

HERAEUS ELECTRO-NITE SUPPLIER QUALITY MANUAL



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Terms & Definitions

Term	Definition
AIAG	Automotive Industry Action Group: Not-for-profit association where professionals from a diverse group of stakeholders work collaboratively to streamline industry processes via global standards development and harmonized business practices (www.aiag.org).
APQP	Advanced Product Quality Planning (APQP) is a framework of procedures and techniques used to develop products in industry.
Audit	Systematic, independent and documented process for obtaining and objectively evaluating evidence to determine the extent to which criteria are fulfilled.
Buyer	Buyer shall mean the Heraeus Electro-Nite legal entity identified as the Buyer in the applicable contracting document (e.g., purchase order or supply agreement). The term "buyer" is used interchangeably with the term "Heraeus Electro-Nite" in the Heraeus Supplier Quality Manual. The term "Heraeus Electro-Nite" or "buyer", as defined above, may include one or more Sites
Process Capability	The maximum amount of inherent variation in a process. A statistical study performed on a process to determine if it is capable of meeting the precision and/or accuracy according to specifications (Cp, Cpk, Pp, Ppk and Sigma values)
Confidential Information	"Confidential Information" means any information which, during the term of this Confidentiality Agreement (the "Agreement"), is disclosed or otherwise made available, directly or indirectly, by the Disclosing Party to the Receiving Party in any form, whether such information is provided in writing or other tangible form (e.g. embodied in products, prototypes or samples), or orally, visually (e.g. during visits to the Disclosing Party's facilities), electronically or other intangible form, and which (i) is expressly designated or marked as "confidential" or "proprietary", (ii) is a business or trade secret of the Disclosing Party, or (iii) would be regarded as confidential information by a prudent businessperson. Any information, study, copy, result or analysis derived from Confidential Information shall also be considered as Confidential Information.
Control Plan	Methodology to ensure all process outputs remain in a state of control. The plan is used and maintained throughout the product life cycle and is responsive to changing conditions via written descriptions of the actions required at each phase of the process from receiving through shipping.
CC	Critical Characteristic: Any product feature, component, material, assembly or complete system which is selected for production and field traceability in order to satisfy safety reporting requirements, regulatory requirements, or to support reliability analysis of high cost / high interest items.
Defect / Non-Conformance	Non-fulfillment of a requirement related to an intended or specified use, including safety considerations and regulatory requirements.
FMEA	Failure Modes and Effects Analysis: A preventive analytical technique to methodically study the cause and effects of potential failures in a product or a process. The product or process is examined for all the ways in which a failure can occur. For each potential failure, an assessment is made of its effect on the system and its seriousness, and a review is made of the action being taken (or planned) to minimize the probability of failure or to minimize the effects of the failure.
GSPA	An on-site Generic Supplier Process Audit (GSPA) at the supplier and/or its sub-suppliers. The GSPA ensures the process meets Heraeus Electro-Nite's requirements for capability and error detection and prevention.
HSQM	Heraeus Supplier Quality Manual
Incoterms	The Incoterms rules are intended primarily to clearly communicate the tasks, costs, and risks associated with the transportation and delivery of goods. Incoterms is referring to the ICC Incoterms 2020.

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ISO-9001:2015	International Organization for Standardization: An international technical specification for quality management systems
ISO-14001:2015	International Organization for Standardization: Specifies the requirements for an effective environmental management system (EMS)
ISO-45001:2018	International Organization for Standardization: A standard for management systems of occupational health and safety (OH&S)
Major Disruption	Special event resulting from products or services that do not meet the agreed quality or delivery specifications. Results in non-standard operations including: Quality Spills (product out-of-spec, stop shipments, production interruption, etc.) and Stock Outs (product not available).
NBH	New Business Hold: A control that prevents suppliers from quoting or receiving new business until conditions are satisfied to address deficiencies identified by Heraeus Electro-Nite. The supplier may be removed from the approved supplier list.
OSA	Heraeus Electro-Nite may conduct an On-Site Assessment (OSA) of the supplier's QMS, documentation and manufacturing facilities based upon criteria established in the OSA questionnaire.
PPAP	Production Part Approval Process: Defines generic requirements for production part approval, including production and bulk materials. The purpose of the PPAP is to determine that customer engineering design record and specification requirements are properly understood by the supplier. The supplier shall demonstrate that the manufacturing processes have the potential to produce product consistently meeting these requirements during an actual production run at the quoted production rate.
Preventive Action	Action to eliminate the cause of a potential non-conformance or other undesirable situations.
Product	The term "product" used in the Heraeus Electro-Nite Supplier Quality Manual refers to any kind of product or service. This includes the physical "manufactured" product, a provided service, engineering work such as drawings and specifications or any other internal product provided in a series of processes. The term "deliverable" is used interchangeably with the term product in the Heraeus Supplier Quality Manual.
PSW	Part Submission Warrant: The warrant contains supplier, part information, required documentation, the supplier application warrant and disposition. The submission approval authorizes the supplier to start production based on PO requirements.
QMS	Quality Management System: A formalized system that documents the structure, responsibilities and procedures required to achieve effective quality management. It is based on the requirements detailed in ISO-9001:2015 with additional enhancements.
8D	A formal request to take action to eliminate the cause(s) of an existing non-conformance or other undesirable situation in order to prevent recurrence.
Supplier	Supplier: shall mean the legal entity identified as the supplier in the applicable contracting document (e.g., purchase order or supply agreement).

1.0 Doing Business with Us

1.1 Our Company and the Purpose of the HSQM

Customer satisfaction is the centerpiece of all our business processes. Heraeus' goal is to offer its customers leading products that are innovative and competitive. The continuous improvement of our products and processes and our high level of technical competence make Heraeus an interesting partner for its customers who acknowledge this performance with a long and, for both partners, satisfactory business relationship. The customers of Heraeus count on the quality and the reliability of the products we deliver. In order to meet the customers' requirements, Heraeus has introduced and maintains a comprehensive quality management system for its own production processes.

The suppliers also have a key role in meeting customer requirements. For this reason, Heraeus can only procure products and other services from business partners who are properly approved. The purpose of this manual is to create transparency regarding the cooperation with suppliers and to show how to maintain the existing quality level agreed between Heraeus and its suppliers and how to restore and optimize quality in the event of a quality failure. With the implementation of regular quality-enhancing and risk-reducing measures (such as QMS audits, risk self-assessments, conflict mineral survey etc.), we further intend to expand and optimize the quality standards of our suppliers which allows us to further distinguish ourselves from our competitors and to provide our customers with a significant competitive edge.

