Supplier Quality Manual

June 2022

Revision 1.1

1. Introduction

WHITE is a proud member of the Interpump Group, a dynamic global business specialized in hydraulic fluid power and high-pressure pumps. We are building a new legacy that will help us take our business to the next level while strengthening our reputation and relationships with our suppliers worldwide.

Our motto "**together in motion"** strengthens our belief that by being inclusive, we can operate openly and in collaboration with others for the benefit of all.

This Supplier Quality Manual describes the expectations, requirements, and standards for you as our Supplier. It is crucial for every business relationship with WHITE and is an integral part of each purchasing agreement concerning goods and services, our business practices, environmental requirements, and labor welfare.

Quality is a team effort. We value your contribution as a business partner, and we recognize your role as key to achieve our excellent performance.

Together, we can develop and maintain a strong and successful partnership.

curve of ambition.

2. Purpose

This Supplier Quality Manual sets the rules, standards, and requirements for our suppliers. These are also applied when WHITE screens new potential Suppliers, including suppliers, that produce finished products on behalf of WHITE, which are categorized as Branded and Traded Products.

3. General Requirements

All Products and Services shall comply with WHITE specifications and requirements.

WHITE has an continuous improvement goal of 0 PPM on all Products and Services delivered from Suppliers. Suppliers are responsible for ensuring their sub-tier suppliers meet all WHITE requirements.

In line with our 0 PPM goal, the Supplier and its sub-tier suppliers are required to:

1. Demonstrate compliance with:
    A. Design, performance, reliability, and applicable legal requirements,
    B. Process controls and capability requirements,
    C. All provided drawings, specifications and requirements.
2. Explicitly review and understand all requirements provided to the Supplier concerning WHITE Products and Services. Ensure resources are available to participate in product quality planning as requested.
3. Establish a change control system that reacts to changes in a timely and accurate fashion. In all cases, acquires written approval from WHITE prior to implementing any change that is detailed in Chapter 8.
4. WHITE is working in accordance with IATF 16949 requirements. The suppliers should have a continuous improvement program that develops their QMS towards the requirements of IATF 16949.
5. Measure own performance that includes all given and agreed KPIs from WHITE.
6. Possess expertise and resources to perform effective risk assessment from product development to serial production, to perform effective root cause analysis, and to take corrective and preventive actions.
7. Ensure that its employees, who are involved in quality issue resolution related to WHITE products, have necessary competences regarding quality

tools, including, but not limited to, 8D, 5Why, 5W2H, etc.

8. Notify WHITE of any potential or actual non-conformance in Products supplied to WHITE that may affect its safety, form, fit, function, quality, reliability, durability, appearance, delivery, service or its compliance with regulatory and statutory requirements within 1 working day.
9. Ensure that all WHITE, regulatory, and statutory requirements are flowed down to the entire supply chain.
10. Comply with all its obligations towards WHITE including, but not limited to:
    - WHITE Code of Conduct (CoC)
    - WHITE Negative List
    - Non-Disclosure obligations
    - Customer Specific Requirements (CSR)

WHITE recognizes Suppliers, that are providing items such as traded goods, catalogue parts and services, may not be able to meet all the requirements of this Supplier Quality Manual. Any exception or deviation to the requirements, terms and conditions of this Supplier Quality Manual, including, but not limited to exceptions or deviations to WHITE expectations, requires an addendum where the exceptions are documented and approved by WHITE.

Any Supplier's action that carries cost liability to WHITE must be authorized by the WHITE procurement organization.

3.1 Quality Targets

In general, 0 PPM is the common expectation and ultimate goal for all Suppliers. It is expected that 0 PPM is achieved throughout the entire product/service lifetime supplied by all suppliers and sub-tier suppliers.

In order to monitor the Supplier's efforts to strive for 0 PPMs result with continuous improvement logic embedded, WHITE may define specific quality targets for suppliers to work towards these expectations.

3.2 Supplier Improvement Plan (SIP)

Suppliers shall, without any delays as per WHITE request, present a SIP to WHITE that meets the targets and requirements stated in WHITE' request. A SIP could be initiated as a result of, for example, WHITE audits, Business Review Meetings, Operational Management Meetings, Quality Performance Review, etc.

It's supplier's responsibility to compile SIP when WHITE expectations/targets are not met and submit to WHITE. Supplier's SIP should be based on an analysis of past 12 months failures in order to identify technical, managerial and systemic issues. SIP should cover quality, reliability, logistic, delivery, and service issues, as well as any specific WHITE requests.

When the SIP has been accepted by WHITE, the Supplier is responsible for implementing the SIP. The effectiveness of the implemented activities shall on regular basis be evaluated by both the Supplier and WHITE. The Parties' evaluation may result in amendments of the SIP.

3.3 Organization Knowledge & Competency

Suppliers shall define key resources responsible for interacting with WHITE to conduct business effectively. At a minimum, the following knowledge and demonstrated competencies shall exist within each Supplier's organization:

- Formal problem-solving (e.g. 8D, A3, 5xWhy, Failure Tree Analysis, Kaizen, Six Sigma)
- Quality Management
- Manufacturing Engineering
- APQP or VDA
- Project management for new product development and change management

- Supply Chain Management
- Materials Resource Planning

Suppliers shall be able to demonstrate their employees, who are involved in the processing of WHITE parts, have the necessary competence, training, education or experience.
There should be resource planning based on the above mentioned knowledge for risk mitigation of employee turnover.

3.4 Communication

All formal communications must be in English, unless otherwise agreed with WHITE, and this rule shall apply to all documents sent by the Supplier.

Supplier shall proactively, directly and effectively involve the WHITE procurement organization in every communication on all matters affecting WHITE supply chain processes.

4. Supplier Qualification

The Supplier Qualification - Ready for Business - ensures that the Supplier has a documented and an effective management system in place to produce Products and Services fulfilling all WHITE specifications and requirements, and be capable to continue to improve quality, delivery and cost.

4.1 Quality Management System (QMS)

The Supplier must maintain an effective documented Quality Management System that communicates, identifies, coordinates, and controls all key activities necessary to design (if applicable), develop (if applicable), produce, deliver, and service Products and Services to WHITE.

