirect CO2 emissions generated by its business activities. Supplier agrees to participate in the applicable surveys conducted by ATI or an ATI contracted service provider.

1.6. Energy Management

The introduction and continuous improvement of an energy management system (e.g. according to ISO 50001) not only has a positive effect on the CO2 balance of companies, but is also a real competitive advantage with regard to energy costs. ATI expects its suppliers to actively and continuously work on increasing energy efficiency and thus reducing energy costs.

2. Qualification Phase

2.1. Supplier Approval

The supplier must maintain a living quality management system (QM system) certified according to international standards. The minimum requirement is a certification according to DIN EN ISO 9001. For suppliers that provide parts to automotive customers, ATI prefers an IATF 16949 certification.

The first step on the way to inclusion in the ATI supplier pool is the signing of the non-disclosure agreement.

Subsequently, the supplier self-assessment form (SSA) for the respective product group must be filled out completely and submitted to ATI with the required documents. The SSA may need to be updated and resubmitted to ATI at a later date if required.

In addition, confirmation of acceptance of the current version of the ATI Supplier Manual is required.

The final step for inclusion in the ATI Supplier Pool is the performance of a process audit (potential analysis) at the supplier's production site by ATI Supplier Quality Assurance or a service provider commissioned by ATI.

After approval by ATI Supplier Quality Assurance, the supplier can be included in the list of approved suppliers. The final decision on inclusion in the supplier pool is made by Strategic Purchasing.

2.2. Product Approval

Product release (sampling) is required in the following cases:

- New Supplier
- New product
- New Tool
- Changed specification
- Changed manufacturing conditions
- Changes that affect form, fit and function
- New production site
- After production interruption of 12 months (only relevant for automotive parts)

To ensure the fulfillment of the quality requirements for the products, the following steps must be processed. The supplier is fully responsible for his products and services in every realization phase.

2.2.1. Project Planning

The planning of the partial steps of a project must be done in a suitable form. The supplier must be able to provide ATI with the documentation of the project plans if required.

2.2.2. Feasibility Analysis

As a minimum, the feasibility analysis must determine whether a product can be realized in the required quality, at a competitive price, in the required quantity, and by the required target date. The results of the feasibility analysis must be documented. Documentation of the results shall remain with the supplier and must be made available to ATI upon request. If the supplier does not have his own suitable form (e.g. according to VDA standard), the ATI feasibility analysis form ATI 920 in the valid version shall be used.

2.2.3. Process FMEA (P-FMEA)

In order to identify potential risks in series production at an early stage and to derive appropriate measures to minimize the risk, a systematic approach is absolutely essential. The FMEA method (ideally according to AIAG & VDA Handbook, 2019) is a suitable tool for this purpose.

A P-FMEA must be created or updated for each sampling. The supplier always keeps the FMEA up to date and can show it to ATI at any time if required.

2.2.4. Process-Flow-Chart

A process flow chart must be created as a basis for test planning. This is kept at the supplier and can be made available to ATI if required.

2.2.5. Test Planning

For SC/ CC inspection characteristics, a Cpk value of at least 1.33 must be specified. For sampling inspections, a sampling plan with $c = 0$ must be used. ATI also expects manufacturers to perform a scheduled final part inspection in your production order. The result of this inspection will be verifiably documented.

2.2.6. Measure- and Test Equipment Capability Analysis

Only capable measuring and test equipment may be used. Capability must be demonstrated in accordance with MSA (Measurement System Analysis). Measurement equipment analyses must be prepared or updated for each sampling for test dimensions. Results will be retained by the supplier and can be provided to ATI as needed.

2.2.7. Preliminary process capability study

For all critical characteristics (SC- / CC- characteristics) defined in drawings, capability tests must be carried out according to SPC. The features must achieve a Ppk of at least 1.67. The results must be available at the time of sampling.

The analysis shall be performed by means of a mean value control chart based on at least 25 samples with at least 100 individual measurements. The data shall be taken from a production run under series conditions with at least 300 continuous parts. The measured values are recorded in the production sequence. For multiple tools, process capability may be determined by an examination of the extreme nests. However, ATI reserves the right to request a capability study for all nests.

2.2.8. Product and process release (PPF)

Samples must be presented with PPF report according to VDA standard in the agreed submission level or according to PPAP in the agreed level (EMPB also possible by agreement). Characteristics which cannot be tested by the manufacturer must be confirmed by enclosed test certificates. Parts from multiple molds must be marked, tested and recorded separately for each mold cavity.