This manual primarily governs the relationship with suppliers who deliver direct production materials which have an effect on product quality, but also includes suppliers who provide external processes (e.g. semi-finished products). Upon mutual agreement between Electro-Nite Global Supply Chain and Quality Management, the scope of this manual may be extended to include suppliers of auxiliary materials, operating materials or services.

Throughout this manual, the word “shall” or “must” indicates a requirement. The word “should” indicates a recommendation.

The English version of this manual is the official version. The English version has precedence in the event of discrepancies with manuals translated into different languages.

1.2 Heraeus Supplier Code of Conduct

The supplier shall adopt and comply with the buyer's Heraeus Supplier Code of Conduct (HSCOC). The supplier shall take all steps necessary to ensure that its sub-suppliers and subcontractors comply with the HSCOC. At the supplier's request, the buyer will mail the supplier a hard copy. The HSCOC may be amended by Heraeus Electro-Nite from time to time.

The HSCOC can be found on the Heraeus Portal and in the General Terms of Purchase. For details, please refer to the respective guidelines and policies on the Heraeus Portal or Website:

https://www.heraeus.com/en/group/about_heraeus/corporate_responsibility/corporate_responsibility.html

https://www.heraeus.com/en/group/heraeus_group/general_terms_of_delivery_and_purchase.html

2.0 General Supplier Requirements

The term supplier includes suppliers of products and services (together called "products" or "deliverables" in this manual) and distributors that provide deliverables to Heraeus Electro-Nite. The term supplier also includes suppliers of both custom and commercially available products. The supplier shall:

- Satisfy the requirements established in this manual
- Maintain a working knowledge of all policies and procedures governing the relationship between the supplier and Heraeus Electro-Nite
- Obtain the latest version and be knowledgeable of all AIAG documents referenced in this manual from the web-site (www.aiag.org)
- Accept responsibility for the quality, on-time delivery, EHS regulatory compliance, and technical performance of all deliverables

In the event of a conflict between the terms of this manual and any contract between the parties, unless the parties agree otherwise in writing, the various components of the agreements shall be given the following precedence (in descending order of precedence): 1) the supply agreement, if any; 2) a purchase order; 3) the Heraeus General Terms of Purchase and 4) the Heraeus Electro-Nite Supplier Quality Manual.

The supplier shall be responsible for ensuring all sub-tier suppliers adhere to these requirements.

At Heraeus Electro-Nite's discretion, a waiver of certain manual requirements may be granted and approved for a specific product or duration. All such waivers shall be effective only upon express written approval by Heraeus Electro-Nite.

2.1 Supplier Quality Management System

The supplier shall establish and maintain an effectively documented Quality Management System (QMS) that satisfies the requirements defined in this manual. The QMS must communicate, identify, coordinate and control all activities necessary to design, develop, produce and deliver a quality product or service to Heraeus Electro-Nite and/or its customers.

The supplier shall be compliant with one of the following international quality management standards: ISO9001:2015 or ISO/TS16949 latest revision. The supplier may be registered by a recognized, independently certified third-party registrar. Heraeus Electro-Nite may request a copy of the certificate when applicable. Heraeus Electro-Nite may conduct an audit of the supplier's QMS. An audit shall be required to verify the supplier's QMS if the supplier has not achieved compliance or is not certified. The supplier shall notify Heraeus Electro-Nite of any significant changes in their QMS including loss of certification.

2.2 Supplier Quality Manual

The supplier shall maintain a quality manual that includes:

- Supplier's quality management system
- Supplier's quality policy and objectives
- Documented procedures
- Record retention policy

The supplier's management shall be engaged to ensure compliance and continuous improvement of the requirements outlined in their Quality Manual. The supplier shall provide a copy of their current Quality Manual when requested by Heraeus Electro-Nite.

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2.3 Customer Communications

The supplier shall communicate essential business information to Heraeus Electro-Nite. Such information may pertain to contractual issues including, but not limited to:

- Inquiries, orders, bids, amendments and invoices
- Product quality issues relating to design, specifications, changes and notifications
- Delivery delays and/or shortages
- Customer feedback and information

Other elements of essential information relating to changes in the supplier's business environment must be communicated immediately, such as:

- Acquisitions
- Partial Sale
- Change of control/executive management
- Pending litigation that could affect business with Heraeus
- Restructuring
- Bankruptcy

The effective transmission of such information requires that all suppliers identify and register key points of contact with their Heraeus Electro-Nite counterparts. The majority of the communication shall be handled through electronic documents and systems. The supplier should adopt the necessary electronic systems to manage these processes and improve communications with Heraeus Electro-Nite. The supplier is responsible for the validity and accuracy of the documents submitted electronically and must comply with all applicable legal requirements regarding electronic signatures and data security.

All communications, both electronic and otherwise, with Heraeus Electro-Nite shall be in English. A specific Heraeus Electro-Nite facility may allow exceptions for direct communications meant for that facility only in writing and before the exchange of the information.

2.4 Document Control

The supplier shall establish and maintain procedures to ensure that applicable documents related to the QMS are updated, approved for use, available at points of use and controlled in a consistent manner. A master list of documents including the current revision level shall be maintained to prevent use of invalid or obsolete documents. The supplier shall maintain a record of each change implemented.

When the supplier has design responsibility, Heraeus Electro-Nite may request any documentation including drawings, engineering standards, and specifications. The supplier shall notify Heraeus Electro-Nite of any changes by submitting a supplier change request. Refer to section 4.8 Change Control for additional information. Obsolete documents shall be destroyed or appropriately identified as such.

2.5 Record Retention

The supplier shall establish and maintain records to provide evidence of regulatory compliance and Heraeus Electro-Nite requirements. Retention policies shall define requirements for paper and electronic records. The records shall be:

- Legible
- Stored in an environment that prevents document deterioration
- Readily accessible upon request

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The supplier's employees, contractors, and agents who create, receive, use or manage these records are required to comply with the policies and procedures in accordance with customer, warranty, legal and regulatory requirements.

Heraeus Electro-Nite requires the supplier to maintain all records relating to deliverables provided for the life of the product plus one (1) calendar year and any applicable contractual requirements. The life of the product begins with product concept and extends until the end of active part production and service requirements. Heraeus Electro-Nite may notify the supplier when a product is no longer considered an active part. The supplier shall provide records to Heraeus Electro-Nite when requested.

The sections of this manual that require records shall conform to this retention policy.

