Manual Document

Topic: Supplier dkPAP Manual

Responsible Department: Global Q

Supplier dkPAP (dormakaba Part Approval Process) Manual

[Version No. 1]

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1.0 Introduction

At dormakaba our vision is to become the trusted partner worldwide for safe, secure, and sustainable places where people can move seamlessly. We reimagine access to enhance customer value and experience for a sustainable building lifecycle. This can only be achieved through our commitment to continual improvement and rigorous quality processes both internally, and externally through our trusted supplier partnerships.

To ensure strong partnerships and the success of our supplier quality, we have implemented a robust dormakaba Part Approval Process (dkPAP). This manual has been prepared for suppliers and internal team members to understand the requirements, process and approval of dkPAP. Suppliers shall only deliver approved dkPAP parts which meet the contracted design and capability requirements.

For the latest and valid version of dkPAP documents and templates please visit:

For external access: dkPAP workbook.xlsm
Global dk access: dIMS Portal

Thank you for your efforts today and every day to meet and exceed our expectations and satisfy our mutual customers. It is through strong partnerships with aligned suppliers that we will both succeed and outperform in the market. We look forward to working with you on fulfilling our vision…for every place that matters!

2.0 Scope & Purpose

This dkPAP manual applies to all dormakaba manufacturing suppliers, internal and external, who provide direct products including but not limited to finished goods, production parts, service parts, sub-contract operations, assemblies, and packaging. The information in this manual will be critical to ensure a successful dkPAP.

The purpose of dkPAP is to reduce the risk of failure prior to the release of products or services into production. We expect our suppliers to present evidence serial parts can be produced within the specification while maintaining a stable production process. We validate that design records and specification requirements are properly understood and fulfilled by the manufacturing process.

3.0 Definitions

8D report: Standard Template to document and track a complaint through 8 phases until root cause is identified, and irreversible countermeasures are installed and evaluated, to avoid repetitive non-conformities.

Approved Supplier: A supplier who has been evaluated by dormakaba according to the supplier selection process and added to the Approved Supplier list.

AQL: Acceptance Quality Limit. Is a method to check a random sample from the production batch of their products and confirm that the risk of bad quality is relatively low. In ISO 2859-1, the AQL is defined as the “quality level that is the worst tolerable.” It represents the maximum number of defective units, beyond which a batch is rejected. Importers usually set different AQLs for critical, major, and minor defects. For example: “AQL is 1.5%” means “I want no more than 1.5% defective items in the whole order quantity, on average over several production runs with that supplier. The inspector accepts a certain amount of risk to make the wrong decision based on the imperfect information coming from checking only a sample of the whole batch.

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Boundary Samples: Especially for appearance topics it is highly recommended to prepare, agree to and sign various sample parts, showing the minimum acceptable standard for the customer. This is very important for gaining same understanding, avoid interpretation room regarding specification and may support to calibrate sorting activity criteria.

CAR: Corrective Action Request. The process utilized to drive root cause and corrective action related to product or process nonconformance. The CAR is issued by dormakaba to the supplier, and will serve to track the activity from issuance to closure. The standard for documentation is the dormakaba 8D report template.

Critical To Quality (CTQ): Characteristic that has a significant risk to the quality of the part. It must be documented in the control plan with quality planning actions to prevent defects. t. The designation for a critical characteristic shall be indicated on an engineering drawing. All safety characteristics are critical characteristics.

Engineering Change Request (ECR): Process to evaluate need for any technical or material change on the specification, drawing, etc.; process can be triggered by supplier or also internally.

EDI: Electronic Data Interchange. The transfer of data between different companies using networks, such as a Value Added Network (VAN), or the Internet.

Failure Mode and Effects Analysis (FMEA): Failure Mode and Effects Analysis: A preventive analytical technique to methodically study the cause and effects of potential failures in a product or a process. The product or process is examined for all the ways in which a failure can occur. For each potential failure, an assessment is made of its effect on the system and its seriousness, and a review is made of the action being taken (or planned) to minimize the probability of failure to minimize the effects of the failure.

GR&R: Gauge Repeatability and Reproducibility. Variation in measurements contributed by gauge or test equipment, specifically:

- **Repeatability -** Variation in a measurement system caused by the combined sources of measurement variation of a gauge or test equipment when used by one operator or under one set of environmental conditions.
- **Reproducibility -** Variation in measurement averages when more than one operator or set of environmental conditions are imposed on the gauge or piece of test equipment.

ISO: International Organization for Standardization

Maintainability: The probability that a given maintenance action for an item under given conditions can be performed within a stated interval when the maintenance is performed under stated conditions using stated procedures and resources. Maintainability has two categories: serviceability, the ease of conducting scheduled inspections and servicing, and repairability, the ease of restoring service after a failure.

NCM: Nonconforming Material. Any material that does not meet dormakaba design and performance specifications. A Quality Notification (QN) record is generated to document the defect(s) and disposition of the non-conformance**:** Product Development.

dkPAP: dormakaba Part Approval Process. Structured approach to validate a suppliers' processes to effectively produce dormakaba products repeatedly to specification. First parts out of final serial process are submitted to dormakaba for approval and to proceed with starting or ramping up deliveries.

PPM: Parts Per Million: A measurement of the defect rate in a product.

$$\left(\frac{Number\ of\ Defective\ Parts}{Total\ Number\ of\ Parts\ Shipped}\right) * 1{,}000{,}000 = PPM$$

Process Capability (Cp): The maximum amount of variation inherent in a manufacturing process: "Improving process capability," means taking steps to limit the amount of variation to defined acceptable limits and thus bring a process into statistical control.

Process Capability Index: (Cpk) Statistical measurements of the process capability in terms of its design specifications (limits) and performance (variability). Used in quality control, Cpk takes into account both accuracy (centring) and precision (dispersion) and helps determine the cause of failures and the need for changes in the product design, tooling, or the manufacturing process. Higher the Cpk value, greater the indication that the **process is consistently under control** (is within limits). A Cpk value of 1.33 is considered the minimum acceptable and as it nears 2.0 the process approaches the six sigma value meaning there are maximum 3.4 defective units out of one million produced.

Reliability: The probability of a product performing its intended function under stated conditions without failure for a given period of time.

SDR: Supplier Deviation Request: This form is used to document and request approval for any product or process deviations, and must be submitted by the supplier**,** and approved by dormakaba ***prior*** to shipping products with any such deviations to dormakaba.

SPC: Statistical Process Control. A method of monitoring an important process using control charts.

Total Cost: The cost for use of a product or service, comprising initial price, any cost of use and any costs of poor quality.

4.0 dkPAP Process

dkPAP requirements for submission will vary based on the submission level assigned to the particular part. dormakaba's internal team is responsible for determining the submission level, and procurement will inform the supplier of the requirements on the Submission Checklist.

The Supplier is responsible to complete the corresponding worksheets for each requirement and electronically submit the dkPAP to the procurement contact for approval along with sending any requested samples. The dkPAP and applicable samples will then be reviewed internally. dkPAP samples are collected from parts which came from a significant production run, and produced on the same equipment and processes which will be used during serial production. Parts which are measured and submitted with the dkPAP workbook are to be collected via random sampling from the beginning, middle and end of the production run.

The three possible outcomes for a dkPAP submission are as follows:

- **Approved**: If the parts conform to the drawing and capability requirements and all required documentation has been submitted, the parts will be accepted. The supplier will be informed of this decision through receipt of the signed Part Submission Warrant (PSW).
- **Rejected/Resubmit**: If the parts do not conform, or the requirements of the dkPAP have not been fulfilled, the supplier will be notified of the rejection and need for resubmission.

- **Conditional Approval**: Occasionally dormakaba may issue a Conditional Approval, which will enable the parts to be used as is, while still requiring additional action to be taken to achieve a full approval. Conditional approval could result in the issuing of a deviation in order to utilize parts which have already been produced.

The Supplier will be notified of the decision and any additional requirements by procurement and are required to act accordingly to ensure timely approval of a dkPAP and mitigate potential supply chain issues due to delays. Any changes that occur to the production process, equipment, or tooling after the submission and/or subsequent approvals of the dkPAP, are then considered new changes triggering a resubmission of the dkPAP. If dormakaba identifies that changes have occurred after dkPAP approval, without the formal notice and submission of dkPAP, we will take subsequent corrective actions which could result in a supplier audit and rejection of material.

dormakaba reserves the right to request any information that has been provided in the dkPAP at any time, including after the approval has been granted. We also reserve the right to require recertification at any time. The expectation is that our suppliers are manufacturing parts and designing production processes to be robust not just for the launch of the product, but for the life of the product. dormakaba reserves the right, at any time throughout the life of the product, to request evidence of this ongoing conformance.

5.0 Reasons for dkPAP

dkPAP is required for new parts or existing parts that undergo change. If the supplier is purchasing components from sub-tier suppliers, it is our expectation that the supplier will receive and submit the required dkPAP documentation to us from the sub-tier supplier and address any non-conformities directly with them.

