Corporate Operation Procedure (COP)

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Revision History:

Revision	Date	Description of Change(s)
A	01-09-2018	First release - Replaced Supplier Quality Requirement Notification (Form No.: WSQE-080401) - Replaced Supplier Handbook – Quality Requirement (Americas)

Remark: Document Category –
1. Mandatory (M) - Must follow without any deviations.
2. Recommended (R) - Must do all elements / contents. If all elements can be addressed through other similar document / form then it is acceptable.
3. Optional (O) - Option to do or not as prescribed. If not done then the deviation has to be approved by SVP – Corporate Engineering and VP – Corporate Quality & Reliability.

Table of Contents

1.0 Purpose

1.1 This supplier handbook describes the general quality rules that the suppliers and Johnson Electric (JE) have to apply in order to develop a successful partnership.

2.0 Scope

2.1 It applies to all direct material, component or part supplied to JE either directly or via a subcontractor.

2.2 Contact person in JE regarding this supplier handbook is the respective Supplier Quality (SQ) Engineer.

3.0 Reference

3.1 External

- ISO 9001, *Quality management systems – Requirement*, ISO
- IATF 16949, *Quality management system requirements for automotive production and relevant service parts organizations*, IATF
- ISO14001, *Environmental management systems – Requirements with guidance for use*, ISO
- VDA 6.3, *Process Audit standard for Product Development Process / Serial Production and Service Development Process / Providing the Service*, VDA
- VDA 6.5, *Product Audit*, VDA
- *Advanced Product Quality Planning and Control Plan (APQP)*, AIAG
- *Production Part Approval Process (PPAP)*, AIAG
- *Potential Failure Mode and Effects Analysis (FMEA)*, AIAG
- *Statistical Process Control (SPC)*, AIAG
- *Measurement System Analysis (MSA)*, AIAG
- *Special Process: Heat Treat System Assessment (CQI-9)* , AIAG
- *Special Process: Plating System Assessment (CQI-11)* , AIAG
- *Special Process: Coating System Assessment (CQI-12)* , AIAG
- *Special Process: Welding System Assessment (CQI-15)* , AIAG
- *Special Process: Soldering System Assessment (CQI-17)* , AIAG
- *Special Process: Molding System Assessment (CQI-23)* , AIAG
- *Special Process: Casting System Assessment (CQI-27)* , AIAG
- *Automotive Warranty Management Guideline (CQI-14), AIAG*
- *Other relevant CQI Special Process standards*, AIAG

4.0 Definition and Abbreviation

4.1 AIAG - Automotive Industry Action Group

4.2 BU - Business Unit

4.3 BU Q&R - Business Unit Quality & Reliability

4.4 Cpk - Process Capability Index

4.5 CQI - Continuous Quality Improvement
4.6 CSL - Controlled Shipment Level
4.7 FMEA - Failure Mode and Effect Analysis
4.8 IAF - International Accreditation Forum
4.9 IATF - International Automotive Task Force
4.10 ICAR - Internal Corrective Action Request (Quality Incidents)
4.11 ISO - International Organization for Standardization
4.12 IQC - Incoming Quality Control
4.13 JE - Johnson Electric
4.14 MLA - Multilateral Recognition Arrangements
4.15 NBoH - New Business on Hold
4.16 OIR - Supplier Outgoing Inspection Report (Also known as CoC or CoA)
4.17 Ppk - Process Performance Index
4.18 PSA - Potential Supplier Assessment Questionnaire
4.19 QR - Quotation Request (Also known as RFQ)
4.20 SCRR - Supplier Change Request / Review
4.21 SEC - Sample Evaluation Center
4.22 SER - Sample Evaluation
4.23 SPC - Statistical Process Control
4.24 SPR - Supplier Performance Review
4.25 SQ - Supplier Quality

5.0 Qualification and Competency Required

5.1 JE expected the suppliers:

5.1.1 ISO 9001 certified (by a certification body bearing the accreditation mark of a recognized IAF MLA member) as a minimum requirement, with the ultimate objective of becoming certified to IATF 16949 and/or relevant industry quality management system certified by an accredited third-party certification body (an IAF-recognized certification body);

5.1.2 Comply with CQI standards and other relevant standards published by Automotive Industry Action Group (AIAG), where applicable;

5.1.3 Establish environmental management system ISO14001 in order to ensure a healthy living environment, adopt the green product concept in manufacturing product and process designs;

5.1.4 Comply with specific customer requirement upon request by JE;

5.2 If the supplier has stated that they are certified to an internationally recognized quality management system, then JE will expect the supplier to adhere to this certification unless otherwise agreed to in writing.