2.6 Confidentiality

The supplier shall use Confidential Information solely for the purposes of supporting the current business relationship with Heraeus Electro-Nite and shall prevent improper use, loss, or damage of the Confidential Information. The supplier shall not disclose Confidential Information to any third party without buyer's express written consent. The supplier shall be responsible and liable for any breach of these confidentiality obligations by its contractors, sub-suppliers, consultants or agents, as if it had committed such breach itself. The supplier shall not i) sell buyer parts or components incorporating or containing Confidential Information to any third party, or ii) sell any deliverables produced using Confidential Information to any third party.

Notwithstanding the foregoing, the foregoing shall not restrict or affect supplier's rights to use or disclose information: i) which is or may hereafter be in the public domain through no fault of supplier; or ii) which supplier can show, as reflected by its written documents, was known to it prior to the disclosure by buyer; or iii) which is disclosed to supplier by a third party, with the legal right to disclose, subsequent to buyer's disclosure; or iv) which supplier can show, as reflected by its documents, was independently developed by supplier without the use of the Confidential Information. The Confidentiality Obligations regarding the Confidential Information that is disclosed or otherwise made available during the term of this Agreement shall survive any expiration or termination of this Agreement for so long until the Confidentiality Obligations regarding the respective Confidential Information cease to apply as specified in the previous sentence.

At the conclusion of the defined retention period, the supplier shall return or securely dispose of electronic and hard media copies of all such Heraeus Electro-Nite documents. Refer to section 2.5 Record Retention for additional information. Throughout the period of production and service, the supplier shall prevent improper use, loss, or damage to all Heraeus Electro-Nite Confidential Information.

The supplier acknowledges that a breach of this Section 2.6 would result in immediate and irreparable harm to buyer, for which there is no adequate remedy at law. The buyer is entitled to equitable relief compelling supplier to cease and desist all unauthorized use and disclosure of Confidential Information. The supplier shall immediately notify buyer of any breach of confidentiality.

2.7 Risk Assessment & Contingency Planning

The supplier shall conduct a risk assessment of their operations that support Heraeus Electro-Nite's production facilities, quality requirements, and delivery schedules. Each assessment should consider, at a minimum, the impact arising from:

- Natural disasters
- Geo-political hazards
- Supply chain disruptions
- Facility or system issues
- Information loss
- Intellectual property claims
- Personnel concerns
- Equipment problems

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The supplier shall prepare contingency plans to ensure continued operations at Heraeus Electro-Nite. The supplier shall communicate any critical risk scenario without a contingency plan that may result in a Major Disruption. The supplier shall provide the contingency plans to the buyer when requested. Refer to Section 4.8 Change Control for additional information.

2.8 Environmental, Health & Safety Compliance

Heraeus Electro-Nite is committed to sound Environmental, Health and Safety (EH&S) operating practices including:

- Decreased use of hazardous substances
- Reduced waste and emissions
- Improved energy and water conservation
- Greater reuse and recycling of materials
- Safe and healthy work environments that prevent accidents and injuries
- Continuous improvement in EH&S performance

Heraeus Electro-Nite suppliers are encouraged to actively implement globally recognized Environmental, Health and Safety management systems. A robust EH&S program reduces operational impact on human health and the environment in a sustainable manner. Recommended programs include, but are not limited to:

- ISO 14001
- ISO 45001
- Occupational Safety and Health Administration (OSHA) VPP

The supplier shall work with Heraeus Electro-Nite to reduce the impact of packaging waste through:

- Reduction or elimination of unnecessary over packaging
- Implementation of returnable packaging
- Substitution of current packaging materials for recyclable materials

The supplier shall comply with all applicable EH&S regulations. The supplier shall adhere to and comply with the environmental policy found on our website at:

https://www.heraeus.com/en/group/about_heraeus/corporate_responsibility/corporate_responsibility.html

2.9 Cleanliness of Premises

The supplier shall adopt a cleanliness standard. The standard shall create a state of order consistent with the requirements of the deliverables provided to Heraeus Electro-Nite. The standard shall include a process for establishing and maintaining a clean work environment. Heraeus Electro-Nite recommends the 5S program to establish the standard.

2.10 Training

The supplier shall provide appropriate training to ensure that employees are competent and qualified to produce quality deliverables. The supplier shall review and document the required skills and competencies necessary for the production, inspection, handling, and delivery of products to Heraeus Electro-Nite and/or its customers. The supplier shall provide appropriate training to ensure that employees follow applicable procedures and instructions. The supplier shall maintain employee records of training, performance metrics, and skills.

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2.11 Customer Approved Sources

The supplier shall purchase products from Heraeus Electro-Nite approved sources, when specified by the contract. The use of Heraeus Electro-Nite approved sources, including tooling and gauging suppliers, does not relieve the supplier of the responsibility for ensuring the quality of purchased products. The supplier shall be responsible for managing all aspects of the relationship with the approved source including:

- Quality of product or service
- Technical performance
- Source of materials
- On-time delivery
- Extension of Credit

2.12 Sub-Supplier Management

The supplier shall define expectations for each sub-supplier including:

- Support of APQP requirements
- Identification of their role in the supplier's and Heraeus Electro-Nite's products and processes
- Involvement in problem solving and corrective actions

The supplier shall work with sub-suppliers in order to meet the requirements provided in this manual. Areas of emphasis include:

- Verification of purchased products
- Incoming product quality
- Sub-supplier monitoring

Refer to the AIAG CQI-19 document for additional information on sub-supplier management.

Verification of Purchased Products & Services

For each sub-supplier, the supplier shall establish and implement methods, processes, and systems to verify that all deliverables comply with Heraeus Electro-Nite requirements. The supplier shall complete this verification process prior to use for all deliverables provided to Heraeus Electro-Nite. Consistent methods used for verification may include:

- Control plans
- Standard work instructions
- Regular inspection
- Functional testing
- Audits

To ensure on-going product quality, Heraeus Electro-Nite may conduct an audit to verify product at the supplier or sub-supplier facility. The scope of each audit will be at the sole discretion of Heraeus Electro-Nite. Heraeus Electro-Nite shall notify the supplier of the planned date of the audit. The supplier must notify the sub-supplier of this requirement. Any verification performed by Heraeus Electro-Nite does not relieve the supplier of the responsibility to provide quality products.