When sampling surface parts, marked reference parts with marked measuring points must be supplied.

Sampling shall be submitted in English. Additional languages will be coordinated with ATI as required.

2.2.9. Approval testing by ATI

The releasable parts must be sent to ATI along with the following documents:

- Delivery bill (delivery marked as sampling with release samples to the incoming goods department for the attention of the requesting party)
- Results of the process capability studies
- Completed PPF or PPAP form
- Test drawing with numbering
- Process Flow Chart

Release

If the release samples meet the requirements, the written release is issued by ATI. Hidden defects that were not detected during the release sampling can also be objected to at a later point in time.

Release with conditions

If a conditional release is issued, the features listed in the report as requiring correction must be reworked and all features affected by this must be re-sampled. An updated report must also be supplied with the corrected parts. Special measures (e.g. special release for a specific batch size) are documented on the PPF or PPAP report.

Rejection of release samples

If the release samples are rejected, the initial sampling must be repeated after appropriate correction. In case of deviations that were not communicated in advance, ATI reserves the right to charge the supplier for the costs of the re-sampling.

3. Series Phase

3.1. Order confirmations

Order confirmations must be received by ATI Dispatch within a maximum of two business days. Contact persons are named in the header of the order.

3.2. Production

Production must be carried out according to the conditions agreed in the supplier's QM system or those agreed with ATI.

3.2.1. Documentation of test results

The supplier must document quality requirement documents and quality drawings (e.g. test results) in an appropriate form and, unless otherwise agreed with ATI, keep them securely for at least 15 years. Quality requirement documents and quality drawings must be made available to ATI upon request within 24 hours. Complete traceability back to the raw material must be ensured.

3.2.2. Re-qualification testing of the products

To ensure that products meet quality requirements, appropriate requalification tests must be performed according to plans specified by the person responsible for development.

3.2.3. Complaint of provided material

For orders where ATI has provided defective material, if the material cannot be processed, the Supplier must file a claim with ATI using the ATI 554 "Claim for Material Provided" form at the email address LBT@amphenol.de.

After submitting the claim, the supplier will receive a Q2 number from ATI, which he must display when returning the defective goods.

3.2.4. Parts with galvanized surfaces

Parts with galvanized surfaces may only be contaminated with water-soluble substances (punching oils, tool cleaning agents, etc.). If there is any doubt as to whether adhering substances are water-soluble, or if changes are made to the corresponding agents, the respective supplier must be consulted.

Layer thickness measurements on the finished part must always be carried out using the X-Ray method, irrespective of the number of individual layers.

3.3. Deliveries

3.3.1. Export restrictions

The Contractor shall inform ATI without undue delay if a delivery is subject in whole or in part to export restrictions under German or other law.

3.3.2. Packing and labeling

ATI's packaging and labeling requirements are documented in the general delivery and packaging instructions N50 0000 001.

3.3.3. Traceability

The supplier must ensure that its products can be traced back to the batches of raw material.

3.3.4. Delivery documents

Unless otherwise agreed with ATI, at least the following documentation must be included with each shipment, depending on the commodity group:

- Raw material: At least 2.2, better 3.1 Certificate according to EN 10204
- Surface parts: Test certificate for the coating thickness

The contractor must ensure that ATI is always provided with the valid safety data sheet if the delivered substances fall under the currently valid hazardous substances regulation of the recipient country.

3.4. Incoming goods inspection by ATI

3.4.1. Test method

Depending on the experience regarding the delivered quality of the supplier, ATI performs incoming goods inspections of various degrees:

- Normal test:

Each goods receipt is tested according to sampling method DIN ISO 2859 Part 1, Table 1, test level I or II, with $c = 0$.

- Skip Lot Exam:

After a qualification phase (normal inspection of six deliveries in succession), only every fourth delivery is inspected. If there are any complaints, the system switches back to normal testing.

- Testing Waiver:

ATI will only perform an inspection for identity, quantity, and shipping damage as part of the receiving process.

3.4.2. Complaints

If defects are found in parts, the supplier shall receive a written complaint report. If necessary, the supplier must immediately provide sufficient personnel to rectify the problem on site.

Any consequential damage caused shall be charged to the supplier in accordance with the applicable commercial rules.

Returns shall be made against debit, replacement deliveries against corresponding recalculation.