The Supplier shall be certified/ registered to one of the following international quality management standards by a recognized, independent, and accredited third-party certification/ registration body:

ISO 9001 Quality Management Systems – Requirements
IATF 16949 Quality Management Systems – Automotive Requirements
Other internationally recognized standard(s) may be accepted, but require written approval from WHITE.
Note: The Supplier must notify WHITE if their registration expires and shall send an updated copy to the assigned Category Manager and SQE.

WHITE reserves the right to access all WHITE relevant certification/registration details of the Supplier.

In addition, WHITE reserves the right to:
- Conduct its own WHITE supplier quality audit, at a mutually agreed time with the Supplier;
- Invite customers to participate in relevant audits;
- Disqualify, demote, adjust Supplier segmentation status, requiring full requalification prior to resuming business and / or shipment with WHITE;
- Notify the third-party certification / registration body used by the Supplier in case of the breach / misuse of its Quality Management System.

4.2 WHITE Supplier Audits

1. Management System Audit (Quality or Enviroment)
   WHITE is at all times, entitled to audit the Supplier's Quality Management System. During this management system audit, WHITE shall have access to all Supplier facilities and supply chain, staff and documents relevant for the WHITE audit. Any exceptions are to be agreed up front with the lead auditor.

2. WHITE Code of Conduct Audit
   When required, a CoC audit will be conducted as part of Supplier's qualification by WHITE.

3. Process and Product Audits, Technology, Contamination Audits
   There may be times where audits of the manufacturing process, product or technology will be needed due to onboarding requirements, projects or non-conformances. When these cases exist, Technology, Process or Product audits will be conducted of the Supplier's facilities and supply chain.

Process to become a **WHITE Partner**

The supplier Qualification Process will be followed for following conditions:

- New Supplier Introduction
- New Manufacturing Location of Existing Suppliers
- New Business Award to Existing Suppliers;

Supplier Qualification Process contains, but not limited to, below activities:

- Supplier Qualification/Management System Audit
- Code of Conduct Audit
- Framework Agreement
- Commercial Assessment
- Sourcing Recommendation and Approval if all above activities are finished

4.3 New Product Development

WHITE suppliers are required to have an effective project planning and execution process that is capable of supporting WHITE process and timing for project management. Project approach shall be utilized throughout the product life cycle by supplier for any product or process changes.
APQP process as defined by AIAG, or equivalent product quality planning approaches, shall be used upon WHITE request.

Suppliers developing product-related software for WHITE, or on behalf of WHITE, must apply an applicable software development assessment method based on recognized and applicable industry standards to ensure continuous improvements of supplier's software development methods and practices.

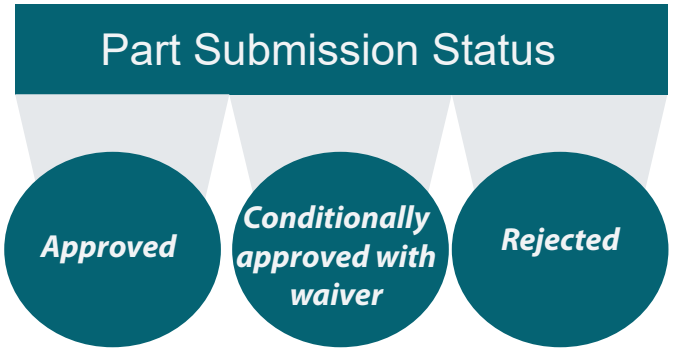
The assessment method is to be decided by supplier. Assessment method and findings may be subject to audit by WHITE at the supplier's premises.

5. Production Part Approval Process (PPAP)

Production Part Approval Process (reference: latest revision of PPAP Reference Manual by AIAG) ensures that the Product is capable of meeting WHITE' technical and performance needs. PPAP ensures that the intended specific manufacturing processes are in place, and that the Supplier is capable of producing Products of consistent and required quality expected by WHITE.

Significant Production Run (SPR) is applicable for new parts introduction and selected change management projects. Product for PPAP shall be taken from a significant production run that usually takes from one hour to eight hours of production (or otherwise agreed with WHITE) with minimum quantity defined by WHITE in the PPAP purchase order. The SPR must be conducted using the final version of production tooling, production equipment, production environment including trained operators, production facilities, production gages, and production rates.

WHITE may conduct SPR/Run@Rate assessment or request it from Supplier. Such an assessment contains, but is not limited to, process capability, first pass yield, production rate and capacity.



PPAP parts submission shall be made by supplier and approved by WHITE. PPAP shall be scheduled and executed in accordance to a date / timeline, in agreement with all WHITE sites using the Product.

Suppliers shall not manufacture or ship any products, until **Full or Interim Approval is received from WHITE,** through a signed Part Submission Warrant (PSW).

Unless otherwise agreed with WHITE in writing, Suppliers shall not manufacture or ship any products, until Full or Interim Approval is received from WHITE, through a signed Part Submission Warrant (PSW).

In a case where full approval is not granted, the products can be supplied based on a waiver approved/issued by WHITE. Meanwhile, the non-conformity must be corrected within a time frame agreed by WHITE, and the process approved by new PPAP submission, if requested by WHITE, from the Supplier or by revision of the drawings/specifications from WHITE side.

WHITE reserves the right to determine if any or all of the PPAP items are to be reviewed on-site at the Supplier's facility, as part of the PPAP process.

In the case of disagreements, concerns or queries about the PPAP, it shall be addressed to WHITE procurement organization and subject to the final decision of WHITE.

Due to WHITE customer requirements, all PPAP documentations and records related to the Product or production shall be retained for a minimum of 15 years and / or for the duration specified by any relevant regulatory requirements.

After PPAP approval, the Supplier shall not make any changes to the Product or process, without approval from WHITE. In case of such a need for change, the Supplier shall refer to the required process for change request (refer to Section 8 Change Management).

The Supplier shall submit the specified documentation according to WHITE requirements (to the authorized WHITE representative as communicated to the Suppliers). If WHITE requires a PPAP, level 3 shall be used as the default level unless otherwise specified by WHITE.
Every PPAP submission shall be verified according to the latest revision of WHITE Negative List by supplier.