5.3 The supplier shall inform JE in the event of a change to the certification body, major audit finding, and loss or suspension of certification.

5.4 The supplier shall be responsible to provide a copy of the latest certificate.

6.0 Area of Application

6.1 It is the responsibility of the suppliers to communicate this supplier handbook to their sub-suppliers and to manage their compliance to the regulations set in this supplier handbook.

6.2 Besides the condition of this supplier handbook, JE expects that the supplier expressly warrants all supplied products shall conform to and satisfy the drawings, specifications or other furnished, specified or approved by JE.

6.3 The supplier shall ensure that all supplied products are compliant to safety and environmental rules or regulations from time to time in force in the countries where supplied products are to be sold or used, including those WEEE Directive 2002/96/EC (Waste Electrical and Electronic Equipment), RoHS Directive 2011/65/EU and 2015/863/EU (Restriction of Hazardous Substance), REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals) Regulation 1907/2006/EC, and ELV Directive 2000/53/EC (End of Life Vehicles).

6.4 JE purchased components might require certification by International Safety Standards, such as UL Certified (Underwriters Laboratories), CSA Certified (Canadian Standards Association), ISO Certified (International Organization for Standardization), SAE Certified, DIN Certified (Deutsches Institut für Normung), 3C (China Compulsory Certified), NSF (National Science Foundation), etc.

7.0 Precedence

7.1 If there are differences between the requirements of this supplier handbook and any other documents, the order of precedence of the documents is below:

7.1.1 Johnson Electric Purchase Order;

7.1.2 The material specification or component drawing;

7.1.3 This Supplier Handbook – Quality Requirements;

7.1.4 Customer Specific Requirements;

7.1.5 The current edition of the supplier's published data sheets;

7.1.6 International standards which are relevant to supplied items

7.2 The revision of the document that was valid when the individual order as placed, will be the valid revision when determining the quality requirements of the components.

8.0 Supplier Quality Goals

8.1 In order to meet the changing needs of customers, JE strives to continuously improve current processes to make our supply chain more efficient. The goals and objectives are:

8.1.1 Zero defects;

8.1.2 Corrective action (8D/SCAR) response time:

- Acknowledged with Containment Action (D3) - 24 hours
- Selection of Permanent Corrective Action (D5) - 7 calendar days
- 8D Closure - 30 calendar days

9.0 Supplier Selection & Approval

9.1 Suppliers are qualified for the approved supplier list based the following criteria:

9.1.1 Passed Potential Supplier Assessment (PSA) audit based on VDA 6.3;

9.2 Qualification shall be based on the manufacturing location / site or the entity location of the supplier.

9.2.1 Change of manufacturing or entity location shall be approved by JE and on-site requalification audit may be conducted at JE discretion.

9.3 Potential Supplier Audit (PSA)

9.3.1 The potential supplier audit will be conducted according to P1, an analysis of potential of VDA6.3;

9.3.2 The assessment judges the experience of the potential supplier in the manufacture of similar products and processes;

9.3.3 The PSA questionnaires (P1 analysis) are selected questions from the process element P2 to P7 of VDA6.3:

- P2 : Project management
- P3 : Planning the product and process development
- P4 : Carrying on the product and process development
- P5 : Supplier management
- P6 : Process analysis / production
- P7 : Customer support / customer satisfaction / service

9.3.4 The assessment is marked, using the traffic light system and follow the guideline according to VDA6.3;

9.3.5 The 3 commentary class are defined as per below from PSA audit results:

Commentary Class	Evaluation based on questionnaire
GREEN	Max.7 questions with YELLOW and no question with RED
YELLOW	Max.14 questions with YELLOW and no question with RED
RED	More than 14 questions with YELLOW and/or 1 or more questions with RED

