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4.5 Special Characteristics Management (Control of Product and Process)

Activity Purpose:

- Nissan require that suppliers of all product/parts with Special Characteristics are able to demonstrate that they are controlling all aspects of manufacture and that they have incorporated the Special Characteristics Management requirements within their Quality Management Systems.

Note(s):

- The supplier data (including certification) shall be submitted for the Inspection Item to Nissan department. (Refer to the DCI (Document Completion Instruction) of the “Certificate of Certification (COC) & Conformity of Product (COP))
- Nissan reserves the right at any time to audit the supplier's compliance with these Special Characteristics Management requirements.
- The supplier for electric and electronic system may be required to comply with ISO 26262 (Road vehicles -- Functional safety --) requirements with Request for Quotation (RFQ).

Special Characteristic identification:

- The Special Characteristics shall be identified on the relevant spec tender or part drawing supplied by Nissan.
- The Special Characteristic details must be transferred from the drawing onto all relevant documentation, i.e. Drawings, Control Plans, Process Flow Charts, Part Submission Warrants, Work Instruction Sheets, Training records and any supplier related documents.

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Special characteristics

Nissan Special Characteristics are;

- Important A
- Important B
- Important C
- OBD
- Any regulatory requirements Nissan specifies in drawings using above nomenclature symbol

Special Characteristic type, definition and symbol:

- The Special Characteristics shall be identified on the relevant spec tender or part drawing supplied by Nissan.
- The Special Characteristic details must be transferred from the drawing onto all relevant documentation, i.e. Drawings, Control Plans, Process Flow Charts, Part Submission Warrants, Work Instruction Sheets, Training records and any supplier related documents.
- Detail definition as follows:

<table>
<tr><td colspan="4">Important A</td></tr>
<tr><td>Nomenclature
Symbol</td><td>
D = φ12mm for use in Important Part Symbol column.
D = φ7mm for inclusion elsewhere on drawings or within
other documents</td><td rowspan="2">Definition:</td><td rowspan="2">"Important-A parts and areas"
Parts and areas required to maintain the following functions and parts characteristic required to control manufacturing variation:
1) Functions to control steering
2) Functions to control braking
3) Functions to prevent fuel leaking
Nissan requires all suppliers of Important-A parts to comply with the
Special Characteristics Requirements below.</td></tr>
<tr><td>Characteristic
Identifier</td><td>
A "Square Cornered" box with a solid line to be placed around
the text describing the characteristic deemed to be important.</td></tr>
</table>

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<table>
<tr><td colspan="4">Important B</td></tr>
<tr><td>Nomenclature
Symbol</td><td>

D = φ12mm for use in Important Part Symbol column.
D = φ7mm for inclusion elsewhere on drawings or within
other documents.</td><td rowspan="2">Definition:</td><td rowspan="2">"Important-B parts and areas"
Parts and areas required to maintain the following safety regulations
and parts characteristic required to control manufacturing variation:
1) To protect occupants and to mitigate injury in a vehicle collision
2) To secure safety after accident
3) To give information required for safety assurance during driving Nissan requires all suppliers of Important-B parts to comply with the Special Characteristics Requirements below.</td></tr>
<tr><td>Characteristic
Identifier</td><td>
A "Round Cornered" box to be placed around the text describing the characteristic deemed to be important.</td></tr>
<tr><td colspan="4">Important C</td></tr>
<tr><td>Nomenclature
Symbol</td><td>

D = φ12mm for use in Important Part Symbol column
D = φ7mm for inclusion elsewhere on drawings or within other documents.</td><td>Definition:</td><td>"Important-C characteristic"
In order to achieve customers satisfaction, characteristic required to control manufacturing variation:
1) Parts characteristic required to control variation in order to satisfy vehicle performance
2) Tightening characteristic to cause malfunction (except Important-A or B)
3) Harness connecting to cause malfunction (higher than ASIL A) Nissan requires all suppliers of important-C parts to comply with the Special Characteristics Requirements below.</td></tr>
</table>

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Characteristic Identifier	 A "Round Cornered" box with a broken line to be placed around the text describing the characteristic deemed to be important.		
OBD			
Nomenclature Symbol & Characteristic Identifier	 Symbol to be placed next to relevant characteristic	Definition: Special Characteristic (Relating to emissions Regulations)	OBD - products / parts and characteristics exist where variance from design specification may affect compliance with emissions regulations. Nissan requires all suppliers of product/part with OBD characteristics to comply with the Special Characteristics Requirements below.

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Special Characteristics Requirements:

- Nissan requires all suppliers of all product/part with Special characteristics to be able to demonstrate that they are controlling all aspects of manufacture and that they have incorporated the following requirements within their Quality Assurance Systems. Nissan reserves the right at any time to audit the supplier's compliance with the characteristics requirements relating to the Special characteristics.
- Sub-supplier Management:
  - Where Important characteristics and OBD characteristics are subject to the controls of sub-suppliers' processes, the Nissan Important product/part and OBD product/part requirements shall be applied to the sub-supplier by the Tier 1 supplier.
  - Tier 1 suppliers hold full responsibility for the management and approval of sub-supplier's parts quality and associated documentation. In cases where the Tier 1 supplier has sub-supplied parts imposed by Nissan, the Tier 1 supplier shall assume the above responsibility from the timing of the planning for the first pre-production (off tool) trial.
- Quality & Process Capability Target(s):
  - The supplier must be able to demonstrate 100% assurance of all Important and OBD characteristics. Process Capabilities target; Each Important and OBD characteristic must have a process capability index (Cpk) > 1.33 all along mass production; RFQ might specify more stringent process capability value. The sample size for capability evaluation should be over 30 pieces.
  - To assure the target value in serial life, demonstration shall be available before part approval. The demonstration should include adequate margin (e.g. Cpk >1.67 with trial parts etc…), verification of process control, etc.

