**APQP Kick-off Checklist**

The purpose of this checklist is to ensure a common understanding of the total requirements of the part/materials procured and proper communication and buy-in is established between BORGWARNER and the Supplier. This form encompasses questions from the AIAG Advanced Product Quality Planning and BORGWARNER supplier manuals. The APQP Kick-off Meeting will also surface issues to drive the initial project open issues log.

This document should be completed by the supplier & provided to the BW Supplier Development Representatives prior to the meeting date.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| DATE: |       |  | PROJECT/PROGRAM: |       |
|  |  |  | SUPPLIER: |       |
| PART NO: |       |  |  |  |
|  |  |
|  |  |
| MANUFACTURING LOCATION: |       |
|  |       |
|  |       |
| PART DESCRIPTION: |  |
|  |       |
|  |       |
|  |       |
|  |       |

# SECTION 1. CUSTOMER REQUIREMENTS

1. *\*Does the supplier understand all**the applications and intended end uses of the parts/materials for all customers?*

|  |  |  |  |
| --- | --- | --- | --- |
| *[ ]  Yes* |  | *Explain:* |       |

1. *\*Does the supplier have the latest information about program timing (example: Drawing release, Prototype, PPAP, SOP)?*

|  |  |  |  |
| --- | --- | --- | --- |
| *[ ]  Yes* |  | *Explain:* |       |

 *Review Program Milestones with supplier.*

|  |  |  |  |
| --- | --- | --- | --- |
| *Key Project Milestones* | *Dates* | *Key Project Milestones* | *Dates* |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

1. *\*Does the supplier have and understand the IATF 16949 Manual, AIAG or VDA, FMEA, SPC, Measurement Systems Analysis, PPAP, Control plan, Advanced Product Quality Planning (APQP) manuals, CQI Special Process Requirements (if required)?*

|  |  |  |  |
| --- | --- | --- | --- |
| *[ ]  Yes* |  | *Explain:* |        |

1. *\*Has the supplier provided all Preliminary Information (Flow Chart, BOM W/Planned Sub-Tier Suppliers, Mfg. Feasibility, Timing Plan)?*

|  |  |  |  |
| --- | --- | --- | --- |
| *[ ]  Yes* |  | *Specify planned date:* |       |

1. *\*Does the supplier have and understand BorgWarner’s Supplier Manual? Have Key Supplier Team Members completed BW Supplier Manual Training (please provide certificate of the training)? Are all BW Business Unit, BW Site Specific & End Customer Specific requirements understood?*

|  |  |  |  |
| --- | --- | --- | --- |
| *[ ]  Yes* |  | *Explain:* |       |

1. *\*Has BW and supplier reviewed CPM data from like parts and this specific supplier to assist in Lessons learned review?*

|  |  |  |  |
| --- | --- | --- | --- |
| *[ ]  Yes* |  | *Explain:* |        |

1. *\*Is the Supplier Design Responsible for the Part Number?*

|  |  |  |  |
| --- | --- | --- | --- |
| *[ ]  Yes* | *[ ]  No* | *Explain:* |       |

1. *\*Does the supplier have and understand ALL of the latest drawings & any additional specifications noted on the drawing?*

|  |  |  |  |
| --- | --- | --- | --- |
| *[ ]  Yes* |  | *Explain plans to obtain:* |       |

1. *\*Has the supplier been set up and trained on the BorgWarner APQP form (GSM-F032) or the eAPQP system?*

|  |  |  |  |
| --- | --- | --- | --- |
| *[ ]  Yes* |  | *Explain:* |       |

1. *\*Does the supplier understand ALL items (Tasks) listed on the APQP form (GSM-F032) or on eAPQP?*

|  |  |  |  |
| --- | --- | --- | --- |
| *[ ]  Yes* |  | *Specify completion date:* |       |

1. *\*Have the eAPQP Task Due Dates been assigned by BorgWarner and communicated to the supplier?*

|  |  |  |  |
| --- | --- | --- | --- |
| *[ ]  Yes* |  | *Specify frequency:* |  |