Regardless if a PPAP submission is required by WHITE, the Supplier shall fulfill the PPAP requirements and retain relevant documentation as evidence unless otherwise specified by WHITE. A PPAP shall be provided for each part / family in the approval process. WHITE reserves the right to ask for applicable PPAP elements, even after PPAP approval, which are not submitted during initial PPAP review.

A table of PPAP elements is shown in Section 15 (Definitions, Abbreviations and Links).

In the case of business discontinuation (reflected as termination, expiration, or completion of any supply agreement or purchase order), the supplier is obliged to submit all the requested documents and records.

5.1 Sample Products and Master Sample

The Supplier shall:

1. Provide the required number of sample products, as specified in the PPAP order. All products are to be produced consecutively in the Supplier's production. In some cases, the PPAP order may also require a 2nd production run in order to capture variation in the Supplier's process.
2. Complete the dimensional and performance test reports, as required, along with the required sample products;
3. Retain master sample products for the same period as the PPAP records, unless otherwise agreed with WHITE;
4. Identify the master sample products as such and with a label or marking of the WHITE approval date on the sample.
5. For PPAPs done specifically for items such as labels and packaging, the PPAP Order may take into consideration the need to reduce some of the requirements listed above. However, all needed requirements will be listed on the PPAP Order.

For detailed requirements, the Supplier shall take reference to latest revision of PPAP Reference Manual by AIAG and shall consult with WHITE for any questions or clarifications.

5.2 Dimensional Results

The Supplier shall submit all data electronically, unless otherwise agreed. Actual variable data must be provided in terms of measurements, except for attribute data (pass/fail; go/no-go; nominal or ordinal, etc.). All results must be traceable to the specific samples submitted by the Supplier and shall include appropriate references to the equipment used and to the procedures used for the measurement, if applicable.

5.3 Material, Performance and Reliability Test Results

The Supplier (or a qualified independent third party) shall provide specific material, performance and / or reliability test results. Actual results must be compared against agreed upon specifications. For certain parts, WHITE may require third party testing.

All independent laboratories used for inspection, test, or calibration services by Supplier, shall be approved in writing by WHITE, and shall be accredited to ISO/IEC 17025, or equivalent national requirements, subject to verification by WHITE.

5.4 Appearance Approval Report (AAR)

WHITE may require an Appearance Approval Report (AAR) along with representative sample part(s) to be submitted, wherever applicable. An AAR is typically requested for an item, which is exposed to view on the exterior of a finished unit. If an AAR is specified on the PPAP Checklist, the Supplier shall contact WHITE (only the authorized WHITE representative, as communicated to Supplier) to ensure the requirements are clearly understood and formally agreed.

5.5 Special Characteristics

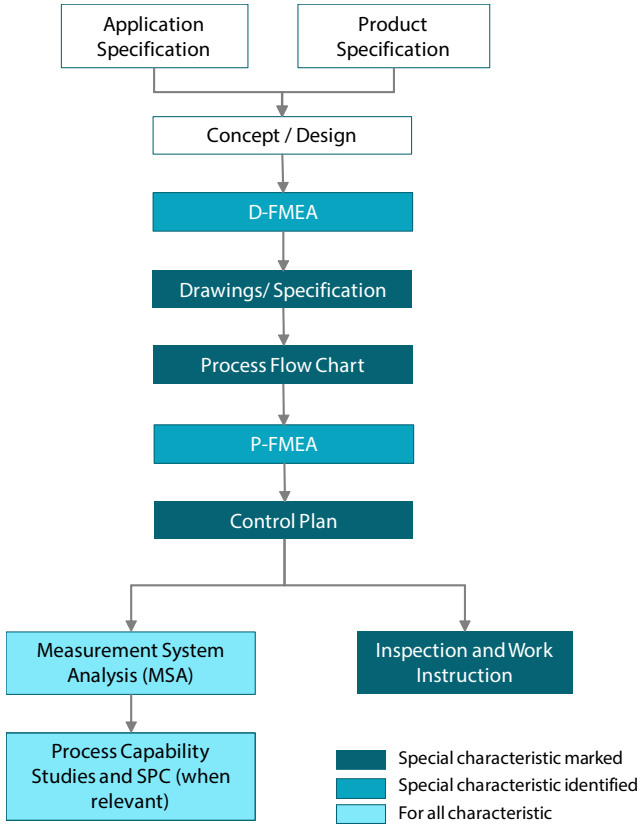
A Special Characteristic is any feature of a material, process, part, assembly, or test that has a significant influence on Product fit, form, function or any other expected deliverable, as specified by WHITE.
WHITE will select or identify the Special Characteristics, which the Supplier shall control. Special Characteristics will be communicated through:

Type	Definition	FMEA	Serial production control methods
<S> **Safety**	A nonconformance will lead to safety issues, violation of regulatory/ statutory regulations.	Severity 10 in your PFMEA	Layers of **Poka Yoke** (design, cannot make, cannot accept, cannot pass).
<K> **Key**	Major disruption at WHITE production or loss of primary functions at the customer.	Severity 8 in your PFMEA	**SPC** when Ppk > 1.33 **or** 100% control with upper and lower warning limits.
<Q> **Quality**	Disruption at WHITE that affect form, fit, function and appearance.	Severity 8 in your PFMEA	In process and off process **control** (gauges, frequent measurements, CMM).

Notations and/or symbols documented on WHITE engineering drawings, specifications, and/or PPAP Worksheet.

Note: Special Characteristics shall also include all relevant regulatory and statutory requirements, but are not limited to such.
It is the supplier responsibility to identify and include special characteristics in their drawings, specifications, DFMEA, PFMEA, Control Plan and all process control documents.

Note: It is the responsibility of Supplier to ensure all drawings and specifications used to produce the Product are of the revision from corresponding purchase order.



5.6 Process Capability Studies

For all Special Characteristics, an acceptable level of process capability and performance shall be determined prior to production. Based on a capability study analysis, a minimum value of **Ppk >1.67** (during PPAP) and **Ppk>1.33** during serial production (long term).