The following types of changes require advance submission of dkPAP for approval:

- New part
- New Supplier
- New, additional, or modified tooling
- Tooling, production, or equipment transfer
- Change of sub-tier supplier or non-equivalent materials
- Product or process changes on components of a product
- Change in test or inspection method
- Bulk Material new source of raw material
- Change in product appearance attributes
- Change in production process or method
- Facility transfers or relocations

It is the supplier's responsibility to notify dormakaba in advance of any of the above changes with adequate time to submit and process the dkPAP. Failure to do so runs the risk of interrupting the supply chain and causing unplanned downtime.

Once a Supplier has notified dormakaba of the change, we will send the required dkPAP workbook to the supplier for electronic submission.

6.0 Requirements of dkPAP

There are 17 different dkPAP requirements and four submission levels which determine the specific requirements needed:

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dkPAP Levels of Submission	
Level 1	PSW only submitted to dormakaba
Level 2	PSW with product samples and limited supporting data
Level 3	PSW with product samples and complete supporting data
Customize	PSW and other requirements as defined by dormakaba

S/N	Requirements Matrix	Level 1	Level 2	Level 3	Customize
1	Design record/ Drawing	x	x	x	x
2	Design FMEA		x	x	x
3	Process FMEA		x	x	x
4	Control Plan		x	x	x
5	Measurement System Analysis (MSA)			x	x
6	Dimensional Results	x	x	x	x
7	Material Test Results			x	x
8	Performance Test Results	x	x	x	x
9	Statistical Analysis & Capability			x	x
10	Post dkPAP Run @ Rate			x	x
11	Appearance Approval	x	x	x	x
12	Master Sample			x	x
13	Tooling Information Form		x	x	x
14	Packaging Form			x	x
15	Checking Aids			x	x
16	Software/ Firmware Change Validation		x	x	x
17	Part Submission Warrant (PSW)	x	x	x	x

NOTE:**Subject to type of supplier and different set of documents needed.

Level 1 dkPAP: Submission of Warrant Documentation

At level 1, the supplier is required to submit the warrant documentation, which includes basic information about the part or component, such as part number, description, and engineering change level. This level serves as an initial submission to confirm that the supplier has a basic understanding of the dkPAP process and can provide the necessary documentation.

Level 2 dkPAP:- PSW with product samples and limited supporting data

Level 2 involves the submission of a part submission warrant (PSW) and product samples. The PSW provides a comprehensive overview of the part or component, including details about the manufacturing process, testing methods, and measurement systems used. The product samples allow dormakaba to physically inspect and evaluate the quality and conformance of the parts

Level 3 dkPAP:- PSW with product samples and complete supporting data

Level 3 takes the requirements of Level 2 further by adding supporting data to the submission. This includes all 17 PPAP documents that demonstrates the capability of the manufacturing process to consistently produce parts that meet specifications.

Customize dkPAP:- PSW and other requirements as defined by dormakaba

Customize dkPAP requires the supplier to provide all 17 documents/ agreed documents and additional dormakaba specific requirements to be fulfilled.

7.0 Submission Checklist

dormakaba will identify all the requirements for the dkPAP by using the Submission Checklist. This submission checklist will serve as a cover page for the submission and ensure that the Supplier agrees to all requirements requested in the checklist. This checklist will serve as an organizational and communication tool for suppliers to use when completing their dkPAP submission.

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This submission checklist is divided into 3 key sections (identified on the image for additional guidance):

dormakaba Part Approval Process (dkPAP) Submission Checklist

For dormakaba team to complete:				For Supplier to complete:	
Drawing Number:				**Supplier Name:**	
Drawing Revision:				**Supplier Location:**	
Material # (SAP if applicable):				**Supplier Contact Name:**	2
Material Description:		1		**Supplier Contact email:**	
dk Supporting Engineer:				**Supplier Part Reference #:**	
dk Supporting Procurement:				**dk Supporting Procurement:**	
dk Supporting Quality:					
dkPAP Creation Date:				Submission Documents	17
dkPAP Due Date:					
dkPAP Reference # (if applicable):					
Reason for dkPAP	New Part	Part Contains CTQ?	YES		
Submission Level	Level 3	Part Contains SW/FW?	NO		
Required Level	Level 3	# of Samples Required:	(insert qty)		
		Sample PO#:	(insert PO#)		

#	Requirements Matrix	Level 1	2	3	C	Descriptions and Clarifications: Hover over the cell for a more detailed definition of the requirement.
1	Design record / drawing	✓	✓	✓		Include one clean copy of the current approved revision bubble print drawing.
2	Design FMEA		✓	✓		Required right of access only if supplier is responsible for part design.
3	Process FMEA		✓	✓		Process steps in FMEA must match Process Control Plan and address all characteristics associated with each operation.
4	Control Plan		✓	✓		Control Plan outlining all the controls in place within the process.
5	Measurement System Analysis (MSA) GR&R		✓	✓		Analysis of measuring tools for all inspection points identified in the Control Plan and used to measure CTQ's.
6	Dimensional Results		✓	✓		Measurement results of all dimensions on the ballooned drawing provided in 1. Insert directly into excel workbook.
7	Material Test Results		✓	✓		Certificates of Analysis for alll primary raw materials such as chemicals, plastics, metals and rubbers as example
8	Peformance Test Results			✓		Performance testing requirements and deliverables
9	Statistical Analysis & Capability			✓		Statistical analysis and process capaibility on a minimum 30 piece sample run must be performed on all critical to quality (CTQ) dimensions of the part.
10	Post dkPAP Run at Rate Pilot Run			✓		Review of production run at rate samples for submittal in larger quantities. Number of parts required
11	Appearance Approval	✓	✓	✓		Method tbd, Only required for parts with color, grain, or other cosmetic requirement(s) specified on the part print.
12	Master Sample			✓		A master sample is a final sample of the product that is inspected and signed off by the customer
13	Tooling Information Form		✓	✓		Required for all dormakaba owned tooling
14	Packaging Form		✓	✓		Used to outline and verify both external and internal packaging requirements including any related testing.
15	Checking Aids			✓		Used to document all part specific check aids (for assemblies or components)
16	Software/Firmware Change Validation			✓		A complete programming verification with the expected values and verified values to be included for SW/FW changes
17	Part Submission Warrant (PSW)	✓	✓	✓		A completed dormakaba PSW warranting the part/material meets all applicable specifications and standards is required for all parts.

3

1. For dormakaba team to complete: This section will be completed by the dormakaba supporting engineer, procurement and quality team members and outline the details such as drawing number, drawing revision, material number, creation and due date as well as the reason for the dkPAP and required level. In addition the team will provide the number of required sampled and reference purchase order number for those samples.

2. For Supplier to complete: This section will be completed by the supplier and identify key pieces of information such as the location, supplier contact name and email as well as any supplier part reference # for your own internal records.

3. Requirements Matrix: This section will highlight the required level and necessary sheets to be completed with the submission. All requirements that contain a ✓ beside them are required to complete the corresponding tab in the workbook. Requirements with an E beside them must allow dormakaba right of access.

4. Key elements to the submission checklist are as follows (identified on the image for additional guidance):
   a. dkPAP Due Date: This is the date that we request to have back the complete workbook submission. This will be determined by dormakaba and communicated on this checklist.
   b. Required Level: This is the required dkPAP level that must be prepared and submitted for this material and change. This will be determined by dormakaba and communicated on this checklist.
   c. Part with CTQ: This section identified if the part being submitted for approval contains any critical to quality dimensions. If the answer is YES then the submission will then require #6. MSA GR&R and #10. Statistical analysis & capability, prompting a 30-piece study to be performed, regardless of the level of submission. This will be determined by dormakaba and communicated on this checklist.
   d. # of Samples Required: This section will indicate the number of samples requested from the supplier to be shipped to dormakaba for analysis. The preference is that the supplier will send us the same samples which were used during the supplier's internal analysis. This will be determined by dormakaba and communicated on this checklist, along with the submission of the sample PO.

e. Supplier Contact Name: This is the supplier contact who is responsible for the quality of the dkPAP submission and can be contacted in case of questions or discrepancies identified upon our review of the submission. This will be determined by the supplier and communicated on this checklist along with their email.

f. Level: This portion of the submission checklist will highlight the level that was determined in step b above. All requirements which contain a ✓ require that the corresponding workbook sheet (detailed in g) be completed. Requirements with an E must allow dormakaba right of access.

g. Requirements workbook sheets: These are the corresponding pages which must be completed for the requirements identified in f. The sheets highlighted in BLUE are required to be completed within the workbook and sent electronically as a complete worksheet upon completion.