1. *\*Does the supplier understand the Early Production Containment (EPC) procedure (GSM-F018) and the expected length of time?*

|  |  |  |  |
| --- | --- | --- | --- |
| *[ ]  Yes* |  | *Explain:* |  |

1. *\*Does the supplier understand the difference between Contracted capacity and production Scheduled releases? Run @ Rate must be based on CONTRACTED capacity, NOT production schedule releases.*

|  |  |  |  |
| --- | --- | --- | --- |
| *[ ]  Yes* |  | *Explain:* |  |

1. *\*Are there any plans to change the manufacturing process or manufacturing location after initial PPAP? Has this plan been communicated to BW Purchasing to effectively manage issue with BW Customer?*

|  |  |  |  |
| --- | --- | --- | --- |
| *[ ]  Yes* | *[ ]  No* | *Explain:* |       |

1. *\*Has BW identified initial plant and or part specific packaging requirements or guidelines?*

|  |  |  |  |
| --- | --- | --- | --- |
| *[ ]  Yes* |  | *Explain:* |       |

1. *\*Have all packaging issues or concerns been identified? Examples: Overseas shipment, Warehousing, Dry Film RP required for weld or assembly, extra-long Shelf Life, etc.*

|  |  |  |  |
| --- | --- | --- | --- |
| *[ ]  Yes* |  | *Explain:* |       |

1. Has Supplier submitted initial proposals for packaging? To include both disposable and returnable packaging options. Note: Supplier responsible to clean returnable. VCI’s, etc. as required.

|  |  |  |  |
| --- | --- | --- | --- |
| [ ]  Yes | [ ]  No | Explain: |       |

1. Has error proofing and automation been considered and included in quoted price?

|  |  |  |  |
| --- | --- | --- | --- |
| [ ]  Yes | [ ]  No | If Yes, please list error proofing / automationIf No, explain plans to achieve quality requirements |       |

1. Is any new equipment, tooling, gage, special fixtures or test equipment needed to produce this part?

|  |  |  |  |
| --- | --- | --- | --- |
| [ ]  Yes | [ ]  No | Comment |       |

1. To the extent that REACH registration is required, has the supplier pre-registered all substances in the products that they intend to supply to BW and provided evidence of that pre-registration? (pre-registration number) Or, has the Supplier provided evidence that they will be pre-registered by the supplier or by a sub-supplier further down their supply chain?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| [ ]  Yes | [ ]  No | [ ]  Not Applicable | Pre-registration # |       |

1. Has the supplier notified BorgWarner of the presence of SVHCs (Substances of Very High Concern) with a concentration of 0.1% or higher by weight in products supplied to BW?

|  |  |  |
| --- | --- | --- |
| [ ]  Yes | [ ]  No | [ ]  Not Applicable |

1. Does the supplier have and understood BorgWarner’s traceability and cleanliness requirements?

|  |  |  |
| --- | --- | --- |
| [ ]  Yes | [ ]  No | [ ]  Not Applicable |

# SECTION 2. PRODUCT DESIGN / DEVELOPMENT

1. Has a Design Validation Plan (DVP) been completed & approved by BW Engineering?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| [ ]  Yes | [ ]  No | [ ]  Not Applicable | Specify planned date: |       |

1. Has the supplier reviewed the BW DVP and is aware of the performance requirements?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| [ ]  Yes | [ ]  No | [ ]  Not Applicable | Specify planned date: |       |

1. If communication link for math data exchange is needed have appropriate contacts been made?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| [ ]  Yes | [ ]  No | [ ]  Not Applicable | If No, Please explain: |       |

1. If BorgWarner is design responsible, has feedback been provided to assist in defining PFMEA Failure modes & severity levels?

|  |  |  |  |
| --- | --- | --- | --- |
| [ ]  Yes | [ ]  No | Specify planned date: |       |