If the required process capability / performance is not met prior to the first production, a corrective action plan and revised Control Plan (Reinforced Control Plan) shall be developed by the Supplier. This shall be submitted to WHITE for approval (only the authorized WHITE representative, as communicated to Supplier). This Reinforced Control Plan **will require 100% inspection**, or other means, as agreed upon with WHITE. The corrective actions stipulated in the corrective action plan or the Reinforced Control Plan shall remain in place until capability can be demonstrated to WHITE, or Early Production Containment (EPC) exit criteria are fully met and sustained.

For attribute data, the Supplier shall propose, for WHITE approval, a method for evaluating process capability with proper and detailed justification. WHITE reserves the right to specify the type and nature of the attributes, and the corresponding measurement methodology and instrumentation.

Products used for evaluation of the preliminary process capability study shall be consecutively produced and randomly sampled in the production run for approval parts. The process capability study shall contain a minimum of thirty (30) consecutive parts in total, when applicable. The samples shall be collected in production, when the process is stable (i.e., when no adjustments are being performed) during the production run. Products from each unique production process (i.e., each production cell, line, tool or cavity) shall be evaluated separately. No adjustments or maintenance to the process is allowed during the production run.

The number of Products used for a preliminary process capability is defined in the table below. In case of Products used for high volume production, WHITE (only authorized WHITE representative, as communicated to Supplier) may require one hundred twenty-five (125) consecutive pieces to be used for the preliminary process capability.

No. of Process Flows or Cavities	Random Sample Size (n)
1	n ≥ 30 pieces or pieces specified on PPAP Order*
2 or 3	n ≥ 25 pieces per cavity
4 to 50	n ≥ 50 pieces (cavity x cycles => 50) but minimum 5 cycles
51+	n = minimum 5 cycles

* The quantity of pieces can be reduced in such cases, but not limited to, high cost to manufacture Product or annual volume is less than suggested sample size requirements. Instruction will be given on the PPAP Order.

5.7 Measurement System Analysis (MSA)

A Gage Repeatability and Reproducibility (Gage R&R) study measures the total repeatability and reproducibility of a gage system as a percentage of the total specification. Measurement System Analysis (MSA) studies ensure the total

system variation (including Gage R&R) of a measuring system as a percentage of the total part and process variation.

WHITE requires Gage R&R and MSA for all variable gages that are used to monitor Special Characteristics.

Number of Distinct Categories (NDC) is optional and depends on WHITE and/or WHITE customer's demands.

Attribute gages that are used to monitor Special Characteristics must also undergo applicable gage studies. The method used shall be formally agreed upon in advance between WHITE and the Supplier.

Acceptance Criteria for MSA Study		
No. of Distinct Categories (ndc)	**Gage R&R**	**Status**
5+	GR&R below 10 %	The measurement system can be approved.
2, 3, 4	GR&R between 10% and 30%	The measurement system can be approved if WHITE accepts the measurement uncertainty. Corrective actions may be required by WHITE.
1	GR&R above 30 %	The measurement system cannot be approved.

If the gage system fails, the Supplier shall take corrective action to make the gage measurements repeatable and reproducible. A gage shall be proven repeatable and reproducible before it can be used in a capability study or to be used to accept or reject Products.

WHITE reserves the right to specify the MSA study and methodology, and the Supplier shall comply with and fulfill all WHITE requirements.

5.8 Process Flow Diagram

The Supplier shall have a process flow diagram that clearly describes the production process steps and sequences beginning at material receipt through packaging and shipping, where process steps shall include operations performed by outside sources (such as sub-suppliers for the Supplier). These steps need to be identified within the diagram and are subject to approval / authorization from WHITE (only authorized WHITE representative, as communicated to Supplier).

A single process flow diagram may apply to a group or family of Products that are produced by the same processes in the same sequence.

5.9 Failure Mode and Effects Analysis (FMEA)

The Supplier is required to develop a Process FMEA and Design FMEA, if applicable, and submit results to WHITE for approval. The Supplier may be invited to participate in the preparation of a higher level Design FMEA through participation in a Product Development team. Suitable alternative risk analysis means may be used, either in place of or in addition to the FMEA, if approved in advance by WHITE.

The FMEA is a living document and shall be revised as changes are made to the Product, process and when quality issues are found (FMEAs shall be reviewed and updated, as necessary, as part of the Non-conforming Products process defined in Section 6 of this Supplier Quality Manual).

PFMEA shall include all characteristics and a tooling FMEA, if applicable.

5.10 Control Plan (CP)

The Supplier shall prepare a Control Plan, based on the DFMEA and PFMEA for the complete process. This Control Plan shall detail the control and inspection activities that have been implemented to ensure conformity to WHITE drawings and specifications. Special Characteristics shall be marked with their respective reference number(s) and all other characteristics should also be included.

The Control Plan is to be identified by Product number, family, and revision level.

The Supplier shall:
- Monitor actual processing of the Product,
- Compare processing to the Control Plan in all aspects,
- Report to WHITE any changes / deviations from the Control Plan and obtain

approval from WHITE, prior to actual implementation.

The Control Plan is a living document and shall be revised as changes are made to the Product, process and when quality issues are found (Control Plans shall be reviewed and updated, as necessary, as part of the Non-conforming Products process defined in Section 6 of this Supplier Quality Manual).

5.11 Process Audit

WHITE may require a process audit at the Supplier's manufacturing facility and it will be carried out after mutual agreement with the Supplier. This audit focuses on the specific process quality controls that the Supplier has put in place for the Products being manufactured for WHITE, as well as Product / commodity specific process requirements. In addition, WHITE reserves the right to conduct such an audit on the Supplier's sub-tier suppliers.

Such audit shall not relieve the Supplier's responsibility to produce and deliver the 0 PPM expectation to WHITE.

5.12 Certifications, Certificates and Code Requirements

WHITE may pass on regulatory or statutory requirements to the Supplier. These requirements may require the Supplier to provide such items as (but not limited to) compliance letters, test results, cleanliness results, or part certifications.

Upon WHITE request, suppliers should provide material registration reference, so as to facilitate further formal International Material Data System (IMDS) submission that WHITE might do as per customer requests.

It is the Supplier's responsibility to ensure these requirements are fulfilled and maintained. Upon request from WHITE, evidence of compliance to these requirements shall be submitted by the Supplier as part of the PPAP or individual shipment.