8.0 Design Record / Drawing

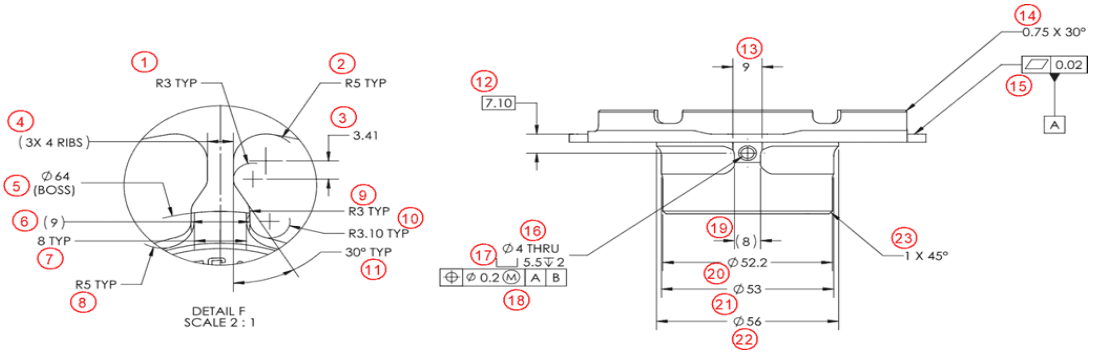
The design record is a documented part print and include any supplementary engineering documents for reference. dormakaba furnishes all design records to the supplier. The records may include a 2D drawing, BOM and a 3D model.

Design Record Drawing

Material:		
Drawing Number:		
Drawing Revision:		
Prepared By:		
Date:		

8.1 2D Drawing

Each Critical To Quality (CTQ) feature in the 2D drawing is assigned a unique identification number. Measurement results should be paired with the corresponding numbering. The notes field in the 2D drawing specifies the nature of key product dimensions.



8.3 Critical To Quality (CTQ) Features, Characteristic Definitions:

CTQ is the key measurable characteristic(s) of a product or process whose performance standards or specification limits must be met in order to satisfy the customer. These are typically the most important characteristics of the part design.

- A critical PART requirement specified on a controlled document (typically an engineering drawing, specification, or performance requirements)
- A critical PROCESS requirement identified by the Customer, dormakaba, or the Supplier

- Directly represents the safety, regulatory, or primary functional performance requirements by the end customer or business
- Requires verification of part conformance during first production
- Requires documented evidence of process control to maintain part conformance through the production life of the product.
- Critical to Quality characteristics are those features that most affect the outcome of a product or process. CTQ controls must be designed and implemented as part of your company's advanced quality planning. Special attention is required during this phase to identify and control variables that affect the conformance of the product.
- dormakaba expectation is that you will address all CTQs in the control plan and ensure that you have a robust process for consistently achieving all CTQ requirements as they are defined in the dormakaba part print. Each division will have its own CTQ designation methodology. Please refer to your dormakaba Representative with any questions.
- Parts which contain critical to quality (CTQ) characteristics will require 6. Measurement System Analysis (MSA) and 10. Statistical Analysis & Capability.
- dormakaba requires capability studies for all CTQ and any process related characteristics that either you or dormakaba identify as critical. This section is mandatory even if there are no CTQs on your part print because there are critical elements and characteristics of the process that manufactures the part.
- As a supplier developing product for dormakaba, your team may discover processes, and sometimes additional product characteristics, that are critical to part performance. Even if the print does not clearly define any CTQs, dormakaba expects that suppliers will identify CTQs for their processes and methods.

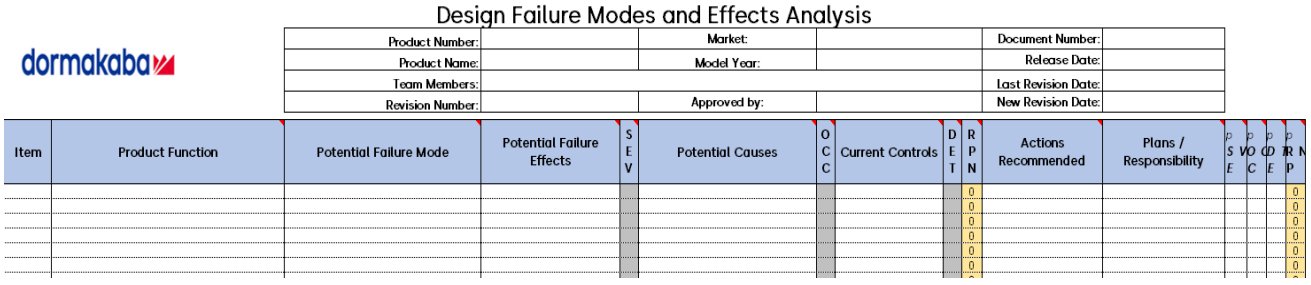
9.0 Design Failure Mode and Effects Analysis (DFMEA)

The FMEA shows evidence that potential failure mode and their associated risks have been addressed in order to eliminate or minimize their effects through product design changes and improvements. DFMEA is only required when the part is designed by the supplier and must address all Critical to Quality characteristics and any potential voice of the customer inputs identified by dormakaba.

The date on the DFMEA should show release prior to print release. Severity, Occurrence, and Detection ratings are used when performing FMEA activities. These rating scales should be compliant with the industry guidelines for FMEA, and definitions are included in the DFMEA worksheet as well as this procedure.

Any potential failure mode not mitigated in the Design FMEA should be included in the Process FMEA also included on the dkPAP worksheet. Any potential failure mode with a severity ranking of 9 or 10 must be addressed with a corrective action plan. Potential failure items in the top 25% high RPN ranking should have corrective action items addressing the potential failure mode.

Organizations that have already developed a DFMEA or PFMEA can submit that as part of their dkPAP submission. For organizations without a DFMEA or PFMEA, sample forms can be provided from your dormakaba representative.



Design Failure Modes and Effects Analysis

dormakaba

Product Number:		Market:		Document Number:	
Product Name:		Model Year:		Release Date:	
Team Members:				Last Revision Date:	
Revision Number:		Approved by:		New Revision Date:	

Item	Product Function	Potential Failure Mode	Potential Failure Effects	SEV	Potential Causes	OCC	Current Controls	DET	RPN	Actions Recommended	Plans / Responsibility	pSE	pVOC	pOCC	pDET	pRPN
									0							0
									0							0
									0							0
									0							0
									0							0
									0							0

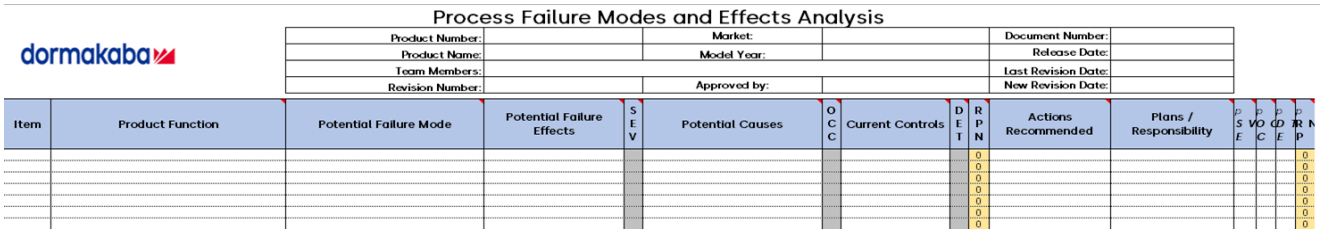
Example of DFMEA

9.1 Completing the DFMEA

dormakaba form or equivalent can be used when completing the DFMEA. The DFMEA supports the design process by reducing the risk of failures. The DFMEA should be initiated before the design concept is finalized. Each item/function needs to be addressed. Any potential failure mode of the item/function should be defined as completely as possible. Recommended actions should be recorded.

10.0 Process Failure Mode and Effects Analysis (PFMEA)

The Process FMEA is used to show evidence that any potential failure modes and risks have been assessed at the manufacturing process level. Process FMEA's can be submitted in the dormakaba format or any industry compliant format. Like the DFMEA, it also contains the latest rating definitions for FMEA.



Process Failure Modes and Effects Analysis

dormakaba

Product Number:			Market:				Document Number:										
Product Name:			Model Year:				Release Date:										
Team Members:							Last Revision Date:										
Revision Number:			Approved by:				New Revision Date:										

Item	Product Function	Potential Failure Mode	Potential Failure Effects	SEV	Potential Causes	OCC	Current Controls	DET	RPN	Actions Recommended	Plans / Responsibility	p SEV	p OCC	p DET	p RPN
									0						0
									0						0
									0						0
									0						0
									0						0
									0						0
									0						0

A PFMEA should be performed for every part, piece of equipment, or process involved in manufacturing. PFMEA is a cross-functional activity that is performed internally, updated routinely, and reviewed periodically.

dormakaba requires that any severity ranking of 9 or 10 be addressed with a corrective action plan. Furthermore, potential failure items in the top 25% of the high RPN ranking items must have action items addressing the potential failure mode. This in turn will lower the re-calculated RPN value for that failure mode. Any high RPN process concerns should be carried over and addressed in the Control Plan. All critical failure modes must be addressed.

