

Supplier BPSO Questionnaire

SECTION II

Bosch Process Sign Off

I. Part Number, Description and Change Level

1.	Does the supplier have the latest print revisions on file (including CAD, CATIA, etc.)?	Y	N	N/A
2.	Are there any design changes pending? If yes, what are they? (attach a separate page with information)	Y	N	N/A
3.	Does the supplier have approved Warrants (PPAP submissions) to the latest print revision level?	Y	N	N/A
4.	Are previous print revision levels identified as obsolete?	Y	N	N/A

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II. Process Flow, Material Handling and Manufacturing Floor Plan

1.	Has a Process Flow diagram been completed which depicts the current process flow?	Y	N	N/A
2.	Is there a Manufacturing Floor Plan available?	Y	N	N/A
3.	Does the process flow include all process steps and control points?	Y	N	N/A
4.	Is the Process Flow diagram keyed to the PFMEA and Process Control Plan?	Y	N	N/A
5.	Is each process clearly defined?	Y	N	N/A
6.	Does the Process Flow Chart identify receiving and sub-contractor activity?	Y	N	N/A
7.	Are transportation methods (i.e. roller, conveyor slide, etc.) identified on the Flow Chart?	Y	N	N/A
8.	Have current and potential bottlenecks in the manufacturing process been identified with a contingency plan to improve material flow?	Y	N	N/A
9.	Are rework / scrap / returned goods disposition been identified?	Y	N	N/A
10.	Have clearly marked areas for all material, tools and equipment at each operation been considered?	Y	N	N/A
11.	Has sufficient space for all operations been allocated?	Y	N	N/A
12.	Are inspection and process areas of adequate size, do they contain adequate lighting and necessary equipment all stations?	Y	N	N/A
13.	Are inspection stations logically located to prevent the shipment of non - conformant material?	Y	N	N/A
14.	Has material been protected from all environmental effects including contamination from overhead or air handling systems (air conditioning units, etc.)?	Y	N	N/A
15.	Are prints and specifications with the correct revisions level located at points of inspection?	Y	N	N/A
16.	Are forms and inspection logs available for appropriate personnel to record inspection results?	Y	N	N/A
17.	Have inspection equipment, instructions, reference samples and inspection logs been placed at the proper monitored operations?	Y	N	N/A

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III. Design (DFMEA) and Process FMEA (PFMEA)

1.	Has a DFMEA / PFMEA been completed on all process elements (including receiving, warehousing and shipping)?	Y	N	N/A
2.	Has the DFMEA / PFMEA been developed and approved through a team development process?	Y	N	N/A
3.	Is there evidence that the PFMEA is a living document (updated as issues arise and RPNs reduced)?	Y	N	N/A
4.	Do all process elements coincide (keyed) with the documented process flow?	Y	N	N/A
5.	Is the correct engineering revision level referenced?	Y	N	N/A
6.	Are known issues and corrective actions identified on the PFMEA?	Y	N	N/A
7.	Are processes such as receiving, transportation, handling, packaging and outside services addressed on the PFMEA?	Y	N	N/A
8.	Have sub - contractor's PFMEAs been submitted?	Y	N	N/A
9.	Are failure modes described in physical, technical and measurable terms?	Y	N	N/A
10.	Do the effects of failures address the impact on each part, sequential process systems, receiving inspection, customer requirements, government regulations and operator safety?	Y	N	N/A
11.	Do PFMEA and DFMEA severity coincide?	Y	N	N/A
12.	Have potential causes been identified for all failure modes and have they been identified in terms of correction or controllability?	Y	N	N/A
13.	Are special characteristics noted with the appropriate symbols on the PFMEA?	Y	N	N/A
14.	Are detection rates consistent with the controls and agree with the Process Control Plan?	Y	N	N/A
15.	Do occurrence rates coincide with the process data and / or defect rates?	Y	N	N/A
16.	Do current process controls coincide (keyed to) with the Process Control Plan?	Y	N	N/A
17.	Have significant RPNs (proportional to all identified RPNs on the PFMEA) been identified and listed on the Process Control Plan as significant characteristics?	Y	N	N/A
18.	Have corrective actions been identified for significant RPNs (i.e. the higher RPNs identified on the PFMEA)?	Y	N	N/A
19.	Is mistake proofing implemented for addressing corrective actions?	Y	N	N/A

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IV. Process Control Plan

1.	Has a Process Control Plan been developed?	Y	N	N/A
2.	Do all control points coincide (keyed to) the Process Flow Chart?	Y	N	N/A
3.	Is receiving inspection, set up, in - process / final / audit and annual re - certification included in the Process Control Plan?	Y	N	N/A
4.	Is the latest engineering change level identified on the Control Plan?	Y	N	N/A
5.	Does the Process Control Plan include, but not limited to, control points Significant Characteristics, specifications, inspection methodology, inspection equipment / fixtures, sample sizes and reaction plans?	Y	N	N/A
6.	Are documented measurement procedures, techniques and inspection information reference in the Process Control Plan?	Y	N	N/A
7.	Have all special characteristics been identified on the Process Control Plan?	Y	N	N/A
8.	Is analytical information available which identifies the relationship between special characteristics and controlling process parameters?	Y	N	N/A
9.	Is SPC used to control all 'Key / Significant' characteristics?	Y	N	N/A
10.	Are significant RPNs from the PFMEA addresses on the Process Control Plan?	Y	N	N/A