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Incoming Product Quality

The supplier shall implement a process to ensure the quality of incoming deliverables meets Heraeus Electro-Nite's requirements. The process should incorporate standard methods including:

- Statistical data evaluation from the sub-supplier
- Performance-based receiving inspection
- Testing based on approved sampling plans
- Supplier audits or assessments coupled with records of acceptable delivered product quality
- Part evaluation by an approved laboratory
- Other methods approved by Heraeus Electro-Nite

All non-conforming material resulting from this process shall be identified and quarantined. The supplier and sub-supplier shall have a process to disposition non-conforming product.

Sub-Supplier Monitoring

The supplier should collect objective data on the performance of its sub-suppliers. This data should be used to generate a performance ranking or scorecard. Performance metrics may include:

- Delivered product quality – Non-Conformities per 1000 Delivery Lines
- Delivery schedule performance with incidents of premium freight
- Lead-time improvement
- Major Disruptions
- Special status notifications from sub-supplier pertaining to quality or delivery issues

Continuous improvement activities should be driven by a sub-supplier's performance against such metrics. In some cases, sub-supplier performance monitoring may not be conducted due to the business, product or other quality considerations. The supplier may be required to notify Heraeus Electro-Nite of such exceptions.

3.0 Supplier Selection & Assessment

Heraeus Electro-Nite expects the supplier to:

- Abide by our Code of Conduct
- Provide high quality products that meet or exceed expectations
- Provide products at a competitive price
- Deliver products on-time
- Maintain financial strength to support current business and promote growth

Heraeus Electro-Nite shall verify compliance during the selection and assessment process.

3.1 Supplier Assessment

On-Site Assessment (OSA)

Heraeus Electro-Nite may conduct an On-Site Assessment (OSA) of the supplier's QMS, documentation and manufacturing facilities based upon criteria established in the OSA form. The OSA is generally conducted for potential new suppliers or an existing supplier's new facility. An OSA may be conducted if a supplier has not had an assessment in the last three (3) years. The OSA shall be conducted in person at the supplier's manufacturing facility.

Heraeus Electro-Nite shall share the results of the OSA with the supplier and provide a status of:

- Approved – the supplier may be awarded new business and will be added to the approved supplier list
- Conditionally approved – the supplier may be awarded new business, pending acceptable corrective actions are implemented, and may be added to the approved supplier list
- Not approved – the supplier fails to meet the requirements and Heraeus Electro-Nite shall not award new business or may be removed from the approved supplier list

The OSA and TA status is manufacturing site specific. Heraeus Electro-Nite reserves the right to conduct more frequent audits and to enter the supplier's facilities to perform an audit. Heraeus Electro-Nite shall notify the supplier of the planned date of the audit.

Supplier Process Audit (SPA)

Heraeus Electro-Nite may conduct an on-site Supplier Process Audit (SPA) at the supplier and/or its sub-suppliers. The SPA ensures the process meets Heraeus Electro-Nite's requirements for capability and error detection and prevention. All processes will be reviewed based on:

- Continuous improvement
- New or changed processes
- Support for global procurement strategy
- Major Disruptions

The supplier shall establish verification methods for these processes, as applicable:

- Defined criteria for review and approval of the processes
- Approval of equipment and documented capability assessments
- Documentation of training, previous experience and qualification of personnel
- Use of specific methods and procedures
- Requirements for records
- Revalidation of the processes

After the start of production, the audit is a method for identifying continuous improvement ideas and helping with problem solving.

4.0 Advanced Quality Planning

The supplier shall develop the processes required for the quality planning of product. In the planning of product, the supplier shall work with Heraeus Electro-Nite to:

- Develop quality objectives and requirements for the product
- Establish processes, documents, and provide resources
- Determine required verification, validation, monitoring, inspection and test activities and the criteria for acceptance
- Define records required to provide evidence of product conformity

4.1 Advanced Product Quality Planning

The supplier shall implement a framework that ensures robust product and process development capabilities. Advanced Product Quality Planning (APQP), published by AIAG, provides a proven and disciplined approach that meets Heraeus Electro-Nite's deliverable requirements. The process should be implemented from initial product concept and continue through the production launch phase of the project. The supplier shall establish periodic internal reviews during the design and development process and the production launch. The supplier shall evaluate quality risks, costs, lead-times, critical paths and other items as appropriate throughout the entire APQP process. The reviews shall:

- Monitor progress of the design and development of deliverables
- Evaluate the results compared to the product requirements
- Identify potential problems and develop corrective actions
- Analyze the product and/or process utilizing FMEA methodology
- Provide input for management reviews

Heraeus Electro-Nite may request the results of reviews based upon potential risk that a product has to Heraeus Electro-Nite's business or products. Refer to the AIAG APQP and FMEA manuals for additional information.

Planning

The supplier shall develop a project plan with:

- Project tasks, target dates and assigned responsibilities
- Time allocated for completing initial designs, supplier selection, product development, testing, tool design, manufacturing, supplier production try-outs and Production Part Approval Process (PPAP)
- Sample requirements, PPAP quantities, and delivery dates

Product Design and Development

When design responsible, the supplier shall complete the initial product design and maintain a record of all changes for each product. Heraeus Electro-Nite shall be notified of all changes impacting product form, fit function or potential influence on user experience. All changes shall be reviewed, verified and validated, prior to the implementation and acceptance by Heraeus Electro-Nite. The review of design changes shall include an evaluation of:

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- Product and mating parts in the assembly
- Manufacturing and downstream processes
- Purchasing costs

The supplier shall verify that the product meets the requirements established during the planning activities. Design verification shall be conducted independent of the responsible design team. The verification results shall be reviewed periodically with management. The supplier may be required to participate in design reviews with the Heraeus Electro-Nite project team.

Product and Process Validation

The supplier should begin the Product and Process Validation phase of APQP when the tooling, capital equipment and/or gauging is delivered. The supplier shall test and verify that their process outcomes satisfy the designs and/or specifications derived in the Product Design and Development phase. The process capacity shall meet the contracted production rate prior to acceptance.

Heraeus Electro-Nite may specify the validation plan when it has design responsibility. When the supplier has design responsibility, Heraeus Electro-Nite reserves the right to approve the validation plan. The supplier shall perform the validation testing. The testing shall ensure the resulting product satisfies the requirements for the application and its intended use. The supplier's engineering function shall define and finalize specific test procedures to validate the design. The supplier is responsible for any outsourced services used in the validation process. Refer to section 4.13 Statutory & Regulatory Conformity for additional requirements.

Production intent materials, tooling, processes and sub-suppliers should be used to produce products for validation testing. Heraeus Electro-Nite may require product for testing requirements.