9.3.6 When the PSA audit result is GREEN or YELLOW, the potential supplier is required to submit and close the improvement actions within agreed timelines;

9.3.7 Potential supplier with any RED in result, it is not possible to be nominated.

10.0 Part Qualification

10.1 Following approval steps must be completed before a part is released for mass production:

10.1.1 Passed SER and/or

10.1.2 Approval of PPAP;

10.2 The supplier shall work on a Supplier-APQP when project is granted.

10.3 *Sample Evaluation (SER)*

10.3.1 The supplier shall maintain a qualification system, which is capable of providing JE requirements;

10.3.2 SER will be performed by JE to evaluate the supplier capability in supply conformance products prior to supplier Production Part Approval Process (PPAP). The details of the SER shall be referred to technical drawing and/or specification of JE;

10.3.3 At minimum, the below items are required to be submitted for SER:

- Samples (all cavities samples if multiple-cavities);
- Initial sample inspection (visual, dimensional, functional, reliability, etc, where applicable);
- Material mill certificate;

- Other information on Life, Storage Condition and Material Safety Data Sheet (MSDS), etc, where applicable;
- Measurement instruction of JE designated special characteristics (refer to respective component drawing);

10.3.4 SER will not be performed if the above mentioned document package is not complete.

10.4 *Advanced Product Quality Planning (APQP)*

10.4.1 Suppliers and their sub-suppliers to JE shall have a comprehensive APQP process in accordance with the Automotive Industry Action Group (AIAG) guidelines;

10.4.2 JE shall have the opportunity to verify the APQP process at the supplier as well as the sub-supplier's premises together with JE customer;

10.4.3 Feasibility studies shall be conducted by the supplier on new and/or changed products to assure, design, manufacturing and assembly feasibility;

10.4.4 JE expects and encourages suppliers to make recommendations for changes that will assure the highest product feasibility;

10.4.5 The supplier shall have a designated project engineer / manager for JE projects, who will be available upon request by JE to be part in the overall project team;

10.5 *Quality Function Deployment (QFD)*

10.5.1 QFD method is required to be used to transform JE demands into design quality, to deploy the functions forming quality, and to deploy methods for achieving the design quality into subsystems and component parts, and ultimately to specific elements of the manufacturing process;

10.6 *Special Characteristics*

10.6.1 The control of JE designated special characteristics shall refer to the requirements specified in the component drawing;

10.6.2 The JE designated special characteristics must be cascaded from JE drawing to supplier's drawing and sub-drawings;

10.7 *Production Part Approval Process (PPAP)*

10.7.1 PPAP is required for all automotive parts and others where JE required. It is required prior to mass-production and for:

- New part awarded;
- Engineering change(s);
- Tooling: transfer, replacement, refurbishment, or added;
- Tooling to be use was inactive for more than one year;
- Sub-supplier or material source change;
- Change in part processing;
- Parts produced at new or additional location;

10.7.2 PPAP submissions to JE are to be made in accordance with the AIAG guidelines contained in the AIAG PPAP manual;

10.7.3 Based on the criticality of the process and/or product, an on-site audit may be a pre-requisite to grant the final production release of the product as deemed necessary by JE;

10.7.4 The standard PPAP submission level is 3 or as agreed upon with JE representative;

10.7.5 There may be other customer specific requirements that must be met and included in the PPAP package; this will be communicated by JE representative;

