Quality Control
For Microsoft Dynamics NAV

Produced and Distributed by:
Cost Control Software, Inc.
12409 Old Meridian Street
Carmel, IN 46032

Phone: (317) 846-6025
# Table of Contents

Application Description ........................................... 3  
Installation ............................................................ 4  
Integration Instructions ............................................. 5  
Setup – Keys ............................................................ 9  
Setup – Quality Control ............................................ 12  
Workflow ............................................................... 26  
Support ................................................................. 49
Application Description

Quality Control is designed to enable Testing of incoming Raw Materials with Lot or Serial Number or Finished Goods with Lot or Serial Numbers placed into Inventory. For each Inventory Item to be tested, you will first set up your Item’s Quality Specifications for both Measures and Methods.

Actual Test results will be entered into a test results Page, which enables you to compare your Low and High Limits to the Target Test Results. Non-Conforming test results will be flagged as exceptions.

Quality Control is built around Dynamics NAV’s Item Tracking Granule. Item Tracking enables Lot Number Tracking on either Finished Goods or Raw Materials. (Purchased Items or Produced Items)

Quality Control is designed to enable Customer Specific Specifications on each Item. The Item Specifications will also hold multiple Versions and Effective Dates on each Version. (Similar to a Production Bill of Materials) This way a Customer can notify you of future Specification Requirements prior to your Production Cycles. When a Lot is tested it is tested against your internal specifications. A Certificate of Analysis can be generated after the test is certified.

When Lot items are shipped, it is possible to print a Certificate of Analysis for that specific Lot Number. The Shipment’s Certificate of Analysis can be printed showing your company’s Specifications or your Customer’s Specifications. Any Non-Conformance Lines will be indicated.

Lot Numbers are typically selected by the Customer Service Representatives to assure conformance to a Customer’s Specified Quality Measures. The Shipment Document has been modified to display the desired Lot Numbers to pick and ship that meets that Customer’s Specifications. A fresh Certificate of Analysis can be generated directly from the Posted Shipment Document at any time.

Actual Test Results can be printed immediately upon completion of a given test, or can be printed in Batch at the end of any time period. All test results are stored in a Testing Results Log for reporting and historical purposes.

Dependencies: Dynamics NAV’s Item Tracking Granule, Location Codes (Recommended)
What is Quality Control?

Quality control is a process that is used to ensure a certain level of quality in a product or service. It might include whatever actions a business deems necessary to provide for the control and verification of certain characteristics of a product or service. Most often, it involves thoroughly examining and testing the quality of products or the results of services. The basic goal of this process is to ensure that the products or services that are provided meet specific requirements and characteristics, such as being dependable, satisfactory, safe and fiscally sound.

Companies that engage in quality control typically have a team of workers who focus on testing a certain number of products or observing services being done. The products or services that are examined usually are chosen at random. The goal of the quality control team is to identify products or services that do not meet a company’s specified standards of quality. If a problem is identified, the job of a quality control team or professional might involve stopping production or service until the problem has been corrected. Depending on the particular service or product as well as the type of problem identified, production or services might not cease entirely.

Usually, it is not the job of the quality control team or professional to correct quality issues. Typically, other individuals are involved in the process of discovering the cause of quality issues and fixing them. After the problems are overcome and the proper quality has been achieved, the product or service continues production or implementation as usual.

Many types of businesses perform these types of quality checks. Manufacturers of food products, for example, often have employees who test the finished products for taste and other qualities. Clothing manufacturers have workers inspect garments to ensure that they are properly sewn. Service-oriented companies often have representatives who observe the services being performed or who do follow-up checks to ensure that everything was done properly.

Quality control also might involve evaluating people. If a company has employees who don't have adequate skills or training, have trouble understanding directions or are misinformed, the quality of the company's products or services might be diminished. This is especially important for service-oriented companies, because the employees are the product that they provide to customers.

Often, quality control is confused with quality assurance. Though the two are similar, but there are some basic differences. Quality control is concerned with examining the product or service — the end result - and quality assurance is concerned with examining the process that leads to the end result. A company would use quality assurance to ensure that a product is manufactured in the right way, thereby reducing or eliminating potential problems with the quality of the final product.
Quality Control for NAV

Raw Material Receiving

1. Purchase Order → Receive → QC Location
2. Inventory → Pass → Testing
   - Fail → Return to Vendor

Finished Good Production

1. Production Order → Post FG Prod → QC Location
2. Inventory → Pass → Testing
   - Fail → Re-Work
Installation

Install Instructions for Quality Control:

1) Download Objects from either the FTP site or from an email.

2) Unzip the downloaded objects.

3) Create and Open your target NAV database. (Provided by your NAV Reseller)

4) You can import any object in the 14 million and/or 37 million range with no conflict.