Heraeus Electro-Nite shall approve parts via the PPAP submission. The supplier shall not ship any production parts until signed approval is received from Heraeus Electro-Nite per agreed method or documentation (i.e. Part Submission Warrant). Refer to section 4.5 Product Approval Process.

Production Launch

The supplier begins the production launch phase of the APQP when PPAP approval or interim approval is provided by Heraeus Electro-Nite. The supplier shall utilize the Early Launch Containment methodology to reduce risk and improve quality prior to product delivery.

Once the production process has stabilized, lessons learned and best practices can be documented and reviewed.

4.2 Customer-designated Critical Characteristics

Heraeus Electro-Nite drawings and specifications may designate product features as Critical Characteristics or other designations. These features may be designated by various symbols depending on each Site. Typically, these characteristics influence:

- Product form, fit or function
- Compliance to regulations
- Safety requirements
- Customer satisfaction

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The supplier shall demonstrate process capability through statistical controls for all designated critical characteristics and maintain control for all measurement methods used. The target process capability for critical characteristics shall be (Cp, Cpk, Pp, Ppk):

- Short-term: greater than or equal to 1.67
- Long-term: greater than or equal to 1.33

The Heraeus Electro-Nite Site may define the exact process capability requirements for each critical characteristic. If no critical characteristics are defined, the supplier shall determine which product and/or process characteristic should be used to evaluate capability. Heraeus Electro-Nite reserves the right to approve the characteristics selected for evaluation. Heraeus Electro-Nite shall define the requirements in the PPAP request letter when the volume does not support conducting a process capability study.

For any deviation of process capability, the supplier shall initiate an internal corrective action plan, including 100% inspection, when process capability is not met. The supplier shall maintain records of all corrective actions. Refer to the AIAG PPAP and SPC manuals for additional information on process capability.

4.3 Measurement System Analysis

The purpose of the Measurement System Analysis (MSA) is to assess the accuracy, repeatability, and reproducibility of each measuring device used in the manufacture of products supplied to Heraeus Electro-Nite. The supplier shall implement a procedure to evaluate each type of measurement system. An MSA shall be conducted on all new or modified measurement systems. Analytical methods and acceptance criteria shall conform to Heraeus Electro-Nite requirements. The supplier shall develop a corrective action for any measurement system found that does not meet the requirements, including:

- Containment of suspect and non-conforming products
- Notification to Heraeus Electro-Nite of affected products
- Potential last good inspection/calibration/MSA date
- Interim corrective action
- Repair, replacement and/or recovery plans
- Certification by outside source

Heraeus Electro-Nite may request MSA results and/or sample parts from the supplier to perform comparative correlation studies with the supplier's measurement results. Refer to the AIAG MSA manual for additional information.

4.4 Calibration and Verification Records

The supplier shall implement a calibration and verification system or procedure to ensure all gauges, jigs, fixtures, poka-yoke devices, measuring and testing equipment are qualified at defined frequencies. All measuring and test equipment must be:

- Identified with unique traceability and qualification status
- Calibrated and/or verified at a specified frequency to approved standards
- Adjusted or re-adjusted, as required
- Prevented from improper adjustment
- Protected from damage during use, handling and storage

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Records shall be maintained for all gauges, measuring and testing equipment including:

- Equipment identification and calibration standard
- Revisions for engineering changes
- Any out-of-specification readings
- Impact assessment for out-of-specification condition
- Statements of conformity after calibration or verification

The supplier shall notify Heraeus Electro-Nite of potential suspect product when an out-of-calibration condition is detected after production launch. The supplier shall take appropriate actions to prevent further use of discrepant product at Heraeus Electro-Nite. All suspect products at the supplier must be identified and quarantined. Refer to section 5.0 Non-Conforming Product for additional information.

Computer software and its application shall be verified and documented on a regular basis when used for monitoring or measuring product conformity.

The supplier should reference ISO 17025 as a guideline for compliance.

4.5 Product Approval Process

Heraeus Electro-Nite utilizes the PPAP requirements for product approval. All suppliers shall comply with these requirements for all new products and any approved changes to production parts. Heraeus Electro-Nite shall determine the PPAP level required. The Heraeus Electro-Nite PPAP owner shall work with the supplier to define the PPAP submission supporting data via the Part Submission Warrant (PSW) and the PPAP production run quantity. The PPAP run parts and the supporting data should be conducted utilizing production intent process. Reference the PPAP chart for submission requirements:

Level 1	<ul style="list-style-type: none"> • Parts Submission Warrant (PSW) only with Appearance Approval Report for designated appearance items
Level 2	<ul style="list-style-type: none"> • PSW with product samples and limited supporting data
Level 3	<ul style="list-style-type: none"> • PSW with product samples and complete supporting data • Default PPAP level
Level 4	<ul style="list-style-type: none"> • PSW and other requirements as defined by Heraeus Electro-Nite • Level reserved for special applications only
Level 5	<ul style="list-style-type: none"> • PSW with product samples and complete supporting data reviewed at the supplier’s manufacturing location. • Requires onsite review by Heraeus Electro-Nite

Heraeus Electro-Nite will provide a status of:

- Approved – the product or service meets all requirements and the supplier is authorized to deliver production quantities.
- Interim Approval – the product or service may be delivered for a specific time or quantity while the supplier implements the required corrective actions. The supplier must re-submit the PPAP to Heraeus Electro-Nite for approval.
- Rejected – the product or service fails to meet the requirements and the Supplier is not authorized to deliver the product or service. After implementing the corrective actions identified, the supplier must re-submit the PPAP to Heraeus Electro-Nite for approval.

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Heraeus Electro-Nite shall notify the supplier of the concerns and/or issues that result in a product status of Interim Approval or Rejected. Refer to the AIAG PPAP manual for additional information on product approval.

4.6 Laboratory Requirements

The supplier should establish and maintain internal laboratory capability for frequently used services, such as gauge calibration. Laboratory services provided by the supplier, either internal or external, shall be qualified to perform the required inspection, test or calibration services. The laboratory scope shall be defined, and technical requirements reviewed for:

- Adequate laboratory procedures
- Competent laboratory personnel
- Testing procedures
- Capability of performing test and traceability to standards
- Related documents

External laboratories may require accreditation to ISO/IEC 17025 or equivalent national standard. At any time, Heraeus Electro-Nite may request production samples to perform analysis and testing.