10.1 Completing the PFMEA

dormakaba form or equivalent can be used when completing the PFMEA. The PFMEA worksheet is a tool used to identify and show potential risks associated with the manufacturing processes of each part. It also highlights the controls associated with each process. Each process step/function should be identified with an action plan to address the process failure mode. All high RPN process concerns should be carried over to the Control Plan.

The recommended actions in any FMEA should address the initial high RPN numbers to minimize risk in the manufacturing process. The goal is to drive the final RPN number as low as possible.

Inconsistencies can occur when members of the FMEA cross-functional team are not trained. Several organizations provide good training on both DFMEA and PFMEA. In addition, there are manuals available in the industry to reference for comprehensive details on FMEA and can be purchased through various website. There are also additional trainings that you or your team can attend. Your dormakaba representative can also assist with any questions concerning FMEA. Below is a list of some of the more common mistakes made when performing FMEAs and should be avoided when performing the activity. It is recommended that you review this list with your team prior to performing FMEA.

11.0 Control Plan

A Control Plan defines the operations, processes, materials, equipment, methodologies, and CTQs (as determined by dormakaba) for controlling variations in key product or process characteristics integral to the manufacturing process. The purpose is to communicate the supplier's decisions during the entire manufacturing process from materials purchase through final shipping. Specifically, the Control Plan should address the following:

- Methods of production
- Identification of CTQ characteristics' controls
- Secondary or outsourced operations
- Materials and their physical and chemical characteristics
- Types of process equipment at each operation
- Types of test equipment used to measure each characteristic
- Specifications, audits, sampling strategy, control and reaction methods used
- Periodic conformance testing and product verification

All processes must have a Control Plan that defines all methods used for process control and complies with the customer-specified requirements. The Control Plan must clearly state each step in the process; the specification and all CTQs must be addressed for product and process.

11.1 Completing the Control Plan

Completing the Control Plan is a straightforward process where the supplier documents all materials and processes involved in the manufacturing process from start to finish. The Process Flow Diagram and Ballooned Drawing provide inputs to the Control Plan. All CTQs identified as Process, First-Piece, or Safety Related by the supplier must be listed on the Control Plan form. Additionally, the supplier will list decisions that are foreseen to affect the outcome of production.

A Control Plan should address all testing requirements, inspections, and measurements that are required to make a quality product. Suppliers should also include other details they know to be vital in the process. The Control Plan cannot be excessively dependent on visual inspection and should utilize prevention techniques wherever possible. The Control Plan can be submitted on the dormakaba supplied form or any industry compliant format.

For new designs, the Control Plan should be developed in stages from prototype through production. Early planning on the Control Plan will usually result in a more robust process. Suppliers should develop a pre-launch Control Plan early in the development of a new product and submit it to their dormakaba representative for feedback. This will allow both the supplier and dormakaba to troubleshoot and finalize the production level Control Plan early and avoid unexpected costs or delays. dormakaba may also request that you provide specific documents required at dkPAP early in the development phase and the most common ones are the PFMEA and a pre-launch Control Plan.

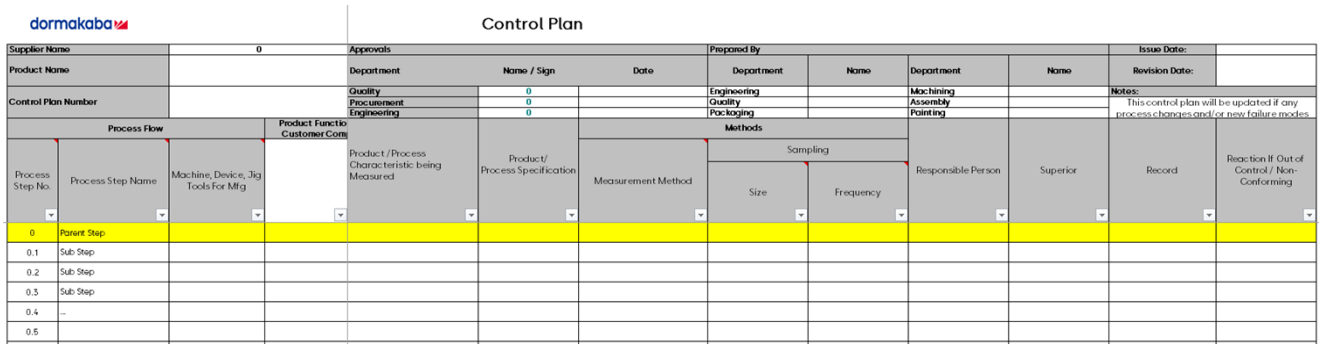
It is vital the Control Plan describes the actions required within the manufacturing process flow to ensure that all process outputs are in control and that every step in the process requiring disposition has a defined

"Control Method" and "Reaction Plan" outlined. This includes all forms of testing, inspection, measurement, and process setup. The "Reaction Plan" should clearly define any contingency planning that may need to be addressed during the manufacture of the product.

Finally, the Control Plan should be a living, active part of your overall quality system. dormakaba prefers that all suppliers develop the Control Plan methodology as part of their everyday practice and Quality System. Control Plans should not be developed just for a dkPAP submission. In the event of a supplier issue, the Control Plan will typically be requested by dormakaba.

Therefore, it is in the best interest of all suppliers to embrace the overall concepts that develop from implementing a robust Control Plan. dormakaba may also request that a specific **pre-launch Control Plan** be developed that minimizes the overall risk of specific product concerns during the launch phase. Unless otherwise requested, the Control Plan for all dkPAP submissions is the "production" Control Plan.

The Control Plan methodology is a common industry standard. In the event a supplier does not have a Control Plan template, the dormakaba template can be used.



dormakaba

Control Plan

Supplier Name	0	Approvals			Prepared By				Issue Date:	
Product Name		Department	Name / Sign	Date	Department	Name	Department	Name	Revision Date:	
Control Plan Number		Quality	0		Engineering		Machining		Notes:	
		Procurement	0		Quality		Assembly		This control plan will be updated if any process changes and/or new failure modes	
		Engineering	0		Packaging		Painting			

Process Flow			Product Functio Customer Conn			Methods						
							Sampling					
Process Step No.	Process Step Name	Machine, Device, Jig Tools For Mfg		Product / Process Characteristic being Measured	Product/ Process Specification	Measurement Method	Size	Frequency	Responsible Person	Superior	Record	Reaction If Out of Control / Non-Conforming
0	Parent Step											
0.1	Sub Step											
0.2	Sub Step											
0.3	Sub Step											
0.4	..											
0.5												

12.0 Measurement System Analysis (MSA)

MSA is a mathematical method of determining how much the variation within the measurement process contributes to overall process variability. MSA is used to ensure that the acceptable measurement system is used for running production. Detail on MSA can be found online, which defines guidelines for stability, bias, linearity, repeatability, and reproducibility.

dormakaba requires an analysis of the capability of all measurement tools identified in the Control Plan (in-process and offline gages). The requirement for dormakaba Suppliers is to perform a ***Gage R&R*** study using ***Total Tolerance*** on each measurement tool. The percentage R&R should be 10% or less.

A **Gage Repeatability and Reproducibility (GR&R)** Study is used to ensure that measurements used in the manufacturing process are reasonably consistent regardless of how many times they are performed, or who performs them. GR&R studies can be useful to suppliers in that they can identify equipment that is in need of service, or operators who may need additional training on the equipment.

A GR&R may be submitted for devices measuring data on CTQs and for each measurement device on all Level C submissions. Guidelines for dormakaba Suppliers performing GR&R are:

- dormakaba has established a procedure that lists recommended measurement systems based on the characteristic being measured and the total tolerance involved. The intent is to eliminate any variation in the selection of measurement methods and standardization of the methods between the supplier and dormakaba.

- dormakaba requires an analysis of the capability of **ALL** measurement tools identified in the Control Plan *(in-process and offline gages)*. The minimum requirement for dormakaba Suppliers is:
    - % R&R at 10% or less for CTQs
    - Marginal gages (between 10% and 30%)*
    - Gages with R&R at 30% or more cannot be used

***Important: Marginal Gages with 10 - 30% error need an action plan to address and improve the method of measurement.**

Below is a table showing the percentage breakdown for acceptance from the study.

GR&R TOL% < 10	Pass - Gage System is Useable
10 GR&R TOL% 5- 30	Gage System is useable but marginal
1 GR&RTOL% > 30	Fail - Gage System is Unstable

Completing the GR&R Multiple Worksheet

Complete using dormakaba short form, long form, or equivalent. If using the dormakaba forms, follow instructions below.

The individual completing the GR&R Multiple worksheet should fill out the data at the top of the sheet as appropriate. The Gage Type/Name, Gage ID or Control Number, and Unit of Measure should be entered. "USL" and "LSL" values should be entered based on the specifications and tolerances for the feature as listed on the ballooned drawing.

dormakaba

MSA GR&R

Material:	0
Drawing Number:	0
Drawing Revision:	0
Prepared By:	
Date:	

Instructions for this form:
1) Type only in the shaded blocks.
2) If using coded data, be sure to write in the "Total Tolerance" in coded form.