For Objects in the NAV Object Range, decisions need to be made.

If the Database is “unmodified” then you can just import our FOBs.

If the Database is “modified”, then you will hand integrate the FOBs.
(Cost Control does provide an integration service if you prefer to have someone else do the hand integration.)

5) If you ordered a “Database”: we will send FOBs and a Company Backup too.

The Company Backup will contain 2 Companies:
- The first company is the CRONUS company that we used for testing. This company is also good for your “Practice” and “Learning” as it has practice data installed.

- The second Company is our enhanced RapidStart Company. The RapidStart Company will have most of the setup finished for you. Just re-name the RapidStart Company to “Your Company Inc.” (your real name), add your Customers, Vendors and Items. Start using NAV.

Always feel free to contact us with questions: (317) 846-6025
Integrating Instructions:

Instructions for integrating Quality Control into your Database—

Before starting, you will need to determine a couple of things about your database.

- IMPORTANT: Compile ALL existing objects before starting the installation. Resolve all compiling errors before starting installation. This assures that when you compile objects after the installation, any compiling errors at that time will be caused by the installation and not something before the installation started.

- Determine if any of the above listed objects have been modified in the database in which you are going to add Quality Control. This is easily accomplished by starting an import of the appropriate fob file and looking at the import worksheet.

- WE HIGHLY RECOMMEND THAT YOU READ OUR TIPS AND WARNINGS PAGES LOCATED AT THE BACK OF THIS DOCUMENT BEFORE STARTING.

- If this is the first time that you are importing Quality Control, then the only objects that may have conflicts are the base Dynamics NAV objects. If you find that you have modified the same base Dynamics NAV objects then you will need to manually integrate the Quality Control changes found in those objects. To assist the manually integration process we have supplied a detailed Change Log.

- Files available for importing are:
  CCSI_30QHist_AllAddOnObjects_120901.fob

Start by importing this one file. It contains all the Quality Control objects and all dependant addon objects. If you have conflicts. Then use the following Change Log to read about where the modifications exist and manually integrate the changes.

1. Copy the supplied “fob(s)”, Documents (This manual), and optionally any provided sample databases to your local hard drive for integration and testing.

2. Start Dynamics NAV Attain.
3. Go to Tools, Object Designer
4. Go to File, Import
5. Go to provided “fob” - CCSI_30QHist_AllAddOnObjects_120901.fob
6. Select Open
7. You should get the following message.

8. **Say NO.** Open the Import Worksheet for review. *(always)*

   If *none* of the objects listed above have been modified in the target database you can import the object file. When you start the import, you will get a different message than the one shown above that states that *no conflicts* were found, select yes to import the objects immediately or select no to open the Import Worksheet. **It is recommended that you select no so the Import Worksheet will open in all cases.**

   **Even when there are no conflicts you will need to import the .FOB file in two(2) passes.**

   1. Once the Worksheet is open, go to the Action column and select **SKIP** on all the “base” Dynamics NAV objects, and make sure the Higher numbered objects (14004000+) have the “Create” or “Replace” action and then select OK.

   2. Next do the File, Import process again on the same .FOB file. This time use the “Replace All” Button to flag ALL the objects with the Replace action. This will guarantee that all of the objects in the .fob actually get imported.
You should get a screen similar to this.

If there are conflicting objects the Import Worksheet will indicate which objects are in conflict. If you have any conflicting objects make a list of these objects. These are the objects you will have to hand integrate the Sales Quality Control changes into. Instructions for hand integration of individual objects can be found in the Change Log.

If some, but not all, of the above listed objects have been modified in your database you can import the ones that have NOT been modified by using the Import Worksheet to indicate which objects to replace and which objects to skip. Choosing replace next to an object in the Import Worksheet will cause that object in your database to be replaced by the import object of the same number. Choosing skip will prevent the object in your database from being replaced. Select “replace” for all objects NOT on your conflicting object list and select “skip” for all objects ON your conflicting object list. Using the merge option is not recommended as a means of dealing with modified objects. Using this option could make your task much harder.
9. Select OK ONLY after you have decided to Replace All, OR you have edited the Action column on the import worksheet. (Reminder: Please read our Tips and Warnings about Dynamics NAV’s Import process at end of this manual.) You must remember the objects that you selected to be skipped due to conflicts, so that you can manually integrate the changes later. (Write them down now or take a print screen.)

10. After saying OK, the Dynamics NAV Import dialog box will say: create: X and replace XX.

11. At this stage there are new tables, forms, and reports added to your database. But they have no data in them.

12. If you were able to import and replace ALL objects then Compile all the objects. Problems or objects that were not able to be compiled will be “marked”. Use the View, Marked only choice from the tool bar at the top of the Dynamics NAV screen while still in the Object Designer. If you exiting object designer will remove the marks!! And you will have to compile again to know which objects failed.

