Interim Inspection Plan (IIP)

SQPS-412

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Introduction

Veoneer is a major global supplier to the world's automotive vehicle industry and is fully committed to deliver defect free products to customers.

1 Purpose

The purpose of this standard is to describe a method to prevent shipment of non-conforming products to customers by temporarily enhanced inspection, and to ensure a quick response back to the manufacturing process.

The IIP activity shall be implemented when risks to ship non-conforming products have been identified.

The Interim Inspection Plan (IIP) should

- Ensure that any quality issues that may arise are quickly detected, contained and corrected at the manufacturing location.
- Verify the efficiency of actions implemented to assure quality.
- Support the validation of the production- and/or prelaunch- control plan efficiency.

SQPS-412 supports customer activities such as Ford: Safe Launch; GM: GP12; Mazda: Pre-Delivery Inspection (PDI), etc.

2 Scope

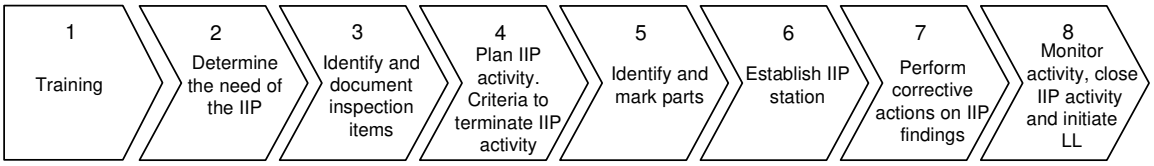
This standard applies to suppliers shipping production material to Veoneer facilities.

3 Responsibility

The **Plant Quality Manager** at supplier site is responsible that this standard is applied.

The **Purchasing Manager** at each Veoneer Company is responsible that this standard is applied at suppliers.

4 Procedure



The IIP activity follows 8 steps:

4.1 Step 1: Training

All involved personnel (IIP Inspector – person who performs inspection, representative from logistics, production, etc.) shall be adequately trained for this specific IIP activity.

4.2 Step 2: Determine the need of IIP

IIP **shall be used** for the following cases:

- Pre-SOP builds on a production line including all products produced since Production Validation until SOP (VPDS Phase 3 Pre-Production),
- Temporarily enhanced inspection after SOP, as early production containment (VPDS Phase 4 Production),
- Service parts which have not been produced for some time and thus may be looked upon as a risk for not deliver defect free products to customers
- Specific inspections required by the customer.
- CSL - Controlled Shipping Level 1, Controlled Shipping Level 2
- Product and Process Transfers (VS406)

Note: For external suppliers, the content and extent of the IIP activity, in cases as defined above, shall be agreed with Veoneer using facilities.

The need of IIP **should be evaluated** in the following cases:

- After corrective action implementation
- After tooling/programming changes
- After product/process changes
- After extended line shut downs (only if nothing else was defined in specific procedures, e.g. job set-up procedure, machine start-up procedure, etc.)

4.3 Step 3: Identify and document inspection items

Define which items are to be inspected. The following data/sources shall be used:

- Information from D-/P-FMEA
- Other/New potential defects
- Lessons Learned
- Customer rejected parts
- Internally rejected parts
- Specific customer requests

All items to be inspected shall be documented (see Step 6 – Establish IIP station). The IIP items are to be included in the Control Plan (Pre-Launch and Production) or in a separate enhanced Control Plan. Inspection results shall be documented in the IIP Result Sheet: Appendix A or a similar system that contains all the elements of the IIP results sheet as a minimum (if the customer requires a specific form, this shall be used).

4.4 Step 4: Plan IIP activity. Criteria to terminate IIP activity

4.4.1 Plan IIP activity

The planning of the IIP activity shall include definition of the extent of the inspection. The extent shall be determined from case-to-case based upon factors including risk / reliability assessments, potential failure rates, production rates, etc.

IIP must be implemented for a period of time or quantity of parts as specified by the customer or until the Production Control Plan has been validated.

The IIP inspection is mandatory for 100% (unless otherwise agreed with Veoneer) of all units for specified part numbers required through the SQPS-412 period. In addition, the standard minimum product IIP sample size is 2300 parts built over a minimum of 10 consecutive production shifts (if the production shifts are separated by builds of different models, the different models would not be included in this "consecutive" run). This criterion should also allow a minimum of 3 supplied production lots of any critical supplied component (as defined by the FMEAs or Engineering drawings).

Note: For low volume parts (i.e. where a build of 2300 parts exceed 10 production shifts), the sample size is a minimum quantity equal to ten production shifts (at the planned volume level).

4.4.2 Criteria to terminate IIP activity

The criterion to terminate the IIP activity is 0 (zero) non-conformances for the defined inspection items. In case that a non-conformance is detected for any of these items, the extent of the inspection shall be re-evaluated. As a minimum, the originally defined number of parts shall be inspected in sequence and verified with zero non-conformances.

In case that any other non-conformances are detected (items not included in the IIP) extended IIP activity shall be evaluated.

