

**ABSTRACT**

The goal of this project was to help Precision Wood Manufacturing (PWM) improve their quality control check (QCC) process. To fulfill this goal, an electronic QCC form template was developed. This template is to be edited to match any future product PWM will be manufacturing. The electronic responses will be recorded and can be referenced for details on the quality of product being inspected.

This project's final design includes three QCC form guides, three example forms, and a "README" document which describes each file and how they connect. Each guide includes a basic structure that can be edited to fit the QCC needs of multiple product types. The general purpose form and packaging form both include photo verification sections. Part of implementing the use of electronic forms will be using a tablet device to fill out the forms. These can be completed by a user during the check by using the tablet camera.

Additionally, there is a quality control review form which users will be directed to when a product has failed a part of the QCC. This form will be used to record the reason the product failed the QCC and will help to consolidate a list of items that need rework and the reasons for the rework.

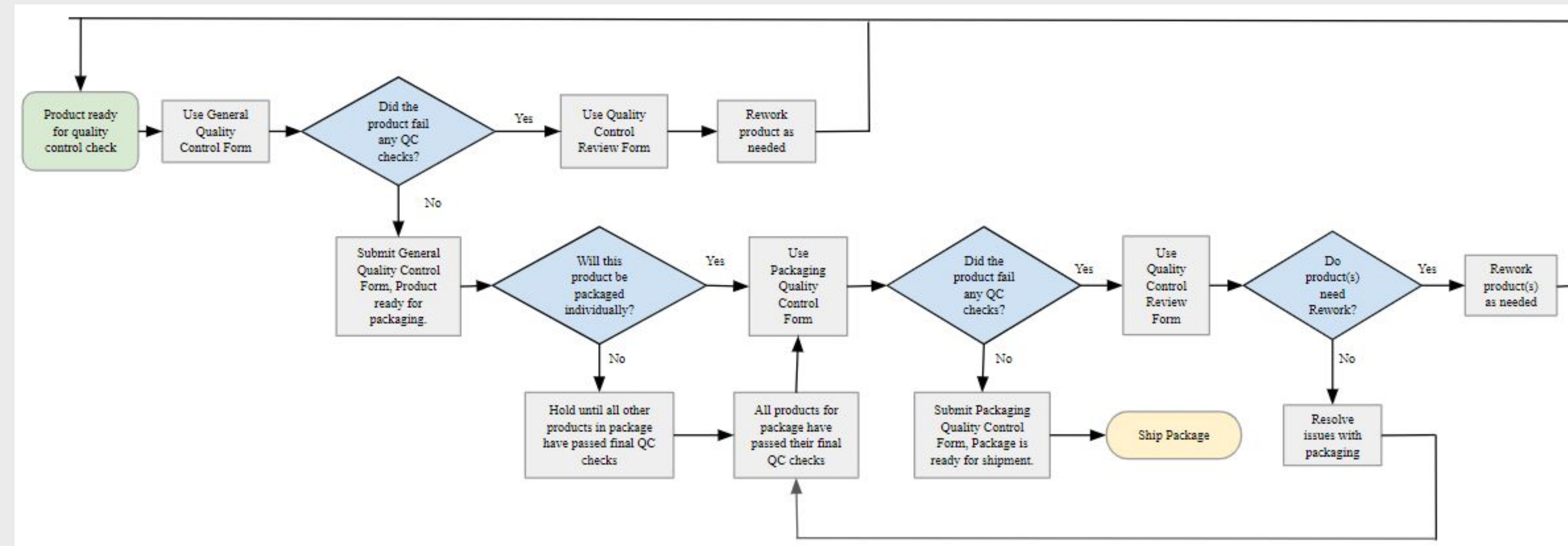
Final form templates were proven to be user friendly based on feedback from peers and advisors. Ownership of these forms will be transferred to PWM so that they may use them for any future products that they will be manufacturing. By using these templates, information from the QCC process will be recorded and stored online. This data can be used to identify areas in the manufacturing process that may need improvement to reduce defects.

Customer Requirements
Repeatable, Re-trainable, Sustainable Processes.
All necessary products/parts are included in each package/order.
There are no imperfections (scratches, dents, or chips) in the product prior to shipping.
Due to changing customers and products at this facility, QC Form should be adaptable to different product types.



# GENERAL ELECTRONIC QUALITY CONTROL FORM

A standard purpose electronic quality control checklist that can be adapted to multiple product types, and quality requirements through the editing of Google Forms.



Form Navigation Flowchart

General QC Form Product Section

General QC Form Photo Verification

## DESIGN ITERATIONS AND KEY DESIGN CHANGES

Design Iteration 1: Initial QCC form made specifically for Kalon's products.

- Group main QCC questions in a grid rather than as separate multiple choice questions
- QC review addition to alert the manager when a product does not pass it's QCC

Design Iteration 2: Generalize QCC form to account for new/different products

- Use Pass/Fail wording instead of confirm/cannot confirm
- Incorporate instructions in forms for editing and adding products
- Removing direct name mentions within the forms
- Packaging QC form was created
- Connecting QC review form to packaging form
- README document was created to briefly go over the contents of the final file transferred to the customer

General Packaging QC Form Final Checks Section

General QC Review Form Intro Instructions



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