13. If there were Conflicting objects or compile errors, please continue reading and compare the Change Log to the database objects.

14. If there are not conflicts or compile errors then you have completed the installation and you can skip the change log area and continue on with the Add-on Setup & Workflow section.
**Setup - Keys**

**Table #18 – Customer Table**

Add the following new field: 60040 Has Quality Specification.

<table>
<thead>
<tr>
<th>E. Field No.</th>
<th>Field Name</th>
<th>Data Type</th>
<th>Length</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Allow Line Disc.</td>
<td>Boolean</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>7600 Base Calendar Code</td>
<td>Code</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10004 UPS Zone</td>
<td>Code</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10015 Tax Exemption No.</td>
<td>Text</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10017 Bank Communication</td>
<td>Option</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>60040 Have Quality Specifications</td>
<td>Boolean</td>
<td></td>
<td>Triggered when Cust. No. is en...</td>
</tr>
</tbody>
</table>

Used for viewing only customers that has Specifications. Launch list from the QC Menu.

**Table #27 – Item Table**

Add the following new field: 60040 Have Quality Specification.

<table>
<thead>
<tr>
<th>E. Field No.</th>
<th>Field Name</th>
<th>Data Type</th>
<th>Length</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10013 Rel. Scheduled Receipt (Qty.)</td>
<td>Decimal</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10014 Rel. Scheduled Need (Qty.)</td>
<td>Decimal</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>60040 Have Quality Specifications</td>
<td>Boolean</td>
<td></td>
<td>Triggered when Cust. No. is en...</td>
</tr>
<tr>
<td></td>
<td>000002010 Routing No.</td>
<td>Code</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table #32—Item Ledger Entry:

Add the following 2 new keys:
For Report #14004592.

<table>
<thead>
<tr>
<th>Enabled</th>
<th>Key</th>
<th>SumIndexFields</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Lot No., Posting Date</td>
<td></td>
</tr>
</tbody>
</table>

For: ??, new key as shown below.

Table #32 Item Ledger Entry - Keys

<table>
<thead>
<tr>
<th>E.</th>
<th>Key</th>
<th>SumIndexFields</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Document No., Posting Date</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Item No., Variant Code, Drop Shipment, ...</td>
<td>Quantity, Invoiced Quantity</td>
</tr>
<tr>
<td></td>
<td>Entry Type, Item No., Variant Code, Drop Shipment, ...</td>
<td>Invoiced Quantity</td>
</tr>
<tr>
<td></td>
<td>Prod. Order No., Prod. Order Line No., ...</td>
<td>Quantity</td>
</tr>
<tr>
<td></td>
<td>Item No., Positive, Completely Invoiced, ...</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Applied Entry to Adjust, Item No., Location, ...</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Entry Type, Nonstock, Item No., Posting, ...</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lot No., Posting Date</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Item No., Variant Code, Lot No., Location, Code, Bin Code, Remaining Quantity</td>
<td></td>
</tr>
</tbody>
</table>

Table #338—Entry Summary:

Add the following fields as shown.

Table #338 Entry Summary - Table Designer

<table>
<thead>
<tr>
<th>E.</th>
<th>Field No.</th>
<th>Field Name</th>
<th>Data Type</th>
<th>Length</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6502</td>
<td>Warranty Date</td>
<td>Date</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6503</td>
<td>Expiration Date</td>
<td>Date</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6504</td>
<td>Total Requested Quantity</td>
<td>Decimal</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>60503</td>
<td>QC Non Compliance</td>
<td>Boolean</td>
<td></td>
<td>QC</td>
</tr>
<tr>
<td></td>
<td>60501</td>
<td>Item No.</td>
<td>Code</td>
<td>20</td>
<td>QC</td>
</tr>
<tr>
<td></td>
<td>60502</td>
<td>Customer No.</td>
<td>Code</td>
<td>20</td>
<td>QC</td>
</tr>
<tr>
<td></td>
<td>60503</td>
<td>QC Option</td>
<td>Option</td>
<td></td>
<td>QC</td>
</tr>
<tr>
<td></td>
<td>60504</td>
<td>Version Code</td>
<td>Code</td>
<td>20</td>
<td>QC</td>
</tr>
<tr>
<td></td>
<td>60505</td>
<td>QC Test Exists</td>
<td>Boolean</td>
<td></td>
<td>QC</td>
</tr>
<tr>
<td></td>
<td>60506</td>
<td>QC Compliance</td>
<td>Code</td>
<td>4</td>
<td>QC</td>
</tr>
</tbody>
</table>
Table #6505—Lot No. Information

Add the following 2 fields as shown

Table #6507—Item Entry Relation Table

Add the following field as shown

Once all the changes have been made, COMPILE ALL objects again. If compile errors still exist, Dynamics NAV will mark the problem objects and you will need to double check the integration in your database with the change log. If you are sure that all changes are in the database and compile errors continue please contact you NSC immediately.