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V. Incoming and Outgoing Material Qualifications / Certifications

1.	Does the supplier have inspection plans for incoming and outgoing material?	Y	N	N/A
2.	Do inspection plans reflect the latest engineering changes?	Y	N	N/A
3.	Are significant criteria (i.e. critical dimensions, appearance, sample size, etc.) identified on the inspection plans?	Y	N	N/A
4.	Are current material / certifications available on site?	Y	N	N/A
5.	Have required laboratory / test facility certifications been obtained?	Y	N	N/A
6.	Is there a documented effective program in place for the containment of non - conformant material?	Y	N	N/A
7.	Is there evidence of approval for received / shipped material (PPAP)?	Y	N	N/A
8.	Are there records available which allow complete traceability of material through out the manufacturing process?	Y	N	N/A
9.	Do incoming records relate to specific lot numbers?	Y	N	N/A
10.	Are sub - supplied processes re - inspected upon receipt (i.e. processed material sent out for chromized / painting process) for conformance to specifications?	Y	N	N/A
11.	Do records of shipping documents reference the shipping destination of all material by lot numbers?	Y	N	N/A

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VI. Tooling, Equipment and Gage Identification

1.	Are proper gage utilization and working instructions identified?	Y	N	N/A
2.	Have all special gage and test equipment been approved by the customer as required?	Y	N	N/A
3.	Are gage methodology compatible between the supplier and the customer?	Y	N	N/A
4.	Have Gage R & R studies been completed and are they acceptable (bias, linearity, etc.)?	Y	N	N/A
5.	Are all master and calibrating devices in place and certified to a registered international or national standard?	Y	N	N/A
6.	Are all calibration certificates for all inspection equipment / gages current?	Y	N	N/A
7.	Are all gages and test equipment identified properly (including customer and employee owned equipment)?	Y	N	N/A
8.	Are inspection / operating procedures for gages and test equipment complete, approved and available at the required inspection station?	Y	N	N/A
9.	Does the Control Plan identify all required gages and test equipment?	Y	N	N/A
10.	Have tools and equipment been designed to accommodate flexibility for cell manufacturing, quick change, volume fluctuations and mistake proofing?	Y	N	N/A
11.	Is there approved documentation to allow the usage of temporary tooling in the manufacturing process?	Y	N	N/A

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VII. Special Characteristics Identified

1.	Do all special characteristics have process potential studies completed?	Y	N	N/A
2.	Were capability studies performed per QS - 9000 and / or PPAP criteria?	Y	N	N/A
3.	Do special characteristics meet the capability requirement of the customer?	Y	N	N/A
4.	Were all capability studies performed with production gages / equipment where applicable?	Y	N	N/A
5.	Do process capability results coincide with the PFMEA occurrence ratings?	Y	N	N/A
6.	Are special characteristics identified on the Process Control Plan (critical and safety items must be identified)?	Y	N	N/A
7.	Do special characteristics address internal as well as external requirements?	Y	N	N/A

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VIII. Process Monitoring and Process Operating Instructions

1.	Are inspection, set - up procedures and other visual aids adequate and available at all work stations?	Y	N	N/A
2.	Are process instructions accessible and visible at the work station which clearly identify requirements?	Y	N	N/A
3.	Do process instructions specify monitoring of special characteristics (critical and safety items required)?	Y	N	N/A
4.	Do instructions list the requirements for inspection, testing, gaging and recording results with adequate sample size and frequency?	Y	N	N/A
5.	Is approval / rejection criteria defined in the instructions?	Y	N	N/A
6.	Within the instructions, are tools and gages with calibration, job set - up, and tool change intervals identified?	Y	N	N/A
7.	Is there a documented procedure for the identification, handling and disposition of non - conformant material?	Y	N	N/A
8.	Are there adequate instructions for reaction to non - stable processes?	Y	N	N/A
9.	Do instructions exist of notification of non - conformant material and corrective actions?	Y	N	N/A
10.	Do process instructions specify application of SPC methods required by the Process Control Plan?	Y	N	N/A
11.	Is the latest part number, revision level, etc. identified on all operating instructions?	Y	N	N/A
12.	Are available visual aids referenced in operating instructions?	Y	N	N/A

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IX. Parts Packing and Shipping Instructions

1.	Has the supplier's packing been approved by the customer?	Y	N	N/A
2.	Does packing meet the requirements called out in the Bosch Packaging Standard?	Y	N	N/A
3.	Is material protected from contamination, corrosion or damage?	Y	N	N/A
4.	Are containers identified with the approved Bosch bar code labels?	Y	N	N/A
5.	Do packaging and shipping procedures exist which ensures product manufactured to the latest revision level is being shipped?	Y	N	N/A
6.	Are records of test shipments maintained?	Y	N	N/A

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X. Project Management Timeline