3.4.3. Statement on the complaint (8D- Report)

To confirm receipt of a complaint, a 3D report must be sent by e-mail to LBT@amphenol.de within 48 hours. The final statement in the form of a complete 8D report must also be sent by e-mail to LBT@amphenol.de as soon as factually and technically possible within a maximum of 14 days.

Suitable problem-solving methods (e.g. 5 Why, Ishikawa, etc.) must be demonstrably applied to determine the causes of errors. The person(s) responsible and the implementation date must be named for all measures mentioned in the 8D report.

The subject line of the mail must contain the complaint report number.

3.4.4. Redeliveries

Re-deliveries after successful sorting or rework must be clearly marked on a green label with the complaint number and date of rework. Unless otherwise agreed with ATI, 3 subsequent deliveries must be inspected and marked in the same way.

4. Continuous Improvement

4.1. Supplier Evaluation „A with Amphenol“

ATI conducts a supplier evaluation twice a year. The supplier's performance is assessed in various categories. The half-yearly evaluation looks at the supplier's performance from 01.01. to 30.06. of the respective year. The annual evaluation looks at the entire past calendar year. Based on the results of the evaluation, the supplier is classified in four classes (A, AB, B, C). The result will be sent by mail (result as pdf attached). B and C suppliers are requested to send an action plan to ATI within 14 days. The ATI template is to be used. In addition, selected suppliers may be invited to a development meeting.

4.2. Internal Process Audits

As part of the continuous improvement and assurance of the quality capability of the processes relevant to ATI products, internal process audits must be carried out both regularly (in accordance with the audit plan) and on an event-driven basis. The weaknesses identified in the audit must be eliminated with effective measures.

4.3. Supplier Audits by ATI

Supplier shall allow ATI or ATI's contracted service providers to conduct announced audits at its facilities as part of the audit program. Qualified personnel will be made available during the audit. This also applies to ATI's customers as well as regulatory agencies during audits conducted by ATI. The weaknesses identified in the audit have to be eliminated with effective measures. The action plans are sent to ATI within the deadline agreed in the final meeting.

5. Data protection and cyber security

5.1. Data protection

The current version of the ATI Privacy Policy applies. [Datenschutz \(amphenol-industrial.de\)](https://www.amphenol-industrial.de/Datenschutz)

5.2. Cyber Security

The threat of cyber attacks and thus the risk of economic damage to companies is increasing. ATI expects its suppliers to take appropriate measures to protect themselves from cyber attacks. Likewise, in the event of an attack, the supplier must have a response plan that includes informing the customer immediately. ATI regularly initiates surveys regarding the measures taken by its suppliers. Supplier agrees to participate in these surveys and to diligently answer the questions.

6. Complementary agreements

6.1. Confidentiality agreement

All information resulting from the collaboration between Supplier and ATI must be kept confidential.

6.2. Obligation to inform

Supplier shall notify ATI in a timely manner prior to changes in design, manufacturing processes, raw materials used or parts supplied for the Products, relocation of manufacturing locations, and changes in procedures or equipment used to test the Products.

6.3. Contingency plans

A contingency plan must define how to ensure satisfactory parts supply to ATI following a serious human, machine, material, environmental and method event, as well as force majeure events.

6.4. Stay on the ATI premises

Before entering ATI's premises, a supplier or a service provider contracted by the supplier must inform themselves about the safety instructions for companies outside the plant when entering the plant premises.

6.5. Contact person at ATI

The respective contact persons are named in the inquiry and order.

References

Ensuring the quality of deliveries

Process Audit

Failure Mode and Effects Analysis

Advanced Product Quality Planning (APQP)

Measurement Systems Analysis (MSA)

Statistical Process Control (SPC)

VDA Band 2

VDA Band 6.3

AIAG und VDA Handbuch 2019

QS 9000

QS 9000

QS 9000

Appendices and applicable documents

Supplier Self Assessment

ATI 554 "Complaint provided material".

ATI 920 "Manufacturability analysis ATI to suppliers".

N50 0000 001 "Delivery and packing instructions".

Terms and conditions of purchase

Confirmation of the ATI Supplier Manual by the supplier

Company Name

Zip code, city

Street, number

Country

Confirmed by:

Name

Function

Position on ATI Supplier Manual:

Please use electronic signature

Date

Signature

Approval by ATI Supplier Quality Assurance

Date

Signature

Comment ATI Supplier Quality Assurance

Addendum to the ATI Supplier Manual