If all objects compile, then continue on with the Setup & Workflow instructions.
Setup – Quality Control

Dynamics NAV pre-requisite: “Item Tracking” Granule. Since Quality Control is built on the premise of doing testing on “LOTS”, it is required that you have purchased the “Item Tracking” Granule that enables Lot Number and Serial Number Tracking. This document will not cover training on that Granule. Contact your local NSC for “Item Tracking” training. We will build new concepts on top of your knowledge of “Item Tracking”.

1. The Quality Control Setup needs to be run

When you received your objects you should have receive a menu suite 59 and 1059. These would have the Quality Control options added to the menu. You may need to recompile your menu suites to flush the changes through if the End-user already has custom menu suites in the database.
2. Next, setup your Quality Measures Descriptions. Here is a sample.
Notice that Quality Measurers can have results recorded in two different ways as a numeric value or a value selected from a list. For instance the Quality Control Measurement of APPEARANCE has a result select list: PERFECT, POOR, DAMAGED. Only PERFECT and POOR qualify for passing inspection.
3. Next set up your testing Methods and Descriptions. Here is a sample.

4. QC Setup – General Tab

Next set up your QC Test Number Series. This is the number that will be assigned automatically to each new QC Test.
“QC Requirements”

In Code unit 22 there is standard code checking for Item Tracking – CheckItemTracking

In this Procedure we additionally add code to see if QC Requirements is checked. This is just an indication to proceed with the QC Requirement code.

If you have “any” items that will have required QC then this QC Setup field needs to be checked. An indicator field on the PO Line will reflect this QC Required.

The code in the procedure then checks the QC Requirements table to see if the Item has a QC Requirement, or a Item/Customer QC Requirement.

When you are setting up the QC Specifications the QC Requirements table is found on the Setup menu button. See below.

It is the “Quality Testing Required” field setting on the QC Requirements table (shown above) that will default the check box field “QC required” on the Purchase Lines.
Default QC Location

On form OBJECT Form 14004601 Quality Lot Test Header there is a Command Button called Transfer.

The process of creating an Item Transfer from the Default QC Location to whatever the user enters.

Example: Create a LOC = QC. Then receive or product to the QC Location. Once testing is complete use the Transfer feature to move the item to the Main Location. (BLUE)

5. Specifications:

The last step, and most challenging, is to setup your Item’s QC Specifications. This could be any of the following:
   - Your company’s Specifications
   - Your customer’s Specifications
   - Multiple Versions within each.
   - Multiple Types per Specification.

First setup “your” Company’s standards per Inventory Item that you intend to do LOT Tracking with. (QC Specification) Each Spec Sheet will have a Header Section and Lines Section.

Here is an example of the Specification Screen:
This sample is for Item No.: 80216-T “Ethernet Cable”

See if you can find this item in your Sample Database. It will need to be in Status = “Under Development” to be able to add the Quality Measure Line items. These are the Lines that help us establish the Lower and Upper Limits of each test. You will see soon how we will pull this information into our Testing area.

Below you will find a second Quality Specification that is specific to a Customer’s Specifications. The only real difference is that both the Item No. and Customer No. have been identified.

Notice also the “Active Version” is displayed. Each Specification can have multiple versions with the most current being the Active Version. This is controlled by the “Effective Date” on the Spec Version Card.
You can access the Spec Versions from the Quality Spec Menu Button shown above.

The Version Window looks almost identical, but it has an “Effective Date” field and Version Code field added.

These versions will be used later during the Order Entry process to help identify which LOT Numbers are in compliance with the Customer’s desired specification. (Not your testing specification)

Note: To be usable the Version must have the “Effective Date” and be “Certified” as shown above.

Notice that each Header or Version can have “Comments”.

Notice that each Quality Line can have “Comments.”

Notice that there is a “Copy” Function to copy Quality Lines from the Header or other Versions. Then edit the Lower and Upper Limits as needed for this version. Last step is to “Certify” the Version.

Printing of Specifications is only done from the Header Specification. There is a print button provided, and if there are sub-Versions they will be printed as well.
We provide 3 ways of accessing the Quality Specification Window:

1. From the Quality Control Menu, Quality Specifications.

2. From the Quality Control Menu, Specifications by Item.

This enables you to select the Item Number that you want to Add/Change/or Delete the specifications to. Use the “QC Specs” button shown above to access the Spec Card.