The Supplier shall notify WHITE immediately in writing, if there is a change to any of these regulatory or statutory requirements (refer to Section 8 Change Management).

5.13 Early Production Containment (GP-12)

WHITE may require EPC at a Supplier's site, in order to put in place a redundant inspection process to prevent potential non-conformances during the start-up of production after PPAP approval. EPC duration is defined by WHITE based on ramp-up preformance and remaining risks.

5.14 Requalification

WHITE reserves the right to request Supplier for layout inspection or requalification even after PPAP process and in running production phase.

6. Non-conforming Products

This section outlines the Supplier requirements and responsibilities as a result of non-conforming product due to Supplier's fault. Supplier shall carry out corrective and preventive actions based on mutual discussion between WHITE and Supplier, but subject to WHITE´ sole and final decision.

6.1 Reimbursement

In order to cover WHITE´ costs related to non-conforming products, the Supplier shall reimburse the product, claim handling, administration costs in accordance with the WHITE Reimbursement Concept or Framework Agreement (FWA) requirements.

Supplier shall compensate WHITE any documented, direct loss incurred as a result of Defective Products including, but not limited to, inspection costs, line-stop costs, sorting costs, dismantling and installation costs, freight, import and export duties, charges and taxes. In addition to compensation for its documented loss resulting from the Defective Products, WHITE is entitled to payment of administration fees. The cost will be reimbursed through an invoice from WHITE.

6.2 Control of Non-conforming Products

If the product or process is different from what is approved by WHITE, the supplier shall perform a risk assessment before requesting a waiver and continuing production. Sorting actions and reworks shall be agreed with WHITE before execution. Suppliers shall maintain the records to identify the quantity and the way of handling the non-conforming, repaired or reworked products, and identify their delivery lots.

WHITE applies automatic assembly lines which are very sensitive for Foreign Objects. The supplier shall ensure that Foreign Objects are eliminated from all parts shipped to WHITE to avoid Foreign Object Damage (FOD). In addition to maintaining compliance with cleanliness specifications, all suppliers must maintain a Foreign Object free environment during machining, manufacturing, assembly, maintenance, inspection, storage, packaging and shipping, as requested by WHITE. Potential Foreign Objects include but are not limited to burrs, chips, dirt, corrosion and contamination resulting from the manufacturing, assembly, maintenance, processing, cleaning, storage and subsequent packaging of parts.

6.3 Immediate Containment Actions due to Non-conformances Identified after Shipment

If non-conforming products are identified after shipment from the Supplier, one or more of the following immediate containment actions shall be initiated, based on mutual agreement between WHITE and the Supplier.

1. The Supplier shall inspect and sort Products with unidentified status at any defined place (WHITE, Supplier, WHITE' customer, or others). All costs incurred will be at the Supplier's expense.
2. The suspected batch / lot / shipment will be retained for one or more of the following actions:
   A. Supplier´s immediate replacement of the Product;
   B. Return of batch / lot / shipment to the Supplier, with the condition of complete replacement, sorting or rework of the Products, and any other charges incurred, at the Supplier's expense;
   C. Third-party sorting organized at any site specified by WHITE, at the Supplier´s expense;
   D. Supplier sorting at WHITE site, at the Supplier's expense;
   E. Scrap, loss, and any other additional costs incurred by WHITE, as a result of Non-conforming Products, are at the Supplier's expense.

It is Supplier's responsibility to deliver high quality products to WHITE, which is in line with WHITE' expectation of 0 PPMs.

6.4 Immediate Containment Actions due to Non-conformances Identified before Shipment

If non-conforming products are identified at the Supplier's site, relevant actions, such as segregation, quarantine, and marking of these products shall be initiated. Non-conforming products shall not be shipped to WHITE, unless a waiver is granted by an authorized WHITE representative.

All waivers issued shall specify a specific time and / or quantity limit, which is subject to the sole and final approval of WHITE.

In the following situations, the Supplier shall immediately notify WHITE. WHITE will review the non-conformance and work with the Supplier on an appropriate disposition:

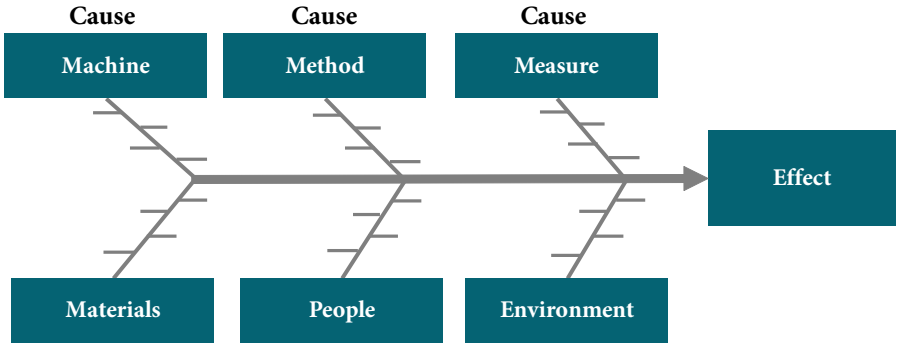
- If the non-conformance affects form, fit, function, quality, reliability, safety, delivery, service of the product, or its compliance with regulatory or statutory requirements;
- If there is likelihood that the non-conforming product has inadvertently shipped from the Supplier's factory to WHITE;
- If the non-conforming product is likely to cause late delivery to WHITE;
- In all cases where there is a report of a non-conformance from another customer, regulatory agency or internally at the Supplier that could possibly affect the form, fit, function, quality, reliability, safety, delivery, service of the product, or its compliance with regulatory or statutory requirements, and/or is a cosmetic defect.

All products approved by a waiver that are shipped to WHITE must be accompanied by a copy of the approved waiver document.

6.5 Corrective and Preventive Actions

When non-conforming products are discovered, the Supplier shall submit a formal written corrective and preventive action report, to address the specific defects identified.

- The default format to present root cause and corrective actions is the A3 WHITE 8D template (504H0429). The Supplier shall submit the 8D form for WHITE' evaluation and acceptance.
- The Supplier shall implement the containment action and submit to WHITE in writing (steps D1-D3 of the 8D form within 3 working days (starting from Supplier´s receipt of the 8D form/non-conformance notification).
- If WHITE disagrees with the Supplier's containment action, the Supplier must respond (with a revised containment action) within 1 working day (starting from Supplier's receipt of WHITE' notice).