- Parts Identification control:
  - Important product / part and OBD product / part characteristics shall be confirmed by a unique mark, specified by Nissan or pre-agreed with the customer, on every product / part. This should be detailed on the relevant Drawings, Control Plans, Key Features Diagrams, Work Instruction Sheets and any other supplier related documents.
- Parts traceability:
  - On Important and OBD product/part the supplier must have a lot control / traceability procedure.
  - This must allow both fast and accurate lot traceability (target access and search times being within two hours) and should be based on significant characteristics of manufacture, e.g. date, shift, process assembly, delivery.
- Lot control:
  - In the delivery of Important and OBD product/part, the Important or OBD mark shall be noted on Lot Control card (where applicable) which should be attached to pallets and cases.
- Document Submission:
  - Results of inspection and testing regarding Special Characteristics, if required, shall be submitted to Nissan at the specified frequency.
  - The method of submission shall be confirmed with the relevant Nissan Quality Department during the Pre-Production phase.
  - Any modification to this submission in either frequency or method must be agreed in advance with the relevant Nissan Department.

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- Tier 1 suppliers of Modules and/or Parts are responsible for the management of both it and any sub-supplier data, including any Nissan imposed sub-supplier requirements.
- In the case of Module Parts with special characteristics at both Tier 1 and sub-supplier levels, the Tier 1 supplier should provide quality documentation related to the assurance of special characteristics of both Tier 1 assemblies and sub-supplier's sub-assemblies / parts e.g. Control Plans, Inspection Reports, Capability Study Data, Supplier test Reports.

Note;
The term "Module Part" mentioned in the above refers to a complete functional assembly inclusive of sub-module parts defined by Nissan part /order reference e.g. Cockpit module, Front-end Module, Roof Module etc. Generally, this means a functionally complete part which composes a device / machine / system Important A unique requirements:

Important A unique requirements:

- When assigning personnel to the production of Important A product/part the supplier shall:
  - Ensure that all personnel involved in Important A operations/tests must be 'assigned workers' with training programs which can clearly demonstrate that they have achieved the required level of knowledge and skill.
  - Maintain a record of the personnel responsible for performing activities relating to Important Characteristics.
- All machines or equipment performing operations or tests on Important A product/part must be clearly identified with the relevant Nissan Important A symbol, as shown in Section 1 of this Appendix.
- Marking of numbers
  - Marking on products
    a) Suppliers shall indicate lot numbers on products.
    b) Markings shall be either die-stamped or printed etc., so the markings cannot easily be erased. Markings shall, as a rule, be located where they can be seen easily, when the products are installed on vehicles.
  - Marking on a lot card or bar code of delivered products
    a) For the product / parts defined by Nissan, as a rule, suppliers shall indicate the lot number on lot card or bar code

Important A, Important B and OBD requirements:

- Internal audit:
  - The supplier shall carry out a programme of internal process audits. These shall be documented and designed to verify that all process parameters are controlled and effective.
  - Any follow up actions shall be monitored to confirm effectiveness and where necessary become officially adopted countermeasures.

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- Change management:
  - No alterations to the manufacturing process or internal concessions will be made to an Important A, B or OBD product/part without Nissan approval.
  - This approval must be attained prior to shipment of new level product/part.
- Reworked parts:
  - If any rework is performed on an Important A/B or OBD characteristic to return it to specification, this must be documented and controlled. Approval by the supplier's person responsible for quality shall be obtained.
  - Reworked Important and OBD product/part shall be identified by indelible marking and have their characteristic 100% inspected and records will be retained for product/part identification.
- Concern management:
  - All systems shall reflect special characteristics management for Important A/B and OBD product/part concerns, i.e. non-conforming products (manufacture or test) must have a higher reporting route through the organisation to ensure that any corrective actions are implemented and are effective.
- Maintenance:
  - All machines or equipment used for the manufacture of Important A/B and OBD product/part must receive special attention in the maintenance program.
- Record(s):
  - Record relating to production processes and control, including lot control, inspection, tests and non-conformance history records shall be held for a specified period. (Refer to the “Ground Rule of Document Submission”)
  - Suppliers shall maintain a register which can cross reference lot numbers and manufacturing characteristics to facilitate traceability on request.
  - The lot control register should show each product / part, tooling/mold number, dates of manufacture, inspections and delivery, including quantities.
  - Tracing and search of Important "A" product / parts shall be possible for not only the applicable lot number but also quality records.
- Parts routine test:
  - Nissan require suppliers to make regular tests on Special Characteristics product/part. The following will be agreed with the relevant Nissan department during product development, tests to be carried out, frequency of test and the test results feedback to Nissan (if required).

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Regulatory / COP Control requirements:

- According to the listing of sales countries of vehicle, the Supplier shall identify the activities to carry out for the parts regarding Regulation, Certification, “Conformity of Production” control and inform Nissan about them on requirement. At each required milestone, during development and mass production, the Supplier shall transmit to Nissan the specific certificates and/or the certification elements (Communication sheet and national certificates) and/or the self-certification elements with the Test Reports, for the parts that are under the responsibility of the supplier for their own certification (according to each country of sale) and the Conformity of Production control. These activities and the corresponding Certificates and/or self-Certification Reports and/or Certification Reports shall be included in the document "Supplier Test Plan and Report" or specified documents agreed with Nissan.
- The supplier has to consider, in his control plan, all the minimum requirements for COP control for all marketing countries.
- Requirement for document submission in this category 4.5 is included for this regulatory control requirement.

Safety special characteristics:
Please refer to the following link for the requirements of Safety Special Characteristics. Link to Safety Special Characteristics.

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