4.7 Production Monitoring

The supplier's control plan shall identify all Heraeus Electro-Nite requirements and the method of inspection and when applicable functional verification to be performed. Heraeus Electro-Nite may specify certain criteria for inspection methods and functional verification. The control plan establishes the method and frequency of monitoring and measuring the product and processes to ensure conformity to Heraeus Electro-Nite requirements. The supplier shall establish procedures to control non-conforming product or service. The non-conforming product shall not be released or delivered unless approved by the supplier's authorized representative and, when applicable, Heraeus Electro-Nite. Refer to section 5.5 Customer Waiver for additional information.

Layout Inspection

Heraeus Electro-Nite may request the supplier to submit an annual layout inspection report. If a non-conformance is found, the supplier shall notify Heraeus Electro-Nite. Heraeus Electro-Nite may issue an 8D for supplier identified non-conformances with the products. Refer to section 5.2 Corrective Actions.

4.8 Change Control

After product approval, the supplier shall control all changes to Heraeus Electro-Nite deliverables. The supplier's QMS shall include procedures to manage all changes to engineering documents, manufacturing equipment and tooling, test and measurement equipment and all materials used in the process.

Any changes to engineering drawings, specifications, materials, manufacturing processes or other documents require **PRIOR APPROVAL** by the authorized Heraeus Electro-Nite representative. The Supplier Change Request form shall be used by the supplier to notify Heraeus Electro-Nite prior to any changes.

Some examples requiring notification and when applicable PPAP re-submission:

- Drawing or specification change
- Material change or new material supplier
- Special process change including heat treatment, plating, coating, etc.

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- New or modified production tooling
- Manufacturing location change
- New sub-supplier or sub-supplier process change
- New or modified testing and/or measuring equipment
- Packaging and/or labeling change

Heraeus Electro-Nite shall be notified of planned changes prior to starting the project. The implementation date shall be determined by Heraeus Electro-Nite and the supplier.

Various new process and product capability studies and approvals may be required as a result of the planned changes. The acceptance criteria for a planned change shall be agreed upon by Heraeus Electro-Nite and the supplier prior to implementation. The process for accepting a change may require substantial time to complete all tasks identified. Refer to section 4.5 Product Approval Process for additional information.

In the event of an unauthorized change, the supplier must notify Heraeus Electro-Nite within 24 hours of detecting the change. The supplier may be placed on New Business Hold (NBH) if the proper notifications and processes are not followed.

The supplier shall request approval from each Heraeus Electro-Nite site affected by a change.

The supplier shall refer to the Supplier Change Request form that can be sent on request.

4.9 Preventive & Predictive Maintenance

The supplier shall plan and operate a comprehensive maintenance system for the production equipment used to support products. The maintenance system, at a minimum, shall cover:

- Planned maintenance activities
- Packaging and preservation of equipment, tooling and gauging
- Availability of replacement parts for key manufacturing equipment
- Documenting, evaluating and improving maintenance objectives and performance
- Predictive methods to reduce and/or eliminate unscheduled interruptions

4.10 Customer-owned Assets

Custom products may require Heraeus Electro-Nite-owned assets to be consigned to the supplier. The assets shall be used exclusively for the development, production, and testing of Heraeus Electro-Nite products. Such assets may include, but are not limited to:

- Production tooling and fixtures
- Gauges
- Testing and measuring equipment
- Dedicated processing equipment
- Prototype or production components
- Licensed software and hardware

The purchase order shall identify all required assets, applicable specifications, maintenance requirements and expected life of the asset. The supplier shall adhere to the terms and conditions established by the Bailment Agreement. The supplier must attach an approved Heraeus Electro-Nite asset tag or utilize another approved method of marking. The supplier must maintain a log of all Heraeus Electro-Nite-owned assets. Heraeus Electro-Nite may request the asset log and/or conduct an audit of the assets.

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The supplier shall record and maintain a log of operational data for each asset including, but not limited to:

- Maintenance history
- Usage
- Capability information and capacity records
- Tool changes for perishable tooling or wear components
- Tool modifications and engineering changes
- Updated pictures of each asset

The supplier shall immediately notify Heraeus Electro-Nite if any asset is found to be defective or unsuitable for production. All tool modifications and design changes shall be recorded and maintained. Records of all repair or replacements actions must be submitted to Heraeus Electro-Nite.

The supplier shall not transfer, or consign to another party, any Heraeus Electro-Nite-owned assets without prior written approval from Heraeus Electro-Nite. Any asset transfer may require a new PPAP approval before production resumes. Refer to section 4.5 Product Approval Process for additional information.

The supplier shall not disposition any Heraeus Electro-Nite-owned tooling without prior written approval from Heraeus Electro-Nite.

4.11 Identification & Traceability

The supplier shall properly identify product throughout the realization process and establish a system that:

- Identifies the production status
- Verifies product acceptance with regards to inspection and testing
- Properly controls product disposition

The supplier shall create a traceability method for unique identification of each part or material lot, unless otherwise agreed upon by Heraeus Electro-Nite. The supplier shall work with Heraeus Electro-Nite to develop and approve an acceptable method, location and content for marking the product. The supplier shall maintain all records necessary to ensure product quality.

4.12 Preservation of Material

The supplier shall develop a plan for proper identification, handling, packaging, storage, protection and preservation of all Heraeus Electro-Nite products and materials. The preservation plan shall apply to all internal and external supplier processes. The plan shall apply to the storage and delivery of all products prior to assembly at Heraeus Electro-Nite or its customer facilities. As required, material handling, packaging and storage shall be designed to:

- Prevent contamination
- Prevent part-to-part contact (except bulk material)
- Reduce environmental effects on product
- Prevent degradation of product
- Prevent loss or damage in transport
- Properly manage shelf life of perishable products

The supplier should utilize an inventory management system to optimize inventory, reduce risk of obsolete product, and ensure stock rotation.

4.13 Statutory & Regulatory Conformity

When manufacturing the Products, Supplier will take into account the current state of science and technology and all applicable laws, regulations and technical standards even if these are not mentioned in the Specifications.

Supplier represents and warrants that the Products do not contain any substances which are restricted by Directive 2011/65/EU (RoHS), that the substances which are contained in the Products and their use(s) are either already registered or not subject to registration in accordance with the Regulation (EC) No. 1907/2006 (REACH) and, if necessary, that an authorization in accordance with the REACH Regulation has been granted. Supplier shall prepare the safety data sheet pursuant to Annex II of the REACH Regulation, if required, and provide it to Heraeus.