3. From the Quality Control Menu, Specifications by Customer.
You will be presented a List of Customers who actually have Quality Specifications. From the “QC Specs” menu you can access their Specification Card(s). Notice the Sub-Form shows all the Customer’s Items Specifications.
Use the “Item Specifications” to view that Customer’s specific specifications.
6. Lot Number Information

This is really not a setup area, but rather an automatically populated LOT MASTER Card. Each time you produce a new Finished Good Item and assign a LOT Number to the Production, this Card will be automatically updated. Each time you “Receive” an item into Inventory AND assign a LOT Number to the received item a Lot Number Information card will be set up.

Note: If you receive multiple times the SAME Lot Number there will only be one Lot Master. (One Card per Lot Number.)

Since the Quality Control Granule is built on testing of LOTS, this card will indicate with the “Lot Test Exists” indicator whether this LOT Number has been tested or not.

Options from the Lot No. menu:

You can access the associated “Item Tracking Entries”.

You can access Lot No. comments.

You can access any tests that have been performed on this Lot No. If it has not been tested yet, you can start a new test from the “Testing” menu choice.
Workflow

Quality Control was developed to allow users to enter LOT NUMBER “Test Results” and then compare the results to internal Company Quality Standards or Customer Specific Standards (Specifications).

These Standards are pre-defined for each Inventory Item that is to be “Lot Tracked” and tested. (see above setup instructions)

The “Testing” Window can be accessed from the Lot Information Card or directly from the Quality Control Menu list under Lot Testing.
You will be taken to the Quality Lot Test Card.

From the Lot No. Testing Card follow these steps to record a new Test Results:

1. Select “New” to start the new test.

2. Select the Item Number to be tested.

3. Select the Lot Number to be tested.

Optionally you can enter: Qty Inspected, UoM, Test Date, Test Time, and Tested By.
4. Run the Function to “Get Specifications” or manually add the Quality Measures.

The Sub-Form will be filled in with that Item’s Quality Specifications that were setup previously. If there are multiple Versions, the system will pull in the most current and “Certified” Version.
Optional: Print the Testing worksheet (Put on a clip board for the Lab Technician)

5. Move to the “Actual Measures” Column and enter your testing results.

Notice that any test results that are out side of the Limits established will automatically be flagged as “Non-Conforming”.
Notice that the Line’s Test Date and Time are filled in automatically as you enter the test results.

Notice that there are Line Comments available for you to record any special comments about the particular Line Entry. There are also Test Comments available from the standard Comment Icon.

Any adjustments to Lower, Upper, or Actual entries will be automatically recorded in the Line’s Comments. (Change Log)
Optional Display Prefix and Optional Display Value gives you the flexibility of reporting results within a “greater than” or “less than” value instead of a single fixed value. The printing of the test results is actually printing the Optional Display Prefix and Optional Display Value. The default is always “equals to” the Optional Display Value which defaults to the Actual test value.

If the specifications only call for the test results to be greater than a value, then you can change the Optional Display Prefix to be the greater than sign (>). The system will default the Lower limit value into the Optional Display Value field. You may edit the optional display value as long as it stays within the specification limits or is accurate related to the actual value. The same process works using the less then (<) sign in the Optional Display Prefix.

6. Upon completion of entering your test results, set the status of the test:
Typically it would be set to “Certified” or “Rejected”. Set it to “In-Process” if you have to leave and come back later to finish the test results. You cannot edit test results in Certified or Rejected Status.

Set to “Ready for Testing” if you are assigning the test to a Lab Technician.
7. From the Lot Testing Card you can print a pre-test worksheet that can be taken to the Lab’s Workbench to be used as a data entry print out. Just fill in the Test results (Comment Column) and then later enter the information into the Testing Card. (Or enter Real Time, if you have a Workstation at your Workstation)

If you have entered the actual test results, this same report will print out those test results.
Also, you may print a generic "Certificate of Analysis" at this stage to show the Test Results of this Lot Number's Test. (Only for "Certified" Tests)