10.7.6 PPAP shall be taken from a significant production run. 1 to 8 hours/300 consecutive produced parts;

10.7.7 The types of documentation required are listed below:

- Design records;
- Engineering change documents (if any);
  a) The supplier shall provide authorized change documents for those changes not yet recorded in the design record, but incorporated in the product, part or tooling, such as Engineering Change Notice (ECN), Specification changes, Supplier change request, Sub-assembly drawings, Life or reliability testing requirements, Customer engineering approval (when supplied part is customer directed);
- Design FMEA (if applicable);
  a) This is required when supplier is design responsible;
- Process flow diagram;
  a) Step by step designation of the process flow required to produce the referenced product which meets all customer requirements;
- Process FMEA;
  a) Process FMEA shall be performed to ensure that the potential problems and the associated cause and/or mechanism have been considered and addressed throughout the process development cycle;
  b) Refer to the AIAG FMEA Reference Manual for guidance in the application of the technique;
  c) When available, JE designated special characteristics shall be defining as failure mode;
  d) Take appropriate actions when occurrence $\geqslant$ 3 and/or when detection is $\geqslant$ 6;
- Control plan;
  a) The supplier is encouraged to refer to the AIAG APQP and Control Plan Reference Manual for instruction, guidelines and forms to be used when completing and submitting a production control plan;
  b) Control plan shall address:
     - All testing requirements – dimensional, material and performance;
     - All product and process characteristics at every step throughout the process;
     - The control method shall be based on an effective analysis of the process;
     - Control plan should reference specification, tooling, etc.;
  c) When available, JE designated special characteristics shall be controlled and demonstrated in control plan;
  d) Safe Launch control/activities shall be included;
- Measurement system analysis (MSA) studies;
  a) The supplier shall evaluate the capability of the measurement equipment with a Gauge Repeatability & Reproducibility (GR&R) study. The rules of the AIAG MSA Reference Manual should be applied accordingly;
  b) JE expects suppliers to use ANOVA method for GR&R study;
  c) A general guidelines for measurement system acceptability is as follows:

GR&R%	Decision	Comments
< 10%	Generally considered to be an acceptable measurement system.	Recommended, especially useful when trying to sort or classify parts or when tightened process control is required.
10% - 20%	May be acceptable for some applications	Decision should be based upon, for example, importance of application measurement, cost of measurement device, and cost of rework or repair. Should be approved by JE.
> 20%	Considered to be unacceptable	Corrective actions are expected.

d) Number of distinct categories (ndc) is the measured characteristic that is grouped by the measured values into data categories. This is the number of non-overlapping 97% confidence intervals that will span the expected product variation. The acceptance of ndc value is shown as below:

ndc	Result
≥ 5	Acceptable
2 – 4	Attribute data, can be used for attribute/semi-variable control based on the process distribution. (Example: GO/NO GO Test)
1	Unacceptable

- Dimensional results;
  a) Dimensional layout data should be provided for full dimension;
  b) If more than one cavity, a complete dimensional layout is required for each cavity;
  c) The parts must be randomly selected from a minimum production run of 300 consecutive pieces. Minimum 5 pcs per cavity, tool or manufacturing line, etc shall be reported in the dimensional results;

- Material, performance test results;
  a) Material Mill Certificate, Performance, and Reliability test;
  b) Data should be less than one year old and should be when required obtained from an accredited laboratory or by a laboratory previously approved by JE. JE will automatically accept data from suppliers that use accredited laboratories;

- Initial process studies;
  a) Process capability studies must be submitted for each JE designated special characteristics. The target of Ppk and Cpk requirements shall be focusing on reducing risks;
  b) When there is no special characteristics are identified in the drawing, the supplier has to identify at least one parameter to demonstrate initial process capability;
  c) JE reserves the right to require the demonstration of initial process capability on parameters other than JE designated special characteristics;
  d) Minimum Cpk/Ppk Acceptable is 1.67 for special, key and critical characteristics. Enough initial data is needed in order to plot a control chart, therefore a 100 random individual samples are needed to calculate Cpk / Ppk;
  e) When an unstable process is identified, the supplier shall identify, evaluate and eliminate the special cause of variation prior PPAP submission; the supplier shall notify JE SQ representative and submit a containment plan, corrective action plan prior submission;

- Qualified laboratory documentation;
  a) Whenever an external laboratory is used to perform measurements, testing, calibration of used equipment and/or third party , documentations showing that the hired company is qualified for the type of measurement or test conducted;
  b) The qualified laboratory that will be performing the initial studies, measurements or testing shall have a laboratory scope; this is also to be submitted;

- Run at Rate (R@R) results;
  a) The supplier shall monitor and measure the line capacity;
  b) R@R report must be submitted in PPAP;

- Master sample;
  a) The supplier shall retain a master sample for each production line, cavity die, mold, tool, etc.;

- Checking aids;
  a) Checking aids can include: fixture, variable and attribute gages, models, templates, Mylar and/or inspection instruction specific to the product being submitted;

- Chemical composition;
  a) Part chemical composition shall be submitted into the IMDS (International Material Data System);

- Packaging information;
  a) Packaging drawing shall be submitted with minimum information as per below:
     - Container dimensions;
     - Skid array and dimensions;
     - Explanation on how the material is array inside the container (tray, layers, bulk, quantity per box, etc.);
     - Copy of the label to be used;
  b) Packaging test results per the International Safe Transit Association (ISTA); refer to www.ista.org for test procedures;

- Part Submission Warrant (PSW)
  a) Part weight, Rate, Mould/cavity/production process fields shall be filled with the proper information, “N/A” is not acceptable.