Failure analysis leading to the root cause determination shall be done within 5 working days (starting from Supplier´s receipt of the 8D form/non-conformance notification), and the action plan should be submitted to WHITE within 10 working days, or at an alternative time-frame agreed upon in advance with WHITE.

- The Supplier shall use appropriate tools such as, but not limited to, fishbone diagram, 5Why? for **occurrence, non-detection and system Root Cause**
- The 8D form will not be considered complete until all proposed corrective and preventive actions and an appropriate implementation plan has been approved by WHITE.
- It is expected that all 8D actions are closed within 30 working days unless otherwise agreed.

Involvement of WHITE in the approval of remedial action does not change the fact that the Supplier remains responsible for the product non-conformity, including any non-conformanities resulting from the implementation of the remedial action. Until the claim has been verified and closed by WHITE, the Supplier shall adopt all measures to safeguard the interest of WHITE (and WHITE' customers).

6.6 Controlled Shipping Level (CSL1 and CSL2)

In the event of recurring non-conformances where the corrective action plan has failed, WHITE reserves the right to issue a Controlled Shipment (CSL) program at the Supplier´s site (or third party site) for specified Products, and at the Supplier´s expense.

CSL1 includes, but is not limited to:

- 100% sorting / inspection on the Products in an area outside of normal in-process inspection, which shall be carried out on every shipment / part / lot / batch, prior to shipment to WHITE;
- Sorting / inspection records to be attached to each shipment / lot / batch;
- Supply of data and documentation on the products, upon request from WHITE;
- Visit / audit by WHITE;
- Dialogue with Supplier's management team, upon request from WHITE;
- Blocking of shipment, and / or current business, subject to the sole and final decision of WHITE;

In order to safeguard WHITE' interest, if there is a failure to successfully achieve CSL1, it will automatically be escalated to CSL2.

CSL2 includes, but is not limited to:

- All CSL1 measures listed above, but inspected by a WHITE-designated 3rd party or by WHITE (at the Supplier's expense);
- Blocking of new business, subject to the sole and final decision of WHITE.

The Supplier may be notified of additional requirements, when needed by WHITE.

Exit from CSL1 and CSL2 will be determined by WHITE, when set criteria are met and corrective actions are implemented and validated.

7. Supplier Monitoring and Development

7.1 Supplier Monitoring

WHITE will continuously measure and monitor Supplier's performance based on, but not limited to, the following areas:

- Quality Performance (PPM);
- OPM (Occurance per million)
- Claims Performance (Number and type of claims);
- Costs of Poor Quality (CoPQ) related to supplier non-conformities
- Delivery Performance (On Time Delivery);
- Service Performance (8D, PPAP, response time, etc.);
- QMS Compliance (ISO 9001, IATF 16949and other applicable certificates);

Selected suppliers will receive the WHITE Score Card on frequent basis. This will support the common understanding of the supplier performance and allows the supplier to take action to address problems and trends before WHITE may request the supplier to take action.
If in general supplier performance does not meet agreed upon targets, a SIP may be initiated in according with section 3.2 of this Supplier Quality Manual.
Depending on the criticality of product/service and progress in solving problems, the WHITE escalation model can be activated

The monitoring and actions are closely tied to the promoting and demoting of the Supplier's segmentation status within WHITE' Supplier Management System

A Supplier's failure to fulfill WHITE' performance requirements can result in, but is not limited to, new business hold and / or phase-out.

7.2 Supplier Development

Suppliers are expected to continuously improve their performance and capabilities to meet WHITE expectations, by managing risks as well as seeking improvement opportunities. Supplier, who does not meet the performance or capability expectations, or who is business critical for other reasons, may be designated for WHITE Supplier Development Program.
WHITE Supplier Development Program for selected suppliers is the anchor for the dialogue regarding but not limited to strategies, outlook, footprint, investment, performance and linked to the supplier development program.

The frequency of meetings depends on Supplier performance or business.

Suppliers are required to work together with WHITE to seek for development actions on various levels in the organization, with the goal of improving Supplier performance and capabilities.

8. Change Management

8.1 Changes Initiated By Suppliers

After receiving initial Product approval from WHITE, the Supplier shall not make any changes to the product and processes which are concerning intended and unintended impact on safety, form, fit, function, quality, reliability, durability, appearance, delivery, service without prior written notification and agreement with WHITE. Such notification shall be submitted to WHITE 6 months in advance, or as otherwise agreed with WHITE. The Supplier shall follow this requirement across its entire supply chain, which includes its sub-tier suppliers.

Changes include, but are not limited to:
1. Any Product changes, including packaging changes;
2. Any material or material composition changes in the Product;
3. Changes to regulatory, statutory or legal status / documentation requirements;
4. Any manufacturing process changes (including testing and inspection):
    - Moving production equipment internally within the facility
    - Moving production equipment to other facilities / locations
    - Change of Product storage location (e.g. warehouse)
    - Change of production process
    - Production material changes
    - Change of process parameters outside of previously approved operating
    - parameters
    - New production equipment
    - Moving products or parts to another supplier(s)
    - New or changed parts purchased by Supplier

Supplier's non-compliance with the above requirements is considered a material breach of the Framework Agreement (FWA) or comparable between the Supplier and WHITE. For any change, WHITE reserves the right to requalify the Product with an appropriate PPAP.

For all change requests, temporary as well as permanent, the Supplier shall use the WHITE change request provided by the assigned WHITE buyer.
Any change is subject to sole and final **written approval from WHITE.**

8.2 Changes Initiated By WHITE

Once receiving WHITE engineering change notifications, suppliers should complete internal review and provide feedback to WHITE within 10 working days, or as agreed with WHITE.

9. Identification, Traceability & Quality Records

Special delivery marking/identification of products, that are related to PPAP, waiver, or deliveries other than normal production, shall be applied.