If the Products are to be classified as dangerous goods within the meaning of the applicable international rules, standards and guidelines, Supplier must notify Heraeus thereof no later than on the date of the order confirmation.

Heraeus intends to establish and maintain an environment management system according to ISO 14001 (in the relevant applicable version) and expects that all required certifications will be obtained.

For more information see the Conflict Minerals section of our website at:

https://www.heraeus.com/en/group/about_heraeus/corporate_responsibility/conflict_minerals.html

The supplier shall provide samples, testing, environmental and Safety Data Sheet (SDS) information when requested. The SDS is required for but not limited to:

- Rust prohibitive
- Lubricating oil and grease
- Acids and caustics
- Cleaners
- All other chemical materials that are used during production or assembly of the product

The SDS shall comply to the CLP (Classification, Labelling, Packaging) Regularization EC1272:2008 or equivalent.

5.0 Non-Conforming Product

When a non-conformance occurs, the supplier shall:

- Identify the non-conformance
- Minimize its impact through proper containment
- Determine the true root cause
- Implement corrective action
- Establish controls to prevent the non-conformance from recurring

In the process of resolving the non-conformance, corrective actions, lessons learned and best practices are documented and shared, when appropriate.

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5.1 Control of Non-Conforming Product

The supplier shall identify and control in a quarantined location any non-conforming product when:

- Product requirements are not met
- Packaging is incorrect
- Labeling or marking misidentifies the product
- Product status is unknown or suspect

The supplier shall implement a procedure to define the controls, related responsibilities and authority to manage non-conforming product. The non-conforming product must be controlled until the supplier can:

- Determine and eliminate root cause of non-conformance through process improvements
- Eliminate the detected non-conformance by Heraeus Electro-Nite-approved rework and/or repair
- Obtain approval to “Use-As-Is” from Heraeus Electro-Nite. Refer to section 5.5 Customer Waiver for additional information.
- Scrap or reject product to prevent unintended use
- Re-allocate product to a different Heraeus Electro-Nite-approved application (known as re-grade)

The supplier shall create process work instructions to define and control rework and repair processes. Any rework or repair process, not identified within the approved PPAP documents, must be approved by Heraeus Electro-Nite prior to beginning. Customer approval does not relieve the supplier of any liability regarding product quality. All corrected non-conforming product must be re-verified to demonstrate conformity to the requirements. The supplier must properly identify each product or package as repaired or reworked.

The supplier shall immediately notify Heraeus Electro-Nite of any defective products found at their facility, similar to what may have been delivered to Heraeus Electro-Nite and/or its customers. When potential non-conforming products have been shipped, the supplier must implement appropriate containment procedures and actions. The actions should include:

- Containment of product at the supplier’s or sub-supplier’s facility, in transit and at Heraeus Electro-Nite and/or its customer
- Notification to the Heraeus Electro-Nite plant of conforming product availability and shipment dates
- Product sorting at Heraeus Electro-Nite and/or its customer
- Approved third party sorting provisions when supplier is unable to send representatives

The supplier shall maintain records of the non-conformance and subsequent actions taken. Heraeus Electro-Nite reserves the right to audit any non-conformances. Heraeus Electro-Nite may issue an 8D for supplier identified non-conformances with the product(s).

5.2 Corrective Actions

Heraeus Electro-Nite may issue an 8D in the identification and resolution of non-conformance detected at Heraeus Electro-Nite’s facilities and by our customers. The 8D may be issued based upon incoming inspections, in-process rejects, customer rejects, field failures, packaging or labeling issues.

The supplier is expected to respond to all 8D’s issued in the format received. When a supplier receives an 8D’s, Heraeus Electro-Nite’s 24-14-30 policy shall be followed:

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Initial Response within 24 hours:

- Acknowledge receipt of 8D upon notification
- Identify all suspect product
- Notification of quantity of suspect material in route to Heraeus Electro-Nite and/or its customers
- Immediate containment action taken
- Interim plan for supporting Heraeus Electro-Nite production with certified product

Corrective Action Plan within 14 days:

- Use problem solving techniques to determine the root cause of the non-conformance. Refer to section 5.3 Problem Solving for additional information
- Detailed plan for implementing corrective actions to control and prevent recurrence
- Disposition of suspect products

Final Report within 30 days:

- Implemented corrective actions with supporting data
- Verify effectiveness of corrective actions

If the supplier fails to respond appropriately, the supplier may be placed on New Business Hold and may be removed from the approved supplier list.

Controlled Shipping

If escalation of a non-conformance is necessary, Heraeus Electro-Nite may place a supplier in Controlled Shipping (CS). Controlled Shipping ensures a rigorous inspection process to protect Heraeus Electro-Nite and its customers from receiving non-conforming product. The supplier shall utilize a separate and distinct area for redundant inspection of the product. Heraeus Electro-Nite will determine when a supplier shall be placed into Controlled Shipping Level 1 (CS1) and/or Controlled Shipping Level 2 (CS2). Heraeus Electro-Nite may place a supplier immediately into CS2, bypassing CS1.

For CS1, the supplier must provide certified product to Heraeus Electro-Nite. The supplier shall provide the CS1 inspection results at the specified frequency determined by Heraeus Electro-Nite. The supplier shall continue its problem-solving activities and corrective action implementation.

In the event that CS2 is required, a meeting will be scheduled between key stakeholders within Heraeus Electro-Nite and the supplier. An approved third-party provider must be utilized to certify the supplier's product prior to use. Heraeus Electro-Nite shall determine the location where the third-party provider must perform the inspections. The results of the third-party inspections shall be provided to Heraeus Electro-Nite at the specified frequency. The supplier shall continue its problem-solving activities and corrective action implementation. If a CS1 inspection has been established, the CS1 requirement remains in effect even with the addition of a CS2 inspection requirement.

The supplier is responsible for all costs associated with CS. The supplier shall remain in CS1 and/or CS2 until the Exit Criteria have been met. When placing a supplier in CS, Heraeus Electro-Nite may consider:

- Repeat 8D's
- Supplier's process is not capable
- Warranty issues
- Major Disruptions
- Current containment activity is inadequate
- Production Launch first pass yield results inadequate

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Additional details necessary for each occurrence shall be defined when the CS process is initiated. Heraeus Electro-Nite shall provide the Exit Criteria for CS1 and/or CS2 when the process is initiated.