10.8 When all required approvals are granted, JE will inform the supplier by email from JE system.

10.9 Changes to the conditions that were present at the time of part release require a new submission. Any deviation from this process can lead to the withdrawal of the release.

11.0 Mass Production Control

11.1 *Identification and Traceability*

11.1.1 The supplier shall provide a traceability code for every shipment lot on the elementary pack to ensure traceability of supplied parts in case of deviation from quality standard;

11.1.2 Traceability records must be provided within a maximum of 1 working day, upon requested by JE;

11.1.3 At minimum, the elementary label is required to contain the following information:

- Supplier Name;
- JE part number and revision level;

- Manufacturing Part Number (MPN) if applicable;
- Lot date / number;
- Raw material batch number;
- Date or period of expiration if applicable;
- Quantity

11.2 *Shelf Life Control*

11.2.1 The supplier shall specify specific shelf life requirement and storage conditions to JE if applicable;

11.2.2 During receiving of incoming materials, the incoming lots will be checked against the allowable minimum shelf life. The allowable minimum life is as follows:

- Shelf Life > 3 months : Acceptance = Half-life of specified shelf life;
- Shelf Life ≤ 3 months : Acceptance = Two third (2/3) of the specified shelf life;
- No specific Shelf Life : Acceptance = Less than 1 year of manufacturing date on the date of delivery to JE;

11.2.3 If the incoming lots do not meet the criteria, they will be returned to the supplier for replacement.

11.3 *Work Environment*

11.3.1 The supplier shall determine and manage the work environment needed to achieve conformity to product requirements;

11.3.2 Feasibility study shall be conducted on the need of specific manufacturing and warehousing control such as Electro-Static Discharge (ESD) control and environment control based on the product manufactured and shall implement the control (minimally) according to industrial standard.

11.4 *Packaging*

11.4.1 The packaging design for supplied products to JE is the supplier's responsibility unless otherwise specified;

11.4.2 The supplier must focus on the most cost-effective design while still ensuring high quality part protection and user compatibility, accompanied with a constant effort to improve;

11.4.3 The packaging design has to be as such that it assures supplied products can be handled, stacked, shipped, and arrive undamaged for production use at the intended destination;

11.4.4 Where applicable, the packaging design must be approved by JE before implementation and the supplier shall send its supplied products in the defined packaging.

11.5 *Supplier Outgoing Quality Control*

11.5.1 The supplier shall assure the part meets JE requirements prior to delivery unless with JE written approval / agreement.

11.5.2 The supplier shall provide the Outgoing Inspection Report (OIR) for every delivery lot.

11.5.3 At minimum, the OIR is required to contain the following information:

- Supplier Name and supplier code;
- JE part number and revision level;
- Manufacturing Part Number (MPN) if applicable;
- Production lot date / lot number;

- PO and invoice number;
- Inspection detail (Specification, Sampling AQL, Measurement data [including Cpk / SPC data for JE designated special characteristic items], Raw material batch number, Quantity, Acceptance status, Inspection date, Inspector name, Date or period of expiration if applicable, etc.);

11.5.4 The supplier shall inform JE about any deviations from the average weekly First Pass Yield (FPY) of more than ± 10% for the supplied products within two working days after the deviation, or in a mutually defined time frame. The supplier shall provide information regarding the current and past FPY upon request.