Recording quality information throughout production enables tracing non-conforming Products during problem solving at suppliers, WHITE and WHITE customers. Traceability information is required from all production steps which add value to products, on manufacturing and delivery batch level and per Product serial number when available. The following quality information is required to be recorded by supplier with appropriate data back-up method implemented, and made available to WHITE upon request:

- Resources used in product manufacturing
- Process parameters, inspection and testing results
- Manufacturing location
- Manufacturing and shipping date and quantity
- Used raw materials (manufacturer, type and manufacturing date)
- Certification data
- Purchase Order number

Additionally for products containing Critical (Safety) or Key (Significant) Characteristics, the following information has to be recorded:

- Product & process special characteristics records
- Rework operations done on parts
- Maintenance activities of production and measuring equipment
- Personnel qualification records

Items requiring traceability shall be identified during the development phase of a project. Where traceability is required, WHITE will work with the Supplier to develop an acceptable system. The requirements for traceability of relevant items will be communicated to the Supplier through specifications, drawings or PPAP Orders. The Supplier shall retain the appropriate quality records for Product on each shipment to support any requests made by WHITE.

Supplier's certification, raw material certifications, process, test and / or inspection data shall be provided to WHITE, upon request, and shall be retained by the Supplier for a minimum of 15 years after delivery of the relevant Products to WHITE. This requirement does not supersede any regulatory or statutory requirements for records retention.

Certain data may be required to be included with the Product shipment and shall be agreed in advance with WHITE.

Suppliers are responsible to have inventory control systems that positively identify and control obsolete material to prevent inadvertent shipment to WHITE. Where feasible, suppliers shall maintain First In First Out (FIFO) inventory management practice. The system for FIFO control must ensure controls extend to rework/repair, test activity and off-site (sub-contract) processes.
Any exceptions should be brought to the attention of WHITE in writing, for prior approval by WHITE.

10. Health, Safety and Environmental Requirements

The Supplier shall identify all activities that are needed in order to ensure that all Products, (as well as the corresponding Production processes) are in conformance with both legal requirements and requirements specified by WHITE.

10.1 Environmental Management System (EMS)

The Supplier is expected to deploy, and maintain an EMS based on ISO 14001, or equivalent (e.g. EMAS).
WHITE reserves the right in mutual agreement with the Supplier to audit the Supplier's EMS. During this audit, WHITE shall have access to all facilities, staff and WHITE related documents. The Supplier shall submit to WHITE a comprehensive action plan for agreed deviations identified / found by WHITE during the audit. The Supplier must execute and manage the improvements.

10.2 Health and Safety Management System

The Supplier is expected to deploy, and maintain an health and safety management system based on ISO 45001.

10.3 Product Compliance

The supplier shall at all times comply with the most recent version of the WHITE Negative List and follow WHITE' RoHS requirements in product specifications and drawings.
The supplier shall on WHITE request deliver information related to the product compliance.

11. WHITE Property Maintenance

All manufacturing tools belonging to WHITE must be clearly and indelibly marked as the property of WHITE in a way that they can be identified as such. Additionally, a record for tool life status including the quantity of parts produced from that tool must be maintained, updated and submitted to WHITE annually or upon request. Supplier must provide to WHITE the tool documentation and pictures, when requested by WHITE.

12. Code of Conduct (CoC)

WHITE has a strong commitment to economic, environmental and socially sustainable development. As a result of this commitment, WHITE has signed up to the principles of the United Nations' Global Compact (www.unglobalcompact.org) and established a CoC for Suppliers, which includes respect for universally recognized standards for the environment, human rights, labor and anti-corruption.

Signatures

The Supplier shall sign the CoC Letter and conduct a self-assessment, at the Supplier's expense.

Audits

When required for suppliers with direct production, CoC audit will be conducted as part of Supplier qualification by WHITE or a third party at the Supplier's expense. WHITE also reserves the right to ask for an audit to be conducted at any of the Supplier's sub-suppliers.

13. Risk Management / Contingency Planning

The Supplier shall:

- Identify and prioritize risks affecting delivery of Products or Services to WHITE. This includes virtual risks, for example, Cyber Attack by ransom-ware.
- Upon request, provide WHITE with proper contingency plans for the highest ranked risks to ensure un-interruption of delivery.

For those risks, which will lead to up to 2 weeks shutdown of production, WHITE reserves the right to evaluate/audit supplier facility on site.

14. Supplier's Liability

In addition to the Supplier's obligations under this Supplier Quality Manual, the Supplier is liable according to the terms and conditions of the supply agreement entered between WHITE and Supplier. For the avoidance of doubt, it is outlined that the agreed performance targets are solely a target regarding Supplier's general product quality level. Supplier remains liable for all cost of poor quality relating to non-conformities according to the supply agreement.

15. Definitions and Abbreviations

Assessment

A systematic evaluation process of collecting and analyzing data to determine the current, historical or projected compliance of an organization to a standard.

Audit

The on-site, or virtual, verification activity, such as inspection or examination, of a process or quality system to ensure compliance to requirements. An audit can apply to an entire organization or might be specific to a function, process or production step.

8D

A problem-solving process developed by Ford Motor Company. The name 8D originates from the fact there are eight disciplines associated with this problem-solving format. WHITE has adopted the 8D format to be used for both internal and external problem-solving activities. Please use the WD 8D template 504H0429

Capability

The maximum amount of variation inherent in a manufacturing process. Improving process capability involves taking steps to limit the amount of variation to defined acceptable limits and thus bring the process into control.

Capability Index

The comparison of available tolerance to the portion of the tolerance consumed by a process in a state of statistical control.

Cpk

The capability index, which accounts for process capability centering, and is defined as the minimum of Cp Upper or Cp Lower. It relates the scaled distance between the process mean and the closest specification limit to half the process spread.

Control Plan (CP)

A strategy for controlling Products and Product processes to ensure that all process outputs remain in a state of control. A Control Plan is used and maintained throughout the Product life cycle and is responsive to changing process conditions via written descriptions of the actions that are required at each phase of the process from receiving through shipping.

Control Shipping Levels (CSL 1 & CSL 2)

Control Shipping Level 1 (CSL1), is a demand to Supplier in order to have them put in place a redundant inspection process (at their site) to sort for potential non-conformities to prevent their shipment to WHITE. This inspection is in addition to normal controls, is enacted by Supplier's employees, and must be in addition to normal production process controls, through which Supplier's internal defective/ defect rate will be monitored by WHITE.
Control Shipping Level 2 (CSL2), is a further demand above CSL1 requirements where a redundant inspection process is put into place by the Supplier using a WHITE-designated 3rd party or WHITE (at the Supplier's expense).