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Description</th>
<th>Lot No.</th>
<th>Test Date</th>
<th>Test Time</th>
<th>Tested By</th>
<th>Test Status</th>
<th>Test No.</th>
<th>Seq/Inspected</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>10276-T</td>
<td>Ethernet Cable</td>
<td>L-ETH10</td>
<td>02/01/03</td>
<td>5:49:54 PM</td>
<td>Certified</td>
<td>OCT-1001</td>
<td></td>
<td></td>
<td>100.00 PCS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Quality Measure</th>
<th>Measure Description</th>
<th>Method</th>
<th>Method Description</th>
<th>Lower Limit</th>
<th>Upper Limit</th>
<th>Nominal Value</th>
<th>Actual Measure</th>
<th>Non-Conformance</th>
<th>Date/Time of</th>
<th>Time, Work Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>DENSITY</td>
<td>Density</td>
<td>LD</td>
<td>LD Tester</td>
<td>6.00</td>
<td>9.00</td>
<td>7.00</td>
<td>6.00</td>
<td>Yes</td>
<td>10/02/03</td>
<td>9:11:20 PM</td>
</tr>
<tr>
<td>MOISTURE</td>
<td>Moisture</td>
<td>PM</td>
<td>PM Tester</td>
<td>7.00</td>
<td>9.00</td>
<td>8.00</td>
<td>7.00</td>
<td></td>
<td>10/02/03</td>
<td>9:01:19 PM</td>
</tr>
<tr>
<td>STRENGTH</td>
<td>Strength</td>
<td>PM</td>
<td>PM Tester</td>
<td>5.00</td>
<td>12.00</td>
<td>8.00</td>
<td>5.00</td>
<td></td>
<td>10/02/03</td>
<td>11:59:25 AM</td>
</tr>
<tr>
<td>COLOR</td>
<td>Color and Text</td>
<td>LD</td>
<td>LD Tester</td>
<td>7.00</td>
<td>16.00</td>
<td>10.00</td>
<td>5.00</td>
<td></td>
<td>10/03/03</td>
<td>2:37:44 PM</td>
</tr>
</tbody>
</table>

Certificate of Analysis

Date: July 11, 2003

Page 1

Quality Supervisor: __________________________ Date: __________________

This document can be reformatted to any desired appearance.
Quality Control Reports:

Quality Control provides 4 pre-defined reports:

1. **Quality Specifications**

   This is a print out of the Item’s or Customer’s Quality Measure Specifications.

2. **Lot Number Activity**

   This report is by Lot Number and shows all in/out activity for each Lot Number printed. Use filters as needed to limit the scope of this report.
3. Test Results by Lot Number

This report is a detailed print out on the results of each test performed on each lot. Use filters as needed to limit the scope of this report.
4. Test Results by Item Number

This report is a detailed print out on the test results of each Item Number’s Lots. Use filters as needed to limit the scope of this report.
Logistics of Quality Controlled Physical Inventory movement:

The Quality Control module works closely with Item Tracking & Location Codes. Some of the first decisions you need to make are related to where the inventory is located when it is being tested, and where it goes when the Quality Testing is complete. Inventory that Passes Quality specification goes to the location code(s) from which you sell product. Perhaps Inventory that does not pass will go back to the Vendor or move to a “bone yard” location. Typical Processing Steps related to Quality Control.

**Inbound:**
1. Enter an Item No.
2. Setup the Item’s Lot Tracking information.
3. Create the Item’s Quality Specifications.
4. Order or Start Production for the Item.
5. Receive Quantity on Purchase Orders OR
6. Enter Quantity Produced in the Output Journal
7. In both #5 and #6 you enter the Lot No. and specify a temporary Location for the inventory while Quality Testing is being preformed.
8. Create a Testing Record for the Lot No.
9. Do the tests and record the test results in the Test Record.
10. Assuming the Lot passes, you now transfer the inventory out of the temporary Location and put it away in the selling location(s).
11. Lots that don’t pass can be returned to Vendors or transferred to a “scrap or bone yard” location.

You can using the Item Journal, Warehouse Journal, or Transfer Orders to perform inventory transfers.

During Purchase Requisitions, remember to filter out the location code(s) that contain inventory of goods that do not meet Quality Control standards, i.e. enter <> BONEYARD in the Location Code Filter before running the Calculate Inventory on the Requisition Worksheet.

**Outbound:**
1. Create Sales Order for the Item.
2. Lookup Lot availability and testing results.
   This lookup is Location Specific.
3. Select the Lots that meet the customer specifications.
4. Print the QC Picking Document which will show the Lot Numbers selected.
5. Post Ship or Post Ship and Invoice
6. Print the Certificate of Analysis from the Posted Shipment Document.
Purchase Order Processing Ideas

When you are purchasing items that are to be “lot tracked” it is important (mandatory) to record the received Lot Numbers prior to Post of the Receipt.

This entering of the Lot Number or Serial Number is done on each Line of each Purchase Order.

Here is a sample with Serial Numbers:

Notice that you can receive multiple LOTS on one receiving Line. You will use the “Item Tracking Line” Window to enter the Vendor’s Lot Number and the Quantity of that Lot to receive.

It is possible to let Dynamics NAV Assign the Lot Numbers, but we recommend you use the Vendor’s Number. Once the Lot Number and Quantities have been entered, just press ESC to close this allocation window. You will return to the PO’s Line. Select the next Line or next PO to record the next Lot Number(s).