11.6 *Waiver Request*

11.6.1 For each delivery lot that does not meet JE requirements, the supplier has to request a waiver prior to shipment to JE;

11.6.2 The inquiry for this waiver request has to be submitted in a written form with all necessary information describing the deviation. Below is the minimum information required:

- JE part number and revision level;
- Quantity affected or time period of this request;
- Description and reason of waiver request;
- Corrective actions and timelines to solve the deviations;

11.6.3 The waiver has to be accepted in writing by JE.

11.7 *Incoming Inspection*

11.7.1 Upon arrival at JE, the products are to be verified on the Purchase Order number, quantity, part number, corresponding number and visual inspection on the external packaging;

11.7.2 Where applicable, JE Incoming Quality Control (IQC) will verify the received parts comply with JE requirements;

11.7.3 The supplier must initiate the corrective action as defined in section 11.8 for any non-conformance found.

11.8 *Non-conformance Materials and Corrective Actions*

11.8.1 In the case of non-conforming materials that are caused by the supplier, the supplier has to respond within the time frame as defined in section 8.1.2 unless otherwise mutually agreed upon;

11.8.2 The supplier shall have an established process of containment action, short term and long term corrective action on all non-conformance product feedback by JE;

11.8.3 The supplier shall use the 8D (Disciplines) format on corrective action replies. 8D report shall contain the following information:

- Detailed description of root causes (Occurrence, Non-Detection and System) for failure using suitable PDCA (Plan, Do, Check, Act) tools like 5-Why, Fault Tree Analysis (FTA) or Fishbone Diagram (Ishikawa diagram);
- Containment Plan shall include parts at the supplier, in-transit to JE, in the JE warehouse and JE's customer sites;
- Short-term corrective / improvement action(s);
- Long-term preventive / improvement action(s) and lesson learn / look across;
- Verification and validation of action(s);

11.8.4 The supplier shall keep JE informed on a regular basis of failure analysis progress;

11.8.5 In case the supplier analyzed a claimed non-conformance product as not supplier related or no defect found, the affect parts and all analysis results have to be sent back to the respective JE contact person immediately. Otherwise, the parts will be considered as supplier fault after 30 calendar days from the initial notification date. JE will perform additional investigations, if necessary;

11.8.6 The supplier shall be liable for all the involved costs (sorting, line down, air-freight, overtime, etc.) if the non-conformance materials are caused by the supplier.

12.0 Supplier Monitoring and Development

12.1 *Supplier Performance Review (SPR)*

12.1.1 The supplier shall be reviewed quarterly based on the following elements:

Parameter	Max. Weight (%)
Quality (Q)	40
Delivery (D)	30
Competitiveness (C)	30

12.1.2 The supplier will then be classified in the below classification based on the SPR scoring:

Supplier Classification	SPR Score	Consequence Actions
(A) Preferred supplier	i) Overall SPR ≥ 80%; **and** ii) Quality ≥ 32; **and** iii) Delivery ≥ 24	-
(B) Capable supplier	i) Overall SPR in the range of 50% - 80% ; **and** ii) 24 ≤ Quality < 32; **and** iii) 12 ≤ Delivery < 24	-
(C) Supplier under probation	i) Overall SPR < 50%; **or** ii) Quality < 24; **or** iii) Delivery < 12	Improvement action is needed

12.1.3 The supplier has to provide appropriate improvement plans whenever poor supplier performance is observed;

- Control Shipment shall be implemented when Quality Improvement plan is enforced, refer section 12.6.

12.2 *Process Audit*

12.2.1 Representatives of JE are entitled to visit the supplier facilities to conduct process audit according to VDA6.3 with notification in advance. This may also include the supplier's sub-suppliers;

- Audit notice with an agenda will be given not less than two weeks in advance of the audit date. The supplier shall acknowledge the audit and agenda and prepare as necessary for the activity;
- At Supplier Quality's discretion, self-assessment audits may be conducted in-lieu of an on-site audit;
- Supplier shall respond to the findings report within 14 calendar days of the audit or as agreed between JE SQ and the supplier;

12.2.2 The supplier shall provide the necessary resources for the performance of this process audit;

12.2.3 The supplier is, however, not obligated to reveal any proprietary information without a mutual non-disclosure-obligation;

12.2.4 For new project assessment, the VDA6.3 process elements P2 to P7 are used for evaluation. Where for regular audit, process elements P5 to P7 are selected to verify, through objective evidence, (facts), whether or not the supplier's process and organization plans are indeed carried out to adequately and effectively meet the requirements set forth;

12.2.5 The 3 commentary class are defined as per below from VDA6.3 audit results:

Commentary Class	Level of achievement E_G (%)	Commentary
Grade A	$E_G \geq 90\%$ and no downgrading condition	The process is to supply quality parts to JE.
Grade B	$80\% \leq E_G < 90\%$ and no downgrading condition	The process is ready to supply a specific range of quality parts to JE.
Grade C	$E_G < 80\%$ or downgrading from Grade A or Grade B	The process is not ready to supply quality product to JE.