Early Production Containment (GP-12)

A demand to Supplier in order to put in place a redundant inspection process to prevent potential non-conformances during the start-up of production after PPAP approval.

Failure Mode and Effects Analysis (FMEA)

A preventive analytical technique to methodically study the cause and effects of potential failures in a Product or 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 then 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.

Gage Repeatability and Reproducibility (Gage R&R)

The evaluation of gauging an instrument's accuracy by determining whether the measurements taken with it are repeatable and reproducible.

Layout Inspection

The complete measurement of all dimensions shown on a design record.

Non-conformance or Nonconformity

A Product or Service that does not meet requirements found in WHITE contracts, drawings, specifications, processes, policies or with any other legal, statutory, regulatory or WHITE requirements.

On-Time Delivery

The number of purchase order line items delivered on time to the required date and quantity divided by the number of total purchase order line items required.

Ppk

The performance index, which accounts for process performance centering, and is defined as the minimum of Pp Upper or Pp Lower.

Parts Per Million (PPM)

The rating gives evidence of product quality and rates quantity of nonconforming parts found by incoming inspection, and/or on the WHITE production lines and/or customer locations.

$$PPM = \frac{\text{Complaint Quantity}}{\text{Quantity received}} \times 1{,}000{,}000 = \frac{\text{Quantity of Parts Returned, Scrapped after Rework, Wrong Labels}}{\text{Quantity received}} \times 1{,}000{,}000$$

Occurrence Per Million (OPM)

The rating gives evidence of product quality and rates number of claims issued by WHITE based on definitions of Claims

$$OPM = \frac{\text{Number of Claims}}{\text{Quantity received}} \times 1{,}000{,}000$$

Note: claims related to part quality and waivers.

Process Capability

The range over which the natural variation of a process occurs as determined by the system of common causes.

Products

Any finished or semi-finished goods, parts, components, materials and / or services manufactured for delivery to WHITE.

Part Submission Warrant (PSW)

The Partt Submission Warrant contains Supplier, Product information, required documentation, the Supplier application warrant, and WHITE disposition. A submission approval by WHITE authorizes Supplier to start production.

PPAP Order / PPAP Worksheet

A document intended to clearly identify requirements and eliminate ambiguity between WHITE and the Supplier, prior to production of new or changed parts. It identifies to the Supplier, part information, Special Characteristics, qualification requirements, WHITE authorization and Supplier sign off.

PPAP Approval Documentation Requirements

#	Requirements	Level 1	Level 2	Level 3	Level 4	Level 5
1	Design record	R	S	S	*	R
	For WHITE proprietary components/details	R	R	R	*	R
	For WHITE other components/details	R	S	S	*	R
2	Engineering change documents, if any	R	S	S	*	R
3	Engineering approval from Dan foss (required)	R	R	S	*	R
4	Design FMEA	R	R	S	*	R
5	Process flow diagrams	R	R	S	*	R
6	Process FMEA	R	R	S	*	R
7	Control plan	R	R	S	*	R
8	Measurement system analysis (MSA)	R	R	S	*	R
9	Dimentional results	R	S	S	*	R
10	Material, Performance realiability test results	R	S	S	*	R
11	Process capability studies	R	R	S	*	R
12	Qualified laboratory documentation	R	S	S	*	R
13	Appearance approval report (AAR)	S	S	S	*	R
14	Sample products	R	S	S	*	R
15	Master sample	R	R	R	*	R
16	Checking aids	R	R	R	*	R
17	Records of compliance	R	R	S	*	R
	WHITE negative list conformity (incl. ROHS and REACH requirements)	R	R	S	*	R
	Specific requirements of European Communities Directives, product safety approvals (e.g. UL) and other local legal requirements if applicable	R	R	S	*	R
18	Part submission warrant	S	S	S	S	R

S = Shall be submitted to WHITE and retain a copy of records or documentation items at an appropriate location.
R = Shall be retained by the Supplier at an appropriate location, and made available to WHITE upon request.
* = Shall be retained by the Supplier at an appropriate location, and submitted to WHITE upon request.

Special Characteristics

A characteristic that can infringe on safety or regulatory compliance or customer satisfaction, or a characteristic that can cause rework or scrap AND at the same time is sensitive to variation that is difficult to control within the process.

IATF 16949

It is a technical specification which includes systematic tools for product development and manufacturing. IATF 16949 has expanded requirements as compared to ISO 9001.

16. Reference Materials

The following IATF 16949 publications are available from the Automotive Industry Action Group (AIAG).
These may be ordered on-line at: http://www.aiag.org. WHITE has decided to work according to these manuals, which is also expected from supplier side (ref 17. templates)

- AIAG/reference manual APQP "Advanced Product Quality Planning and Control Plan"
- AIAG/reference manual MSA "Measurement Systems Analysis"
- AIAG/reference manual SPC "Statistical Process Control"
- AIAG & VDA FMEA Handbook
- AIAG/reference manual PPAP "Production Part Approval Process"

17. Templates

The following are the forms referenced in this manual.
To obtain blank forms, suppliers should contact the assigned Buyer/SQE or visit https://www.whitedriveproducts.com/

1. Part Submission Warrant (PSW) from Supplier PPAP Worksheet (504H008A02)
2. Production Part Approval - Dimensional Test Results
3. Production Part Approval - Material Test Results
4. Production Part Approval - Performance Test Results
6. Production Part Approval - Control Plan
7. PPAP Requirements (listed in PPAP checklist 504H0008A06)
8. Supplier Change Request Form (500B1229A09)
9. Waiver Form
10. Supplier packaging plan (504H0440A01)

Note:
If agreed with WHITE, the Supplier may use its own internal documents / forms, as long as they contain all required information.

18. Changes in relation to previous issue

Issue	Change	Approval date
1.0	Created during carve out activieties	August 2021
1.1	WHITE branding, printing issue fixed, SC definition added, new introduction	June 2022