1. If Supplier is design responsible, has a Design-FMEA been done in accordance to AIAG requirements? Are actions in place to reduce high RPNs? Has a review with the BorgWarner Engineer been completed?

|  |  |  |  |
| --- | --- | --- | --- |
| [ ]  Yes | [ ]  No | Specify planned dates: |       |

1. If supplier is responsible for system, has a system FMEA been completed and been reviewed by BW Engineering?

|  |  |  |  |
| --- | --- | --- | --- |
| [ ]  Yes | [ ]  No | Specify planned dates: |       |

1. Has a design review been done by the supplier and reviewed with the BorgWarner Responsible Engineer?

|  |  |  |  |
| --- | --- | --- | --- |
| [ ]  Yes | [ ]  No | Specify planned dates: |       |

1. Does the supplier understand the critical nature of dimensions that interface with the customer’s application of their mating parts?

|  |  |  |  |
| --- | --- | --- | --- |
| [ ]  Yes | [ ]  No | X-section provided to highlight interface features, etc.: |       |

1. Have Special Product Characteristics (SC’s) and Pass-Through Characteristics (PTC) been identified in the Special – Pass through Characteristic form (GSM-F024)?.

|  |  |  |  |
| --- | --- | --- | --- |
| [ ]  Yes | [ ]  No | List all Known SC’s & PTC’s: |       |

1. Is the supplier’s intended process and controls able to meet the capability requirements of the SCs & PTC’s? Material handling considered (nicks and dings) on interface features? List controls and drive RPN <40 or further actions to be considered?

|  |  |  |  |
| --- | --- | --- | --- |
| [ ]  Yes | [ ]  No | List all controls and RPN’s on SC&PTC Tab or similar form: |       |

1. Are there any Pre-Prototype/Prototype requirements?

|  |  |  |
| --- | --- | --- |
| [ ]  Yes | [ ]  No | List them in the space below: |

|  |  |  |  |
| --- | --- | --- | --- |
| Pre-Prototype/Prototype Material Required Date  | Quantity | Supplier Promised Date | Comments |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

.

1. Does Supplier understand document requirements for Prototype Samples Submission (GSM-F017)?

|  |  |  |
| --- | --- | --- |
| [ ]  Yes | [ ]  No | List them in the space below: e.g.: Control Plan, Dimensional Inspection requirements, etc. |
|  |  |  |
|  |  |  |
|  |  |  |

# SECTION 3. PROCESS DESIGN/DEVELOPMENT

#

##### Key APQP Activities

1. Has a plan been developed to ensure gage correlation? Common gages on key characteristics, splines, etc.?

|  |  |  |  |
| --- | --- | --- | --- |
| [ ]  Yes | [ ]  No | Explain: |       |

1. Borg Warner’s minimum required acceptance criteria for Special or Critical Characteristics are based on a 100pc measurement study and a Cpk of 1.33 and Ppk of 1.67. Are there any print, material specifications, or process control plan changes needed to meet these requirements?

|  |  |  |  |
| --- | --- | --- | --- |
| [ ]  Yes | [ ]  No | Explain: |       |

1. Has the supplier confirmed that their subcontractors, including directed buy subcontractors, will do the following?

. APQP

|  |  |  |  |
| --- | --- | --- | --- |
| [ ]  Yes | [ ]  No | Explain: |       |

. PPAP – Sub-Tier supplier must PPAP prior to Supplier PPAP

|  |  |  |  |
| --- | --- | --- | --- |
| [ ]  Yes | [ ]  No | Explain: |       |

. We are Ready / Run-at-Rate

|  |  |  |  |
| --- | --- | --- | --- |
| [ ]  Yes | [ ]  No | Explain: |       |

# SECTION 4.0 PPAP (Production Part Approval Process)

1. What is the lead-time for tooling:
2. After tool completion, (first parts off tools), what is the lead-time for PPAP submission?
3. Is additional lead-time required after PPAP approval to meet the Quoted Tool Capacity (QTC)?

|  |  |  |  |
| --- | --- | --- | --- |
| [ ]  Yes | [ ]  No | Explain: |       |