12.3 *Product Audit*

12.3.1 Product audit is performed according to VDA 6.5;

12.3.2 The Supplier is responsible for implementing suitable measures and verify their effectiveness and sustainability for any discrepancies identified during the Product Audit, within a reasonable time period, e.g. by re-audits.

12.4 *Layout Inspection*

12.4.1 The supplier shall do layout inspection at least once a year by verifying all the characteristics specified in the respective drawing and/or specification. JE approval shall be obtained if annual layout inspection is not performed;

12.4.2 Annual layout inspection documents shall be retained on supplier site and shall be made accessible to JE upon request.

12.5 *Special Process (CQI) Requirements*

12.5.1 JE requires all suppliers and sub-suppliers of special processes to comply with the following:

- Heat treatment : CQI-9 (Special Process: Heat Treat System Assessment)
- Plating : CQI-11 (Special Process: Plating System Assessment)
- Coating : CQI-12 (Special Process: Coating System Assessment)
- Welding : CQI-15 (Special Process: Welding System Assessment)
- Soldering : CQI-17(Special Process: Soldering Process Assessment)
- Moulding : CQI-23 (Special Process: Moulding System Assessment)
- Casting : CQI-27 (Special Process: Casting System Assessment
- Other relevant CQI special process standards released by AIAG

12.5.2 Annual assessments (as required) shall be conducted either on-site at supplier by JE SQ or through supplier self-assessment (depending on JE SQ discretion).

12.6 *Control Shipment*

12.6.1 Controlled Shipment will be imposed against the supplier when JE plant has determined that the supplier does not have the necessary controls preventing non-conforming products from reaching the JE manufacturing location or its customers, where include:

- Reoccurrence of quality incident;
- Class "C" of Quality portion from Supplier Performance Review (SPR) rating;

12.6.2 Two levels of Controlled Shipment are initiated, controlled criteria are defined as per below:

Level	Quality Performance	Controlled Criteria	Monitoring Period
CSL I	1) 1st reoccurrence of quality incident 2) Class "C" of Quality portion in SPR	1. Full check component / material before sent to JE; 2. Commitment from supplier to management; 3. Claim for all the quality cost; 4. VDA6.3 process audit to be performed.	90 calendar days after 8D closure date
CSL II	1) 2nd reoccurrence of quality incident 2) 2 out of 3 quarters under Class "C" of Quality portion in SPR 3) Fails to meet CSL I commitment after 3 months period 4) Severity of the incident	1. Includes all of CSL I 2. An added full inspection by a JE approved 3rd party, paid by the supplier 3. New Business on Hold (NBoH)	90 calendar days after 8D closure date was fulfilled and NO CSL I and CSL II issues are observed

12.6.3 A notification letter will be issued to the supplier when the Controlled Shipment Level I (CSL I) or Controlled Shipment Level II (CSL II) is initiated. The exit criteria of CSL will be defined in the notification letter;

12.6.4 Based on the severity of the incident, JE may elect to go directly to CSL II;

12.6.5 Status of CSL I or CSL II can be lifted only after formal acceptance from JE in accordance with exit criteria defined in the CSL notification letter.

13.0 Supplier Classification

13.1 The supplier is classified into three categories based on the status of supplier quality management system certification, supplier audit results and supplier performance review (SPR).

13.2 Three classification of supplier:

Commentary Class	Classification	Commentary
Grade A	Preferred supplier	Rated A from quality system certification, audits (VDA6.3/TVA audit and HSPM audit) and SPR (Overall and Q-rating)
Grade B	Capable supplier	Any rated B from quality system certification, audits or SPR rating
Grade C	Supplier under probation	Any rated C from quality system certification, audits or SPR rating

13.3 New business will be on-hold if the supplier is fall under Grade C. The supplier shall provide improvement plan to achieve Grade B within 4 months timelines.