Note: "Total Tolerance" and "Operator Names" MUST be filled in for the form to work properly!!

Gage Name:		Part No.:		Performed By:	
Gage No.:		Part Name:		Operator A:	
Graduations:		Operation No.:		Operator B:	
Zero Equals:		Characteristic:		Operator C:	
Unit of Measure:		Specification:		Area:	
		Total Tolerance:		Date:	

Instructions:
1) Select 10 parts at random and number them 1 through 10. (5 parts may be used if necessary)
2) Have two or three operators measure each part independently, two or three times each. Record results below.
3) Analyze the results to determine variability due to both Repeatability and Reproducibility.

Operator A:					Operator B:					Operator C:				
Sample Number	Replications 1	2	3	R	Sample Number	Replications 1	2	3	R	Sample Number	Replications 1	2	3	R
1					1					1				
2					2					2				
3					3					3				
4					4					4				
5					5					5				
6					6					6				
7					7					7				
8					8					8				
9					9					9				
10					10					10				
Totals					Totals					Totals				
Means					Means					Means				
	$Xbar_1$	$Xbar_2$	$Xbar_3$	$RbarA$		$Xbar_1$	$Xbar_2$	$Xbar_3$	$RbarB$		$Xbar_1$	$Xbar_2$	$Xbar_3$	$RbarC$
	$XbarA = \frac{+ Xbar_2 + Xbar_3}{\text{Replications}}$					$XbarB = \frac{+ Xbar_2 + Xbar_3}{\text{Replications}}$					$XbarC = \frac{+ Xbar_2 + Xbar_3}{\text{Replications}}$			

This worksheet is appropriate for 2-3 operators. You must enter an operator name or ID for the results to be counted.

The worksheet is also designed for two to three trials. (Two is the minimum to establish repeatability, three is preferred.) Ten sample parts should be selected and tested to act as a reference standard.

All operators will use these same ten parts. Also, all operators will use the same gage, and the gage will be reset before each measurement is taken. If the reference standard parts have unique identifiers you can enter them into the "Part #" column. Once all the data is entered, the Disposition will reflect either "Pass", "Marginal", or "Fail". Even when a GR&R shows that your gage system is passing or useable, an examination of the graphs can aid in refining your gage system.

For instance, if one operator's results aren't consistent with the other two, then one or more of the operators may need retrained on proper use of the gage. If all three operators show consistent deviations from mean, the reference standard part itself may be the problem.

13.0 Dimensional Results

The Dimensional Results are documented on the Dimensional Data Sheet (Measurement Data Form or equivalent). The measurements on this form shall correlate with the Balloon Drawing.

The purpose is to show conformance to the dormakaba part print on dimensions and all other print requirements. Non-dimensional requirements may be addressed in the Material and Performance Test sections of the dkPAP submission.

dormakaba requires a full dimensional layout of the part on all Level 3 dkPAP submissions.

The parts used for dimensional data must be from production tooling and randomly sampled from a run at production rate. The dimensional report must address all of the following: All dimensions, All applicable notes for attribute and variable data, Any dimensions contained on reference prints as

requested by dormakaba, Tolerances that include bonus points for Geometric Dimensioning & Tolerancing (GD&T) callouts.

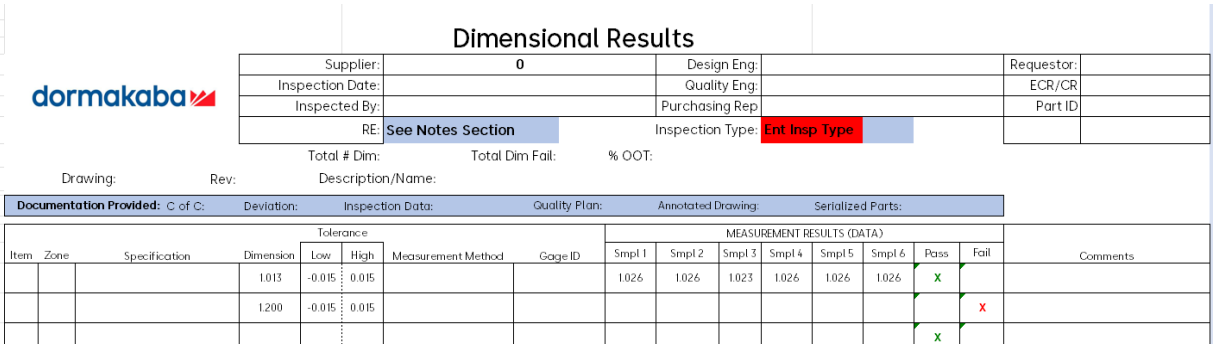
Sample Requirements:

- Single Cavity Mold: The minimum number of parts to measure for the dimensional element is 5 parts. All 5 parts should be identified with the corresponding number on the part or the tag.
- Multiple Cavity Molds: The minimum number of parts to measure for the dimensional element is 1 part from each cavity, minimum 5 parts total. All parts should be identified with the corresponding number on the part or the tag.

Completing **the Dimensional Data Sheet**

All dimensional requirements on the Ballooned Drawing must be listed on the Dimensional Data Sheet. The Dimensional element must be submitted on the dormakaba Dimensional Data Sheet or one that contains the same criteria as the dormakaba form. If multiple pages are required to complete a full inspection, all copies of the Dimensional Data Sheet must include completed headers. When requirements are referenced at multiple locations on the print, the data must be recorded for each individual location. All callouts and notes must be included.

All sections of the Dimensional Data Sheet must be filled out completely. The Method of Measurement must be documented for every line item set of data. In addition, on GD&T tolerances the specification and any bonus tolerance must be added to the minimum and maximum tolerances.



Dimensional Results

Supplier:	0	Design Eng:		Requestor:	
Inspection Date:		Quality Eng:		ECR/CR	
Inspected By:		Purchasing Rep		Part ID	
RE:	See Notes Section	Inspection Type:	Ent Insp Type		

Total # Dim: Total Dim Fail: % OOT:

Drawing: Rev: Description/Name:

Documentation Provided: C of C: Deviation: Inspection Data: Quality Plan: Annotated Drawing: Serialized Parts:

			Tolerance					MEASUREMENT RESULTS (DATA)								
Item	Zone	Specification	Dimension	Low	High	Measurement Method	Gage ID	Smpl 1	Smpl 2	Smpl 3	Smpl 4	Smpl 5	Smpl 6	Pass	Fail	Comments
			1.013	-0.015	0.015			1.026	1.026	1.023	1.026	1.026	1.026	x		
			1.200	-0.015	0.015										x	
														x		

The following conditions will result in this requirement being deemed unacceptable:

- Any requirement that is non-conforming
- Any requirement with excessive range or variation
- Any requirement that is too close to the proposed tolerance limits (case-by-case)

Any of these conditions may require corrective action. The proposed corrective action should address the cause and what will be done in response.

Any concerns identified in the Dimensional Data should be brought to the attention of dormakaba Engineering or Quality before submitting your dkPAP submission.

14.0 Material Test Results and Certificates

Material Certifications is a broad category for the majority of all other test results other than the dimensional results reported in the previous section. dormakaba is primarily concerned that the material is confirmed, and the acceptable performance is demonstrated. If there is a performance requirement, make sure the results of the testing are acceptable, credible, and performed to the specification. Together with the Dimensional Data Sheet, this section of the submission should address a *complete* review of all product specifications and/or part print requirements.

Material Certifications should be provided in the form of a material composition report typically called a *Certificate of Analysis (COA)* from an accredited lab that confirms the material content meets a known standard. It is your responsibility as a supplier to dormakaba to confirm the composition of your material for both the dkPAP submission and ongoing conformance. It is also your responsibility to plan for ongoing material conformance testing and identify this as a separate requirement (line item) in your control plan. This ensures that you have a plan for continuing conformance to the material standard.

dormakaba's expectation is that you have a designated lab (internal or external) that can confirm your raw material on a periodic basis. The interval of inspection is recommended by the supplier however dormakaba reserves the right to request a change in the frequency of inspection at any time throughout the life of the part to ensure quality. In addition, dormakaba may require submission of composition test results or other forms of material certification as part of the supplier's standard process

Certificate of Conformance (COC) is acceptable but not preferred. dormakaba prefers to have results in the format of COA. COA will show actual test results to a known standard rather than simply certifying that a material meets the standard.

If the COA or COC are not available and a form is needed, dormakaba can provide Material Testing Form.

15.0 Performance Test Results

Performance Test Results should be acceptable, credible, and meet the agreed upon specifications to be measured. Performance results may include data confirming any referenced specifications in the part print or specific testing required by dormakaba. Performance test results can include in-circuit test results, functional test results, etc.

dormakaba Engineering, Product Development (PD) or Quality will communicate specific material, performance, and testing requirements within the part print, reference specifications, or by specific request prior to dkPAP approval. Results to be documented using dormakaba Performance Testing Form or equivalent form.