We recommend you review this process carefully with your Receiving Department. Accuracy is very important for later Testing and Tracking of your Lot Numbers.
Normal PO processing occurs from that point forward.

Production Order Processing

Some companies will produce a Finished Good Item that is to be put into Finished Goods Inventory with a Lot Number. In this case the Company is assigning the Lot Number themselves to the Finished Good Item.

The item must be produced into Finished Goods Inventory before Lot Number Testing can begin.

You will follow normal Dynamics NAV Manufacturing steps with the following addition to record the Finished Good’s Lot Number.

1. During your recording of the Qty Produced in the Output Journal, go to the “Production Order”, “Item Tracking Lines” and enter the desired Lot Number to assign to your Finished Good Item.
2. Now enter the Lot Numbers. (Or let system Assign them)
Close the Item Tracking Line Window. This will be the Lot Number placed into the Lot Master Card. Notice that it is possible to split a production run into multiple Lot Numbers if needed.

You will need to enter this Item Tracking Line Window for each Line in your Output Journal that is to be Lot Tracked.

2. Go to the Lot Number Information Card. Find the Lot Number just produced.

3. Perform the prescribed test.

4. Record the Test Results as discussed above.

5. Print a Certificate of Analysis if needed.

**Sales Order Processing with Lot Numbers**

We will assume that the Item has now been tested and the results have been entered into the Test Results Window.

Remember, the test was performed against our company’s specifications, not the customer’s specifications.

But, now the Customer is placing an order for your Finished Good. The challenge is to be sure the LOT that we ship matches this Customer’s Specifications. (Not ours) The Actual Measures were taken against our Specification. At the time of the test we are not sure who will be ordering the Finished Good and what their individual Specifications will call for.

With this new Customer Order we must be sure that we PICK a Lot that is in compliance with the Customer’s Specifications. It becomes the job of the Customer Service Representatives to notify the Shipping Department which LOT Number to pull, so that the specifications are in conformance. (not the other way around.)
A special window has been designed for just this purpose:
The Item Tracking Summary Window is launched from the “Edit Assist” button on the Item Tracking Lines Window. From here the Customer Service Representative can see any Lot Numbers that are not in compliance with the Customer’s Specifications. (not our specification)

They can even Lookup to a “Quality Compliance View” by just clicking on the Lot Number. This Compliance View will show the details of the Actual Test Results compared against this Customer’s Specifications. You can see that only one Quality Measure is out of compliance. The Customer could be notified for acceptance of this non-compliance or a different Lot Number could be selected that is compliant.

Press ESC to return to the Lot Number Selection Window.

Click OK to select your desired Lot Number to ship.

Repeat this selection process for any other Sales Order Line Items.

Ship and Invoice the product to the customer. (Follow normal Dynamics NAV procedures)
When this Sales Order is POSTED “Shipped”, the values in the Compliance View are also POSTED to a “QC Posted Compliance View” Table for audit purposes.
As you can see from the above “Posted Item Tracking Lines” you can access via “View QC Results” the “QC Posted Compliance View”. This holds all the Actual Values and the Customer’s requested Specifications. (Complete Audit)
Notice that you can now print a “Customer Specific” Certificate of Analysis. This C of A will print with the combination of the Customer’s Specifications and this Lot Number’s Actual Test Results.

You may access this same Posted Information for the Posted Sales Invoice Window as well.
Since the Order Entry Department is driving the selection of the Lot Number to be picked, it is suggested that you print a Picking List that will include the desired Lot Number to be picked. (This is only available if you have purchased “Reports Pack”.)

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Description</th>
<th>Unit of Measure</th>
<th>Qty to Pick</th>
<th>Qty Picked</th>
<th>Qty Packed</th>
<th>Unit Weight</th>
<th>Total Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>70105</td>
<td>Paint - Orange</td>
<td>KG</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lot No.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lot 7</td>
<td></td>
<td></td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>800001</td>
<td>Computer II 533 MHz</td>
<td>PCS</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lot No.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lot 6</td>
<td></td>
<td></td>
<td>2.00</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Dynamics NAV Manufacturing and Quality Control

There are only two possibilities:

1. Making a FG Item. (Output Journal)
2. Using a RM Item. (Consumption Journal)

As you produce a FG into Inventory (Output Journal or Production Journal) you may want to assign a Lot Number to your production recording. (Auto-assign or manually assign)

From the Output Journal Line, Production Order, Item Tracking, Enter your Lot Number or Auto Assign.