5.3 Problem Solving

The supplier should adopt the “Zero Defects” mindset to reduce and eliminate non-conformances. When a non-conformance occurs, the goal is to quickly and effectively identify the problem, minimize its impact, determine the root cause, implement corrective actions and prevent recurrence. A robust problem-solving methodology leads to effective root cause identification and elimination. Heraeus Electro-Nite recommends the 8D Problem Solving method. The supplier should adopt this method or another industry recognized disciplined approach that covers, at a minimum:

- Establish the problem-solving team and key contact person – include key stakeholders, experts and direct involved personnel
- Define the problem scope – state the problem using quantitative terms identifying who, what, where, why, when and how
- Develop an interim containment plan – immediate actions to contain product at all locations
- Identify all potential root causes – analyze and verify source of the problem including what process failed, why failure was not detected and what systems failed to prevent the non-conformance (3 root cause approach)
- Develop corrective actions to prevent recurrence – verify actions resolve the problem and do not create unintended effects
- Implement corrective actions – update required process documentation and validate effectiveness
- Implement preventive actions – take steps to prevent similar problems from occurring in other products or processes and document Lessons Learned and Best Practices
- Review and recognize the team – review and approve completion with management

The supplier shall evaluate the effectiveness of its problem-solving process through feedback of internal audits, process audits, performance data and review of repeat 8D's.

Error-proofing methods are effective corrective actions to eliminate recurrence of a root cause when properly implemented. The supplier shall use error-proofing methods to identify potential design and/or process improvements and implement when applicable.

Refer to the AIAG CQI-20 document for additional information on problem solving. Refer to the AIAG CQI-18 document for additional information on error-proofing.

5.4 Cost of Poor Quality (COPQ) Recovery

The supplier shall be responsible for all costs incurred by Heraeus Electro-Nite and its customers in conjunction with an 8D or any failure of the supplier's deliverables. Heraeus Electro-Nite may take immediate actions to satisfy customer requirements while notification of the issue is provided to the supplier. A Cost Recovery Notice shall be provided with details regarding costs incurred. The supplier shall respond to a Cost Recovery Notice when received within 10 days.

Potential costs incurred include, but are not limited to:

- Incoming inspections
- Necessary sorting activities
- Return shipments or shipments to third party locations
- Customer management for warranty and field inspections
- Analysis of warranty and field returns

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- Rework, repair or scrap of product at Heraeus Electro-Nite and/or its customer's facilities
- Premium freight charges
- Production downtime
- Additional labor costs including overtime and extra manpower
- Process changes for accommodating product
- Additional inspections or process controls
- Costs to manage actions taken
- Compensation to customers because of delayed delivery

Heraeus Electro-Nite may place a supplier on New Business Hold as a result of COPQ, 8D's, or other concerns. The supplier may be removed from the approved supplier list.

5.5 Customer Waiver

The supplier must obtain approval from Heraeus Electro-Nite for temporary changes to existing product and processes prior to releasing product for shipment or authorizing production to proceed. The supplier shall utilize the Supplier Deviation Request (SDR) for these basic steps:

- Initiate a deviation with detailed information
- Review deviation with Heraeus Electro-Nite representative
- Notify Heraeus Electro-Nite of delivery date
- Mark affected product accordingly
- Manage deviation quantity or time
- Monitor completion of corrective actions

The supplier and Heraeus Electro-Nite shall evaluate the SDR to reduce adverse impact on the customer, operations, safety, and environment. Product engineering may be required to perform analysis to validate any adverse effects the deviation may have on the design integrity for form, fit or function. The supplier shall provide samples, when requested, of the deviation to evaluate impact of the change in both the design and in use at the Heraeus Electro-Nite facility. Any costs associated with testing, evaluating or accommodating deviated product are the supplier's responsibility. Heraeus Electro-Nite will approve or reject the SDR. Excessive use of deviation requests is an indication that the supplier's QMS may not be performing as expected.

The suppliers shall refer to the supplier Deviation Request form and this can be sent on request.

5.6 Continuous Improvement

The supplier shall strive to continually improve its products, processes and systems. The supplier shall conduct regular reviews of:

- Quality and EHS policy and objectives
- Audit results
- Data analysis
- Corrective and preventive actions

The process of continuous improvement must be included in the goals and objectives of the entire supplier organization. Continuous improvement can reduce potential risks and prevent possible non-conformances. Refer to section 4.8 Change Control for additional information.

6.0 Customer Satisfaction

Customer satisfaction provides an important feedback to the supplier on their performance. The supplier shall establish a method to evaluate feedback from Heraeus Electro-Nite in these areas:

- Part quality performance
- Warranty and field returns
- Delivery schedule performance
- Heraeus Electro-Nite issued 8D's
- Major Disruptions

The supplier shall monitor the performance of their manufacturing processes to demonstrate compliance with Heraeus Electro-Nite requirements for product quality and efficiency of the process. The supplier should use subjective information to receive additional feedback.

Heraeus Electro-Nite monitors its suppliers for these items and may place a supplier on New Business Hold as a result.

7.0 Global Logistics

The supplier shall comply with the requirements established by Heraeus Electro-Nite Global Logistics and any specific regional requirements.

The supplier shall use the Heraeus Electro-Nite specified system for receiving forecast requirements and communicating shipping information.

Incoterms

The supplier shall adhere to the applicable shipping requirements contained in the Heraeus Electro-Nite Terms & Conditions, unless otherwise specified. Exceptions shall be granted and approved by Heraeus Electro-Nite Global Supply Chain beforehand in writing.

Standard Routing Instructions

The supplier shall interface with Heraeus Electro-Nite and/or third-party managed portals for standard routing instructions. These routing instructions shall apply for inbound shipments where Heraeus Electro-Nite is responsible for freight payment. Heraeus Electro-Nite shall provide detailed information for system usage during the supplier onboarding process.

Returnable Packaging

The supplier shall interface with Heraeus Electro-Nite and/or third-party managed portals for securing, managing, and controlling returnable packaging. Heraeus Electro-Nite shall provide detailed information for system usage during the supplier onboarding process.

Shipment of Hazardous Materials and Dangerous Goods

The supplier shall comply with all applicable domestic and international transport regulations when shipping hazardous materials and/or dangerous goods to Heraeus Electro-Nite, its subsidiaries or customers. Examples of prescribed regulations include, but are not limited to:

- ADR/RID or equivalent
- IATA/ICAO for international and domestic air shipments
- IMDG for international dangerous goods by sea.
- U.S. Department of Transportation (DOT) 49 CFR

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Revision History

Version Number	Date	Description of Changes
Draft	January 8 th 2020	Creation of Document
1.0	February 11 th 2020	First release