13.4 JE will consider for removing the Grade C supplier from Approved Supplier List if there is still no improvement after improvement plan was evaluated.

13.5 Supplier will be removed from Approved Supplier List if improvement plan is not provided in the first 15 calendar days after Grade C notification was provided.

13.6 The escalation process may vary in cases of single-sourced commodities or customer directed suppliers.

14.0 Change Management

14.1 *JE initiated change*

14.1.1 JE reserves the right to change specifications. The supplier will be notified by a JE procurement representative in writing of all JE requested changes. Requests will be in the form of official Quotation Request (QR), engineering change notice and/or a revised drawing;

14.1.2 Responses from supplier must include impact on cost, delivery, tooling, quality (ppm), as well as any other items of importance. All responses will be evaluated to ensure that a mutually acceptable plan for implementation is negotiated;

14.1.3 A new or revised purchase order will be issued which will formally authorize implementation of the change;

14.1.4 The supplier is not to implement changes into production until qualification as per 10.0 is completed and formal written authorization has been obtained by JE.

14.2 *Supplier initiated change*

14.2.1 The supplier is not allowed to incorporate any changes into production without prior written authorization by JE. The types of changes include but are not limited to the following:

- Raw Material / Sub-tier Supplier;
- Process;
- Manufacturing Location;
- Product Design;
- Packaging / Label;
- Reliability Specification & Safety;
- Equipment / Tooling / Fixture;

14.2.2 For any supplier contemplating changes, it is required to notify JE by submitting a Supplier Change Request / Review (SCRR) form (JE Form No.: WSQE-020901), in sufficient time prior to implementation so that a plan can be developed and implemented for re-qualification per section 9.0 and section 10.0;

14.2.3 The supplier is obligated to identify the first shipment including change with proper identification;

14.2.4 The supplier is subject to disqualification as a supplier and product rejection if any supplier implemented changes have not been authorized by JE.

15.0 Sub-Supplier Management

15.1 The supplier is required to ensure that the sub-suppliers are capable of providing cogent support and meeting JE requirements;

15.1.1 The supplier shall select sub-suppliers certified at least ISO 9001 by a certification body bearing the accreditation mark of a recognized IAF MLA member;

15.1.2 The supplier shall monitor the sub-suppliers including (but not limited to) quality performance rating, periodic on-site audit and retain all the records for JE review upon request.

15.2 The supplier shall note that JE reserves the right to visit the sub-suppliers:

15.2.1 Trader who distributing another manufacturers' part / component;

15.2.2 Sub-supplier supplying JE critical components;

15.2.3 Serious quality incident occurred;

15.2.4 Other situation deemed necessary by JE.

15.3 The sub-suppliers who supply automotive products shall be familiar and skilful with automotive core-tools including APQP, FMEA, MSA, SPC and PPAP as mentioned in AIAG manual.

15.4 The sub-suppliers shall comply with JE customer specific requirements.

16.0 Warranty Returns (Automotive Products)

16.1 Supplier shall designate a team conforming on a Warranty Champion, Quality Representative, Manufacturing and/or Design Engineer and SQ Engineer as a minimum.

16.2 Supplier must implement a Warranty process complaint to CQI-14.

16.3 Warranty part shall be analyzed and provide a report in 15 calendar days. Report shall be submitted in an 8D identifying the real root cause of the reported issue.

16.4 Supplier shall look across on other product and processes in order to implement same corrective actions with the goal to prevent future quality problems in the field.

17.0 Record

17.1 The supplier is obligated to document all data necessary for the proof of the agreed quality, especially material production and test data over at least 15 years after the product end of life. The records must be available to JE upon request.

17.2 Any additional requirements shall be complied accordingly, i.e. individual mutually agreed customer specific requirement or applicable law & regulation.

18.0 Annex

18.1 Where applicable, regional specific requirements shall be defined in the Annex based on local business needs, customer specific requirements, local law and regulations, etc. The Annex shall be controlled locally and can be obtained from respective SQ Engineer.

Annex A : Specific Requirements - Americas

Annex B : Specific Requirements - Asia

Annex C : Specific Requirements - Europe