1. Does the supplier understand the requirements for Full PPAP (Including PV testing requirements)?

|  |  |  |  |
| --- | --- | --- | --- |
| [ ]  Yes | [ ]  No | Explain: |       |

1. Does the supplier know where to obtain the required forms for PPAP & has the PPAP Checklist requirements been reviewed?

|  |  |  |  |
| --- | --- | --- | --- |
| [ ]  Yes | [ ]  No | Explain: |       |

1. Define the number of samples to be submitted along with PPAP documentation (minimum of 3 per tool cavity).

 Total # of Samples:       Samples per Cavity:       Total # of Cavities:

1. Name the BorgWarner person that you will send PPAP documentation and samples to:
2. Will PPAP parts be produced from 100% production tools, equipment, gauging at the supplier production location?

|  |  |  |  |
| --- | --- | --- | --- |
| [ ]  Yes | [ ]  No | Explain: |       |

1. Does the supplier understand the We Are Ready procedure?

|  |  |  |  |
| --- | --- | --- | --- |
| [ ]  Yes | [ ]  No | Explain: |       |

1. Will the process utilize any shared capacity equipment?

|  |  |  |  |
| --- | --- | --- | --- |
| [ ]  Yes | [ ]  No | Explain: |       |

1. Fill in the following capacity assumption information related to Run @ Rate requirements:

|  |  |
| --- | --- |
| What is the Daily Contracted Capacity: |       |
| Number of tool sets required: |       |
| Number of machines/lines/cells required: |       |
| Capacity per tool set: |       |
| Number of work hours per day: |       |
| Number of shifts per day: |       |
| Number of days per week: |       |
| BW State length of time the Run @ Rate must be performed: |       |
| BW State number of shifts Run @ Rate must be performed |       |
| BW State other specific Run @ Rate verification parameters: |       |

# SECTION 5.0 – SUPPLIER QUALITY PERFORMANCE

1. Does the supplier understand the procedures that apply when problems occur at a BorgWarner plant? (CPM’s, Controlled Shipping level 1 & 2, New Business Hold)

|  |  |  |  |
| --- | --- | --- | --- |
| [ ]  Yes | [ ]  No | Explain:  |       |

1. Has supplier been set-up to have access to Extra ICE?

|  |  |  |  |
| --- | --- | --- | --- |
| [ ]  Yes | [ ]  No | Explain:  |       |

1. Does the supplier know how to navigate Extra ICE and obtain the monthly Supplier Scorecard?

|  |  |  |  |
| --- | --- | --- | --- |
| [ ]  Yes | [ ]  No | Explain:  |       |

1. If current Supplier, does the supplier have any open CPM’s? What is current Supplier PPM Performance? Review Scorecard.

|  |  |  |  |
| --- | --- | --- | --- |
| [ ]  Yes | [ ]  No | Explain:  |       |

1. If a Technical Site Assessment was conducted, have open action items been reviewed?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| [ ]  Yes | [ ]  No | [ ]  Not Applicable | If No, Please explain: |       |

# SECTION 6.0 – SUPPLIER & BORGWARNER’S APPROVAL

|  |
| --- |
| **In order to approve this documents items highlighted in “*Italics*” must be completed and agreed to. Item #1-6, 8-13, 15, & 16 must have a positive (“Yes”) response. #7 & #14 may be “Yes” or “No”, but requires a documented response** |
|  |
| **Date:**  |       |
|  |
| **BORGWARNER Attendees:** | **Supplier Attendees:** |
|  |  |
| Commodity Specialist / Buyer Representative  | Quality Manager |
|       |       |
| Supplier Development Representative | Program Manager |
|       |       |
| Advanced Purchasing Representative | Manufacturing Engineer |
|       |       |
| Product/Design Release Engineer (DRE) | Quality Engineer |
|       |       |
| Program Launch Leader / Manager | Sales Manager |
|       |       |
| Other | Other |
|       |       |