Note: You may have already made some of the FG and you want to record more into the same batch (lot). From the Lot No. field you can lookup what Lots have been produced so far and add to the same Lot or start a new Lot Number Series.
The second possibility is to consume Lot Numbered Items, and maybe Lot Numbered Items that have had a QC Test performed. This entry would be made in the Consumption Journal and telling the system which RM Lot Number you want to pull from stock. (ILE)

Notice how we only display the Testing Information (with drill down options into the test). We do not block you from using a Lot Number Item just because it has not been tested.
Blocking Lots

From time to time it may become necessary to BLOCK a specific Lot.

From the Lot No Information Card, just click YES to set the field to block. This will Block prevent any further Sales Order Processing until the Block is removed.

New for 2013 R2 and beyond

1. “Edit Line” controls at the QC Test Lines Level.
   Again, this is tied-in with the “QC Manager” concept.
2. **Increased Statuses.**

The Status list also has some built-in “Blank Spaces” in the “Option String” to allow for easy Customer-Addition of Customer-Specific Statuses.

3. **Status-Change Logic.**

This is very “Modular” and flexible, and again, tied-into the “QC Manager” concept.

This is the concept of who is allowed to change the statuses.

I.e. Some statuses can be changed by anybody and some can only be changed by the QC Manager.

If an end user didn’t want this control, i.e. they wanted everyone to be able to change all statuses, then all users would be flagged as managers.
4. Auto-Creation of Test Header Comment upon Test Status Change

5. The Concept of being able to mark Spec and Test Lines as “Outside Testing”, along with the Status-Change “Lockouts” regarding same.
6. **The Ability to Add “Ad-Hoc” Test Lines** at the “Test” Level, that are NOT part of the “base Specification”, with the necessary changes to the “Copy Specs” to “preserve” those Ad-Hoc tests. Note: Must be logged in as a Manager.

7. **The Ability to Warn/Prevent the Printing of “CoA”s unless a certain Test Status is achieved.**

   QC Setup Booleans to control the “Certified-Class” Statuses that will allow Printing of a CoA.

8. **There will only be ONE “Certified Final” Test per “Lot/SN”.**

   All others will be “Demoted” to “Certified” Status.

9. **New in NAV 2015 – Quality Control Role Center**

| Role                      | Title                        | ID  | | | |
|---------------------------|------------------------------|-----|---|---|---|---|---|
| Sales Manager             | Sales Manager                | 9005| | | | | |
| Resource Manager          | Resource Manager             | 9014| | | | | |
| RapidStart Services       | RapidStart Services          | 9021| | | | | |
| **Quality Control**       | Quality Control              | 14004619| | | | | |
| Purchasing Agent          | Purchasing Agent             | 9007| | | | | |
| Project Manager           | Project Manager              | 9015| | | | | |
This Role Center, like all Role Centers, can be adjusted or personalized if needed.

10. More features are being added based on End User Feedback.

If you have a product improvement or suggestion we would love to hear from you.
Some additional comments on Quality Control

If a lot is tested several times and there are several certified tests available for that lot, all lot tests are stored. However the lookup from the sales line will find the most current test per quality measure. If the most recent set of quality measurements are compliant then the lot will be flagged compliant.

The Status Certified on a lot test does not mean totally compliant. It means complete and possible acceptable to some customer for sale. If a lot is flagged non compliant from the sales line that means at least one quality measure on the most recent measurements on the lot was out of compliance. The user can drill to a view of the most recent measurement tests to see which measurement was out of compliance and by how much.
No WMS is required to run QC.

Distribution: PO Receive with Lot Number

Manufacturing: Post FG produced in Output Jnl

Job Costing: Post FG produced in Production Jnl. (under dev)

Lot Number Master

Test and record the results.

Certificate of Analysis

Item specifications with versions.

Select Lot 
Routine

Item Specs with Versions

Sales Order

Customer Specs w/ Versions

Print Sales Order as Pick w/ Lot #

Post “Ship”

Ship Doc with Lot #

Customer’s CoA

Post “Invoice”

Posted Shipment

Customer’s CoA

Posted Invoice
Support

Congratulations on your purchase of Quality Control! We couldn’t be more thrilled for you. Soon, you will be on your way to enjoying and utilizing the features and functionality of this product.

On behalf of NAV Software, NAV Solution Centers and NAV Service Providers, we thank you for your business. Most importantly, Cost Control Software sincerely appreciates your trust in our products.

Should you have any questions or comments regarding our product, we encourage you to contact your local NAV Solution Center (NSC). Please also contact your NSC if you are considering modifications or seeking new software functionality.

Cost Control Software provides many add-on products that may be just the solution you were looking for. Your NSC can provide you with our complete list of add-ons. You may also check out our website to see available add-on products as well.


Produced and Distributed by:
Cost Control Software, Inc.
12409 Old Meridian Street
Carmel, IN 46032

Phone: (317) 846-6025