1.	Is the Project Management Timeline (APQP matrix) available?	Y	N	N/A
2.	Has the AIAG Advanced Quality Planning and Control Plans manual been utilized in the development of the Project Management Timeline?	Y	N	N/A
2.	Have all Timeline dates been met?	Y	N	N/A
3.	Should Timeline dates not be met, are there documented corrective actions implemented to complete the Timeline?	Y	N	N/A
4.	Does the Project Management Timeline identify current programs, responsible personnel and engineering levels?	Y	N	N/A

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XI. Engineering Standards Identified

- | | | | | |
|----|---|---|---|-----|
| 1. | Are all engineering specifications as required by all customers, governmental agencies and the supplier available at the supplier's location? | Y | N | N/A |
| 2. | Are all standards up to date with the latest revision level? | Y | N | N/A |
| 3. | Is all information controlled by a documented procedure to ensure correct documents are in place? | Y | N | N/A |

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XII. Preventive and Predictive Maintenance Plan

1.	Has the supplier developed a maintenance program?	Y	N	N/A
2.	Does the maintenance program address predictive maintenance based upon historical data?	Y	N	N/A
3.	Is historical data used to develop a maintenance program which is driven by SPC?	Y	N	N/A
4.	Is the maintenance performed as scheduled?	Y	N	N/A
5.	Do maintenance programs address perishable tooling, parts inventory and personnel responsibility?	Y	N	N/A

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XIII. Gage and Test Equipment Evaluation

1.	Has gage and test equipment been verified as to measurement capability for a specific measurement criteria?	Y	N	N/A
2.	Have proper Gage R & R studies been performed to verify the measurement variation (including bias, linearity, etc.)?	Y	N	N/A
3.	Are Gage R & R studies performed per the required AIAG Measurement System Analysis manual?	Y	N	N/A
4.	If the answer to number 3 was no, is there documented approval of the measurement by a Bosch Supplier Quality Representative?	Y	N	N/A
5.	Is there traceability of all calibration to an approved international or national standard?	Y	N	N/A
6.	Are records of the traceability available on site?	Y	N	N/A

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XIV. Line Speed Demonstration and Capability Evaluation

1.	Does the supplier have the ability to meet agreed upon contractual production capabilities?	Y	N	N/A
2.	Is the supplier capable on meeting contracted production quantities on production tooling and equipment?	Y	N	N/A
3.	Have all materials been approved by the supplier (i.e. PPAP, ISR, material certification, etc.)	Y	N	N/A
4.	If the supplier can not meet the contracted production quantities as required, is there a documented action plan developed in order to meet customer requirements?	Y	N	N/A
5.	Has the supplier demonstrated they can meet capacity as outlined in Section III of the BPSO?	Y	N	N/A

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XV. Logistics

1.	Does the supplier is using any system to control the delivers sent to the parts to their customers?	Y	N	N/A
2.	Has the supplier implement a system to process customer orders?	Y	N	N/A
3.	Are these orders transmitted to the production areas in an effective manner?	Y	N	N/A
4.	Has this requirement link to the suppliers material order?	Y	N	N/A
5.	Has the supplier development an evaluation program for effectiveness of its logistics process?	Y	N	N/A
6.	Does the supplier have the appropriate electronic communication system.?	Y	N	N/A
7.	Does the company have Logistic targets?	Y	N	N/A

Supplier BPSO Questionnaire

XVI. Environmental

- | | | | | |
|----|---|---|---|-----|
| 1. | Has the company been certified according to any environmental system Or norm of the country (ISO 14000) ? | Y | N | N/A |
| 2. | Does the supplier have identified all dangerous material and if so the supplier Have a control for this components? | Y | N | N/A |
| 3. | Does the supplier have a control method to dispose and control the obsolete material ? | Y | N | N/A |
| 4. | Does the supplier have a hazardous labeling material classification ? | Y | N | N/A |
| 5. | Does the supplier have a controlled hazardous material room ? | Y | N | N/A |

Supplier BPSO Questionnaire

SECTION III

BPSO Run Rate Summary Sheet

Supplier _____ Location _____
 Part Number _____ Rev. Level _____
 Part Description _____ Product Line _____
 Customer _____ Location _____
 Buyer _____ SQDE _____

Customer Planned Usage Daily _____ Weekly _____
 Supplier Quoted Production Rate _____/hr _____/day
 Planned Run Date _____ Planned Run Hours _____
 Planned Shifts _____ Planned Downtime _____
 Reason for Planned Downtime _____
 Goal (net conformant components) _____/hr _____/shift _____ day

Actual Run Hours _____ From _____ To _____
 Actual Shift Hours _____ Date _____
 Actual Downtime _____ Downtime explanation _____

Total Produced _____ - Total Rejected _____ = Net _____
 Actual _____/Hr _____/Shift _____/Day
 Run At Rate Summary _____ Pass _____ Open _____ Fail

Comments / Open Issues:

Supplier Agrees to reserve this amount of capacity of _____pieces per day and _____per week of Bosch P/N _____for Bosch _____ plus _____% for unanticipated increases.

Total pieces with _____ %: _____ per day _____ Per week.

Note: This agreement is not to be construed as a commitment from the Robert Bosch Corporation to this amount.