4.5 Step 5: Identify and mark parts

During all steps and at any time in the inspection process, the inspection status of the parts shall be easy to identify:

- Parts to be inspected
- Parts inspected and found to be conforming
- Parts inspected and found to be non-conforming

The parts of different inspection status shall be kept segregated in order to eliminate the risk of mixing parts of different status.

External suppliers shall identify all verified conforming parts by appropriate marking (example: labelling) according to agreement with Veoneer using facilities.

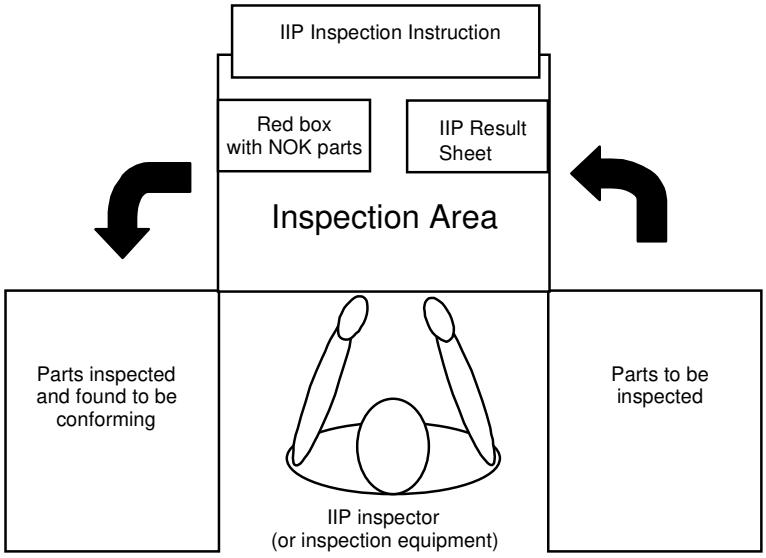
4.6 Step 6: Establish IIP station

The IIP station should be off-line, separate and independent from the normal production process. When off-line IIP is not practicable, in-process containment stations could be approved by customer SQE (valid for suppliers to Veoneer) and documented. The inspection process is to be clearly identified with a well-defined red containment box for non-conforming parts.

The following locations need to be clearly marked:

- The location with parts to be inspected
- The inspection area
- The location with parts that have been inspected
- Lighting must be adequate to ensure that inspection capability is maintained

All IIP parts shall be provided FIFO (First in First Out) to the inspection station



Picture 1: IIP Station

Note: This picture is only an example of how an inspection station can be set up that meets the required criteria.

4.6.1 Master Sample Part and Touch Method Inspection

A master sample part of the correct part number and revision is to be built for the IIP activity. The part is to be verified to the drawing (e.g. Coordinate Measuring Machine). An inspection template is to be built to hold the master sample and the inspected part in accordance with common datum identified on the template.

This master sample part is to be compared each time to the inspected part using the Touch Method Inspection process, whereby the inspection point is touched by the inspector as the point is verified and in the same order every time. If the inspector is interrupted during the Touch Method Inspection process, they are to

start over from inspection point no 1.

Kappa studies, or equivalent, should be performed to ensure that the SQPS-412 process is capable to the number of inspections being performed in the time allotted for the inspections.

Note: If the touch method of inspection or an inspection template could be potentially destructive or damaging to the part, another form of inspection should be performed for those points/parts.

4.7 Step 7: Perform corrective actions on IIP findings

IIP findings are essentially customer defects; parts were assembled, labelled, and placed in shipping container, destined to go to customer. IIP findings thus should be treated with the same urgency as if it were identified by customer. Detected non-conformances shall be reported immediately by the IIP Inspector after the first detection to the next management level. A reaction plan shall be documented in "8D format" and include the chain of responsibilities.

Responsibility and timing for corrective action shall be noted in the IIP Result Sheet, Appendix A or a similar system which contains all the elements of the IIP results sheet as a minimum (if the customer requires a specific form, this shall be used). For each corrective action "Lessons Learned" should be considered.

The Project and/or Production Management is responsible to monitor and evaluate the IIP result on a regular basis.

4.8 Step 8: Monitor activity, close IIP activity and initiate Lessons Learned

IIP is intended to be a temporary activity.

IIP activity shall not be terminated before the criteria have been fulfilled (see chapter 4.4.2).

IIP activity required by Veoneer at external suppliers shall not be closed before a written approval from Veoneer has been received. IIP results and experiences shall be used as input to "Lessons Learned" and/or to review and update existing Work Instructions, Control Plans, FMEAs and other relevant documents.

5 *References*

SQPS-063	Supplier Quality Process Specification	8D Problem Solving Process
VS406	Veoneer Standard	Process and Product Transfers

6 Appendices

6.1 SQPS-412 Appendix A - IIP Result Sheet

7 Modification Index

Version #	Date / Author	Modification
1.0	18-MAR-2020 /K.Shah	Converted VS412 (withdrawn) to SQPS.
1.1	8-JUN-2022/ K. Shah	Review as per Veoneer, Inc. conversion to Veoneer (Name Change)