NOTE: It is the responsibility of the supplier to confirm the data and format for this requirement with their dormakaba representative.

dormakaba

Production Part Approval
Performance Test Results

ORGANIZATION:	0	PART NUMBER:	0
SUPPLIER/VENDOR CODE:		PART NAME:	0
SUPPLIER:	0	DRAWING #:	0
*CUSTOMER SPECIFIED SUPPLIER/VENDOR CODE:		DWG REV:	0

*If source approval is req'd, include the Supplier (Source) & Customer assigned code.

TEST SPECIFICATION / REV / DATE	SPECIFICATION / LIMITS	TEST DATE	QTY. TESTED	SUPPLIER TEST RESULTS (DATA) / TEST CONDITIONS	PASS	FAIL

16.0 Statistical Analysis & Capability

The purpose of initial process studies (Cp, CpK, Pp, and Ppk) is to determine if the production process is likely to manufacture product that will meet our requirements. Initial process studies (capability) are mandatory for all CTQs.

Subgroups are the preferred method of determining Cpk in most cases. There are two primary indexes used in determining process capability. Cpk predicts future capability and Ppk indicates past performance.

Minimum requirement for capability studies is 25-piece subgroups containing at least 100 readings and sampled consecutively from a "significant production run." If testing involves destructive tests of

expensive parts, Cpk by Moving Range can also be allowed.

Minimum acceptable capability for all CTQs is 1.33 and 1.67 for all safety related CTQs. If capability cannot achieve these levels, Dormakaba approval must be granted.

Reporting Ppk vs. Cpk

When asked to report a CTQ for initial process study, the Ppk or Cpk derived from a study of **actual production parts from a production run that are sampled randomly must be reported.**

Whether Ppk or Cpk is used will depend on the reason for the dkPAP **submission.**

- (Cpk) if a supplier is submitting a dkPAP **for a (a) new part, (b) a part with revised specifications, (c) a part in which the materials, processes, manufacturing location, or production equipment have significantly changed, or (d) a part in which the material suppliers have changed, then the supplier will be asked to report the Cpk.**
- (Ppk) If the supplier (a) has already been manufacturing the specified part, but is a new supplier to dormakaba, or (b) is an existing supplier to dormakaba that has been found to supply a large number of non-conforming parts, then the supplier will report the Ppk.

Whether using Cpk or Ppk, it must be noted that where processes exist involving multi-cavity/ multi-spindle tooling, the Cpk or Ppk numbers reported must reflect a survey of parts from each individual cavity or spindle, not the total output of parts from a given machine. This will help isolate non-conformances resulting from problems with individual cavities or spindles.

dormakaba Capability Forms

If a supplier does not have access to statistical software (such as Minitab) dormakaba can provide the forms to use for capability studies. Below are the forms for Cpk for Subgroups. dormakaba Capability Forms

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17.0 dormakaba Capability Forms

If a supplier does not have access to statistical software (such as Minitab) dormakaba can provide the forms to use for capability studies. Below are the forms for Cpk for Subgroups

dormakaba								Data Page - 1	
Part No.		Description					Date Of Study		
		Reason for Stud							
Measured By:		Notes					Print Revision		
FAI No.							Plant Measured		
Drawing Feature Desc	▲6 CAV 1	▲6 CAV 2	▲9 CAV 1	▲9 CAV 2	▲6 CAV 1	▲6 CAV 2	▲6 CAV 1	▲6 CAV 2	C
Nominal	0.000	0.000	0.393	0.393	0.000	0.000	0.000	0.247	
+ Tolerance	0.000	0.000	0.002	0.002	0.005	0.005	0.005	0.001	
- Tolerance	0.010	0.010	0.002	0.002	0.005	0.005	0.005	0.001	
Description	Radius	Radius	PROFILE	ID	POS	POS	POS		
How Measured	Radius Gage	Radius Gage	CMM						
Unit of Measure									
Sample No.	▲6 CAV 1	▲6 CAV 2	▲9 CAV 1	▲9 CAV 2	▲6 CAV 1	▲6 CAV 2	▲6 CAV 1	▲6	Ra
1									
2									

17.1 Completing the Cpk Subgroup Worksheet

The individual completing the Cpk Subgroup worksheet should fill out the data at the top of the sheet as appropriate. Then they should determine which Subgroup configuration is most appropriate for data collected and click the button next to that subgroup. Upon doing so, the table will change such that only columns and rows where data is expected to be entered will be active.

Data entered outside these columns will not be included in overall Cpk calculations. Finally, the "USL" and "LSL" should be entered. After all data is entered, be sure to save the workbook. If the subgroup being tested has a unique identifier associated with it, you can enter that identifier in the left column under "Subgroup" and overwrite the default value.

If at any time the user wishes to clear the values, they can single left-click the "Clear Data" button. This will clear the "USL" and "LSL" fields, the data in the "Test Data" column, and will return the "Subgroup" column to its default enumeration.

The supplier will want to examine the results of the Cpk histogram. The Cpk histogram should resemble a bell-shaped curve that is centered on the graph. Further, the Control Chart should show data randomly distributed on or about the mean or "R-Bar" line. If data shows extreme fluctuations, or cyclical patterns, it can indicate either a process that is out-of-control, or merely an incorrect sub grouping. The Cpk Subgroup worksheet should be used for the majority of capability studies unless you are estimating past performance. The individual completing the Cpk Subgroup worksheet should fill out the data at the top of the sheet as appropriate. Then they should determine which Subgroup configuration is most appropriate for data collected and click the button next to that subgroup. Upon doing so, the table will change such that only columns and rows where data is expected to be entered will be active.

17.2 Reporting Cpk Subgroup vs. Cpk Moving Range

In most cases, Cpk numbers will be reported based on the results of the Cpk Subgroup worksheet. This worksheet gives a choice between subgroups measuring 30 x 2 (30 subgroups of size 2), 25 x 5 (25 subgroups of size 5), or 50 x 5 (fifty subgroups of size 5). Unless the supplier receives instructions otherwise, they should choose the subgroup configuration most appropriate to analyzing the data. That decision will be a balance between maximizing data points and minimizing overall cost of testing.

For instance, if reporting Cpk involves non-destructive testing of safety related features, then the 50 x 5 subgroup will yield 250 data points and is therefore preferred. On the other hand, destructive testing of slightly more expensive items with only functional characteristics can be satisfactorily completed with a 30 x 2 subgroup (60 data points). If expense is a concern, then the Cpk Moving Range worksheet will be more appropriate for calculating Cpk numbers.

18.0 Post dkPAP Run @ Rate Pilot Run

dormakaba may require a Post dkPAP Run @ Rate Pilot Run to prove the process is capable and sustainable. Representatives from dormakaba may request to have personnel line-side to watch production run.

dormakaba **Post PPAP Run @ Rate Pilot Run**

Supplier Information

Supplier Name:		Date:	
Drawing Number:		dormakaba Supply Chain Rep:	
Drawing Revision:		Supplier Contact:	
Revision Date:		Supplier Phone #:	
dormakaba P/N:		Supplier Email:	

Capacity Planning

AMU:	
Lead Time:	

Run @ Rate Volume

Run @ Rate Pilot Run Req:	
Run @ Rate Uptime:	

Pilot Run (to be completed by supplier)

Planned Run Date:		Actual Run Date:	
Planned Runtime:		Actual Runtime:	
Goal (PPH):		Actual (PPH):	
Planned Scrap:		Actual Scrap:	
Planned Set-up Time:		Actual Set-up Time:	
Quality Performance Goal (PPM):		Actual Quality Performance (PPM):	

During this run, there are certain requirements that must be met, and if required, must be met to pass dkPAP:

- Runtime
- Parts per Hour
- Scrap
- Set up Time
- Quality Performance (PPM)

19.0 Appearance Approval Report

This requirement is used as a 'print' definition when a specification or print reference does not exist. This requirement should always be in reference to a specific specification such as color, texture, contrast, or paint.

It is not uncommon for projects that have no defined appearance requirements to develop them throughout the course of development. This could be as simple as a paint or color application that has developed into an appearance issue based on dormakaba feedback or dormakaba' customer feedback. Whenever appearance related issues arise that have no defined specification, it is in the best interest of both the supplier and dormakaba to utilize this section and clearly define what is acceptable and what is not acceptable. When non-conformances arise, appearance issues can be readily resolved when there is clear definition of acceptable/unacceptable appearance. Complete using dormakaba form or equivalent. This requirement is used as a 'print' definition when a specification or print reference does not exist. This requirement should always be in reference to a specific specification such as color, texture, contrast, or paint.

dormakaba

APPEARANCE APPROVAL REPORT

PART NUMBER			DRAWING NUMBER			APPLICATION			
PART NAME			BUYER		E/ C LEVEL		DATE		
SUPPLIER NAME		ADDRESS		CITY		STATE	ZIP	SUPPLIER CODE	
REASON FOR SUBMISSION	☐ PART SUBMISSION WARRANT ☐ PRE TEXTURE		☐ SPECIAL SAMPLE ☐ FIRST PRODUCTION SHIPMENT		☐ RE-SUBMISSION ☐ ENGINEERING CHANGE			OTHER	

APPEARANCE EVALUATION ☐ Attribute Analysis ☐ Variable Data Analysis

ORGANIZATION SOURCING AND TEXTURE INFORMATION (Attribute Analysis)	PRE-TEXTURE EVALUATION	AUTHORIZED CUSTOMER REPRESENTATIVE SIGNATURE AND DATE
	CORRECT AND PROCEED	
	CORRECT AND RESUBMIT	
☐ Color Coupon submitted with PPAP	APPROVED TO ETCH/ TOOL/ EDM	

COLOR EVALUATION (Variable Data Analysis)

COLOR SUFFIX	TRISTIMULUS DATA					MASTER NUMBER	MASTER DATE	MATERIAL TYPE	MATERIAL SOURCE	HUE				VALUE		CHROMA		GLOSS		METALLIC BRILLIANCE		COLOR SHIPPING SUFFIX	PART DISPOSITION (PASS/ FAIL)
	DL*	Da*	Db*	DE*	CMC					RED	YEL	GRN	BLU	LIGHT	DARK	GRAY	CLEAN	HIGH	LOW	HIGH	LOW		

☐ Color Coupon submitted with PPAP

COMMENTS				
ORGANIZATION SIGNATURE	PHONE NO.	DATE	AUTHORIZED CUSTOMER REPRESENTATIVE SIGNATURE	DATE

Topic: Supplier dkPAP Manual

20.0 Tooling Information form

This requirement is mandatory for all dormakaba owned tools and must be completed by the supplier prior to dkPAP approval of the part produced by the tooling. Complete using dormakaba form or equivalent.

The Tooling Information form documents critical information including:

- New or Modified Tooling Cost Information
- Dimensional Information
- Capacity Information
- Life Expectancy
- Location of the Tool

It is critical that all information on the tooling form be filled out completely and for the supplier to take the time to photograph the requested pictures and place them into the tooling form. The tool used for production is owned by dormakaba and documentation of the tool is critical for future reference and comparison. The form consists of 2 sections. The first is for documenting technical information related to the tool. It is set up in a worksheet format to assist with acquiring all the information that dormakaba requires to complete this document. The second portion of the tooling form requests specific pictures of the front, back, and tool label required by each division.

dormakaba **Tooling Information Form**					dormakaba Tooling reference number *(if applicable)*	xxxxx
Supplier Name		**PPAP Submission Level**	**Affected Feature Number(s)**		**Part Description**	
Date	**PPAP Due Date**	**Part Number**	**Tool Location**			
			Facility			
Date of Tooling Change		**Part Name**	**Machine**			
			Station			
◉New Tooling ○Modified Tooling		☐ Required for PPAP	Note: This document must be completed for all dormakaba owned tooling.			

Complete Supplier Tooling Action Item List to ensure all items are completed.

TOOLING ACTION ITEMS	Who	What	When	Status
Tooling Images				
Diagram or Strip Layout				
Tool Drawings				
Tool Cost Breakdown				

Fig. 1	Top View	Fig. 2	Bottom View

Topic: Supplier dkPAP Manual

21.0 Packaging Form

Suppliers are required to provide packaging that meets all the dormakaba facility related requirements. Ex. Ensures the prevention of shipping and handling defects, Addresses any Hazmat related concerns, etc. Complete using dormakaba form or equivalent.

Below is the first page of the dormakaba Packaging form. The top portion is basic technical information. It is important that dormakaba have a designated supplier contact identified in this section for any packaging questions. The most important information to be included on the form is the pictures.

dormakaba

Packaging Form

Date	Packaging Contact	Part Number	Supplier Responsibilities Completed?
			☐ Packaging Design
Supplier Name	**Phone Number**	**Print Revision Level**	☐ Packaging that prevents shipping and material handling defects
Supplier Code	**Fax Number**	**Part Description**	
Supplier Production Facility	**E-Mail Address**	**HAZMAT?**	☐ Electronic storage of submitted Packaging Data Form
		◌ Yes ◉ No	

DIGITAL IMAGES	Part	*In Packaging Position*	Container	*With Label Shown*

22.0 Checking Aids

Suppliers are required to provide the calibration status and MSA results of all the measurement tools used for dormakaba parts.

dormakaba

Checking Aids

ORGANIZATION:		PART NUMBER:	
SUPPLIER/ VENDOR CODE:		PART NAME:	
SUPPLIER:		DRAWING:	
*CUSTOMER SPECIFIED SUPPLIER/ VENDOR CODE:		DWG REV:	

Part Name:			**Date Created:**		
Gage Number	**Gage Drawing Rev Level**	**Gage/Instrument Description**	**Calibration Status**	**MSA Results**	**MSA Date**

23.0 Software Firmware

This requirement is needed when qualifying a part that contains software or firmware. This form is used in order to verify that programming is expected and as anticipated.

Completing the Software/Firmware Programming Verification

A completed form would look like the below, dormakaba will complete all grey sections of the form, and the supplier is responsible to complete the highlighted sections.

dormakaba **Software/Firmware Programming Verification**

To be completed by dormakaba | To be completed by Supplier

General Information

Supplier Name:	dormakaba Canada	**Date:**	29-Feb-2024
Supplier Location:	Montreal	**Page #**	1
Drawing Number:	B82077	**Total Pages**	1
Drawing Revision:	AF		
SAP Part Number:	78076896		

Description of Change (Please describe in detail the nature of the change/update)

Update to PCBA firmware required to obtain FCC certification.

	Firmware #1			Firmware #2		
FW Drawing -->	B93710					
Description -->	Wi-Q WDC SPIN FIRMWARE					
Sample Number	Expected Value	Supplier Verification	dormakaba Verification	Expected Value	Supplier Verification	dormakaba Verification
1	3.2.15	3.2.15	3.2.15			
2	3.2.15	3.2.15	3.2.15			
3	3.2.15	3.2.15	3.2.15			
4	3.2.15	3.2.15	3.2.15			
5	3.2.15	3.2.15	3.2.15			
6	3.2.15	3.2.15	3.2.15			

	Configuration #1			Configuration #2		
Description -->	MAC Address Label Match to Label					
Sample Number	Expected Value	Supplier Verification	dormakaba Verification	Expected Value	Supplier Verification	dormakaba Verification
1	0014f520a40b	0014f520a40b	0014f520a40b			
2	0014f520a40c	0014f520a40c	0014f520a40c			
3	0014f520a40d	0014f520a40d	0014f520a40d			
4	0014f520a40e	0014f520a40e	0014f520a40e			
5	0014f520a40f	0014f520a40f	0014f520a40f			
6	0014f520a410	0014f520a410	0014f520a410			

Use multiple copies of this form for additional Firmware or Configuration Verifications

Comments

Approval Signatures	**Name (Printed)**	**Signature**	**Date**
Supplier	John Q. Smith	*John Q. Smith*	2/29/2024
dormakaba Quality	Jane Q. Jones	*Jane Q. Jones*	2/29/2024

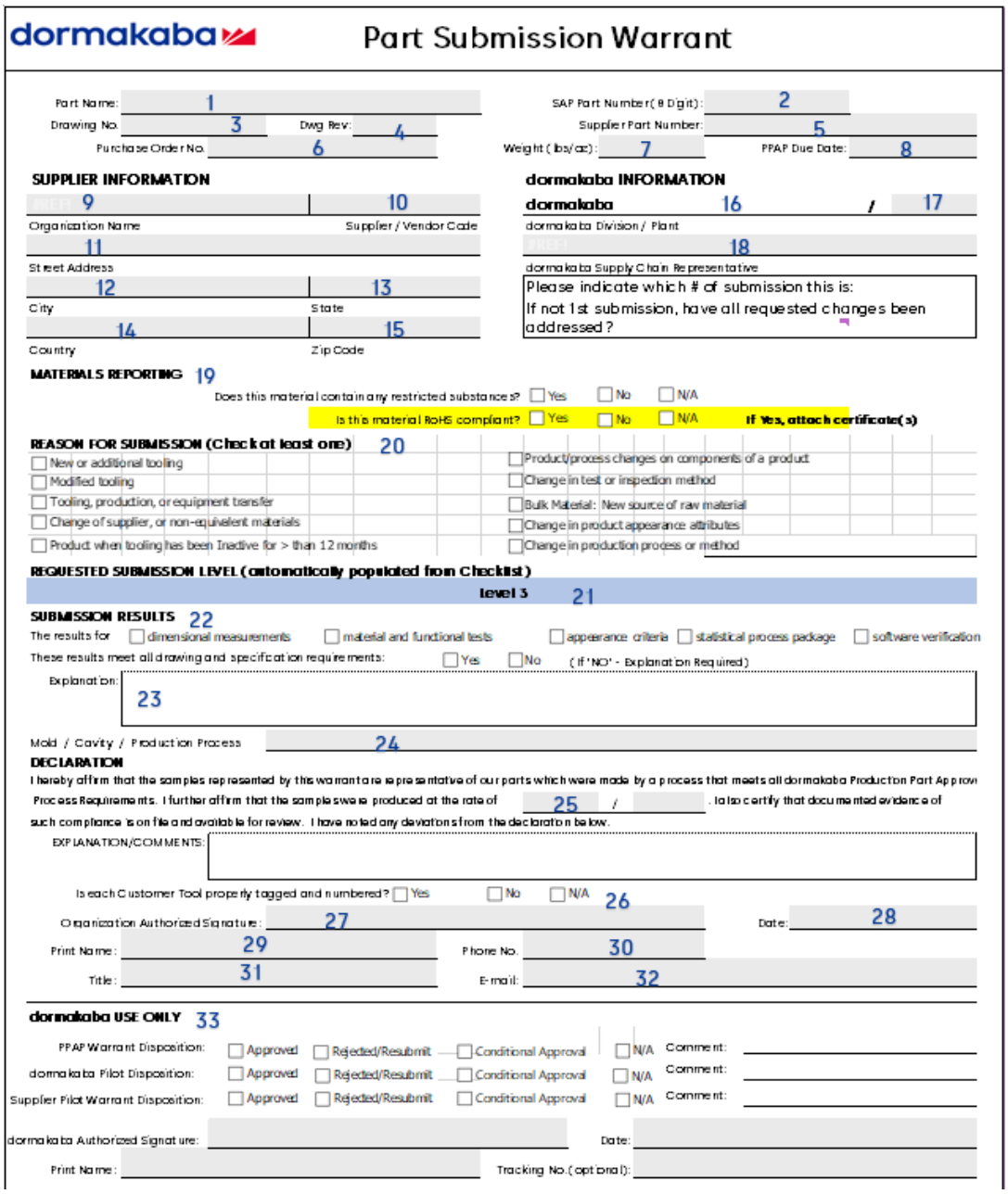
24.0 Part Submission Warrant (PSW)

The purpose of the PSW is to document the submission and the approval or rejection of purchased parts prior to production. dormakaba has developed its own PSW document (PSW Form) and this form is a required section of dkPAP for Levels 1, 2, and 3. It must be submitted as part of the dkPAP at every submission level. dormakaba will not accept any other PSW format, but rather, the supplier must use the dormakaba, PSW form.

24.1 Completing the Part Submission Warrant

The PSW must be filled out and signed by the supplier. A scanned copy of the signed document is required.

The part number must match the Purchase Order or material agreement that is provided by dormakaba Purchasing. Any fields that do not apply to your submission should be filled in with "N/A" (Not Applicable). It is critical to make sure the PSW is filled out correctly and contains accurate and legible information.



dormakaba

Part Submission Warrant

Part Name: 1
SAP Part Number (8 Digit): 2
Drawing No. 3 Dwg Rev: 4
Supplier Part Number: 5
Purchase Order No. 6
Weight (lbs/oz): 7 PPAP Due Date: 8

SUPPLIER INFORMATION

9 Organization Name
10 Supplier / Vendor Code
11 Street Address
12 City
13 State
14 Country
15 Zip Code

dormakaba INFORMATION

dormakaba 16 / 17 dormakaba Division / Plant
18 dormakaba Supply Chain Representative

Please indicate which # of submission this is:
If not 1st submission, have all requested changes been addressed?

MATERIALS REPORTING 19

Does this material contain any restricted substances? ☐ Yes ☐ No ☐ N/A
Is this material RoHS compliant? ☐ Yes ☐ No ☐ N/A **If Yes, attach certificate(s)**

REASON FOR SUBMISSION (Check at least one) 20

- ☐ New or additional tooling
- ☐ Modified tooling
- ☐ Tooling, production, or equipment transfer
- ☐ Change of supplier, or non-equivalent materials
- ☐ Product when tooling has been Inactive for > than 12 months
- ☐ Product/process changes on components of a product
- ☐ Change in test or inspection method
- ☐ Bulk Material: New source of raw material
- ☐ Change in product appearance attributes
- ☐ Change in production process or method

REQUESTED SUBMISSION LEVEL (automatically populated from Checklist)

level 3 21

SUBMISSION RESULTS 22

The results for ☐ dimensional measurements ☐ material and functional tests ☐ appearance criteria ☐ statistical process package ☐ software verification
These results meet all drawing and specification requirements: ☐ Yes ☐ No (If 'NO' - Explanation Required)

Explanation: 23

Mold / Cavity / Production Process 24

DECLARATION

I hereby affirm that the samples represented by this warrant are representative of our parts which were made by a process that meets all dormakaba Production Part Approv
Process Requirements. I further affirm that the samples were produced at the rate of 25 / . I also certify that documented evidence of
such compliance is on file and available for review. I have noted any deviations from the declaration below.

EXPLANATION/COMMENTS:

Is each Customer Tool properly tagged and numbered? ☐ Yes ☐ No ☐ N/A 26

Organization Authorized Signature: 27 Date: 28
Print Name: 29 Phone No. 30
Title: 31 E-mail: 32

dormakaba USE ONLY 33

PPAP Warrant Disposition: ☐ Approved ☐ Rejected/Resubmit ☐ Conditional Approval ☐ N/A Comment:
dormakaba Pilot Disposition: ☐ Approved ☐ Rejected/Resubmit ☐ Conditional Approval ☐ N/A Comment:
Supplier Pilot Warrant Disposition: ☐ Approved ☐ Rejected/Resubmit ☐ Conditional Approval ☐ N/A Comment:

dormakaba Authorized Signature: Date:
Print Name: Tracking No.(optional):

Notes

1. Part name as listed on the dormakaba PO or drawing.
2. dormakaba 8-digit part number. The part number ordered as listed on the PO. Part numbers begin with the number 7.
3. Drawing number associated with the part number.
4. Revision of the drawing for the dkPAP submission.
5. Supplier part number. List here any internal identification used to easily track within the supplier's system.
6. (Optional) The PO issued to procure the dkPAP material. If no PO was issued, type N/A.
7. Weight of the part. This is a per piece weight.
8. The due date the dkPAP is to be submitted to dormakaba. This is a mutually agreed upon date between the supplier and their dormakaba representative.
9. Suppler Name.

10. Supplier ID/vendor code as assigned by dormakaba. Contact your dormakaba representative if unsure about the code.
11. Address of the supplier submitting the dkPAP package.
12. City the submitting supplier resides.
13. State the submitting supplier resides.
14. Country the submitting supplier resides.
15. Zip code the submitting supplier resides.
16. dormakaba division that is requiring the dkPAP submission.
17. dormakaba plant that is requiring the dkPAP submission.
18. The Purchasing or Sourcing Representative at dormakaba who is working with the supplier on the dkPAP effort. The Supply Chain Representative.
19. A review of the material content has been conducted for any restricted substances used.
20. List reason for submission. If this is the first time this part number will be submitted by this supplier, it is an initial submission. Changes to design or revisions should not be marked as initial submissions. Design and drawing revisions are considered engineering changes. Consult your dormakaba representative for additional guidance.
21. Select the submission level as assigned on the dkPAP checklist.
22. List supplied results that accompany the dkPAP package.
23. If there are any exceptions or out of specification conditions, provide a brief summary.
24. For Mold/Cavity products, state the process used (i.e. injection molding, casting, etc...)
25. State approximate daily run rate. This is based on a typical 8-hour production day without interruptions. While exceptions will occur, this assists dormakaba in understanding the capacity of the process.
26. If dormakaba owned tooling is used in the process of part production, indicate that the dormakaba owned tooling is properly identified as dormakaba property. All dormakaba tooling should have an asset ID, which is assigned by dormakaba. Consult your dormakaba representative for additional guidance.
27. Signature of authorized supplier representative to approve/sign off on the dkPAP package indicating that all checklist items have been met and needed evidence of compliance has been provided. Electronic signature is acceptable.
28. Date of approval.
29. Printed name of authorized supplier representative.
30. Contact phone number for authorized supplier representative.
31. Title of authorized supplier representative.
32. Business email for the authorized supplier representative. Email can be direct or to a general email account.
33. This section will provide the disposition of the supplied dkPAP package. A signed copy of the PSW with dormakaba disposition will be provided back to the supplier for their records.

25.0 Conclusion

It is the supplier's responsibility to address all required dkPAP items outlined on the provided checklist.
dkPAP components are to be shipped to dormakaba separately from other part shipments. In addition to the standard mailing address label, the package/container shall have a label identifying the contents as Unapproved dkPAP Material Data Tag. The dkPAP label shall be easily seen and can be placed in multiple locations on the package/container to effectively convey the contents. The dkPAP checklist tasks shall be initialled by the supplier prior to submission to indicate all requested dkPAP tasks have been completed and are included in the dkPAP Package.

26.0 Reference Documents

Supplier Quality Manual
dkPAP Workbook