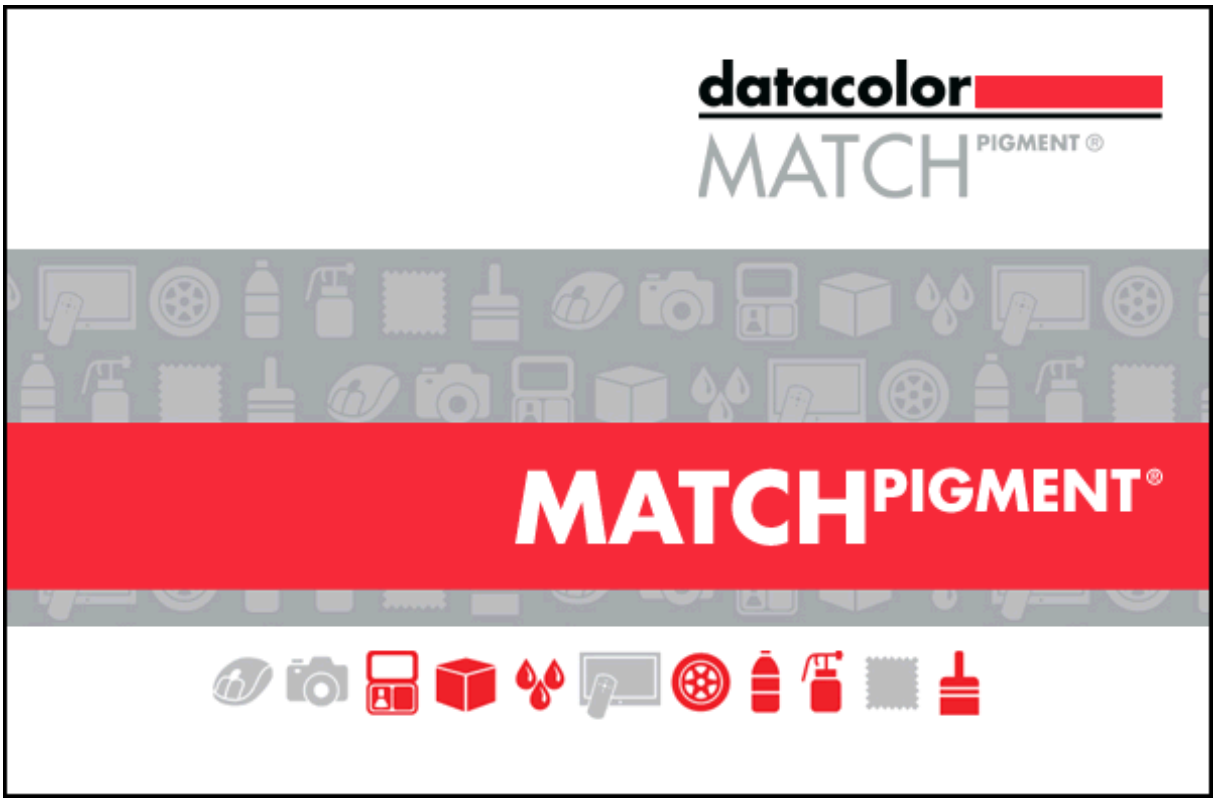
What's New in DMP V4.0

Addendum to Match Pigment User Guide



Datacolor MATCH PIGMENT v. 4x is only compatible with Datacolor TOOLS v. 3.2 or higher.
This addendum to the Datacolor Match Pigment User Guide will describe all new features added since the release of Datacolor Match Pigment Version 2.0. Basic functionality is not explained in this guide, basic functionality is explained in the Match Pigment User Guide which is installed automatically in the Match Pigment application folder. It can also be downloaded from the support site

You will also find Tutorial Video's and FAQ's on our support website at:

http://www.datacolor.com/business-solutions/support/product-support/

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Datacolor MATCH PIGMENT V4.0 Overview

Datacolor MATCH Pigment v 4.0 includes speed improvements, new functionality to several program modules and changes to the user interface to achieve uniformity among the program options. Changes have been made to the following program options:

The new interface is consistent across all of these maintenance modules. The improvements include the display of all records in a single window, and the uses of the same controls and indicators in every maintenance module.

This document provides information about features enabled in v 4.0 as well as features enabled in releases v 3.x that have not yet been documented. The features discussed include:

- **Maintenance Grid Redesign.** The Maintenance Window layout has been updated and is consistent across program modules.
- **Queue Maintenance.** The maintenance window has been updated and a multi-scheduling option has been added to queue types.
- **Queue Viewer.** A Notes option has been added to the formula record. Also included in this section is a detailed review of the interface changes that were made to Queue Viewer introduced in Datacolor MATCH PIGMENT v. 3.4.Ingredient Maintenance. The maintenance window has been updated for both Ingredient Maintenance and Ingredient Compatibility Manager.
- **Schedule Maintenance.** The maintenance window has been updated.
- **Product Line Maintenance.** The maintenance window has been updated for both Product L*ine Mai*ntenance *a*nd Ingredient Compatibility Manager.
- **Navigator Update.** Enhancements made to Navigator since v 3.x will be included in this document.
- **Gamut Mapping.** A gamut mapping tool has been added to both Formula Central and Set Maintenance to aid the user with colorant selection.
- **Offset Matching**. Explains the concept and operation of this feature.
- Recalculate RGB's.
- Speed improvements have been made for standalone, LAN and terminal server configurations.

New Maintenance Grid Design

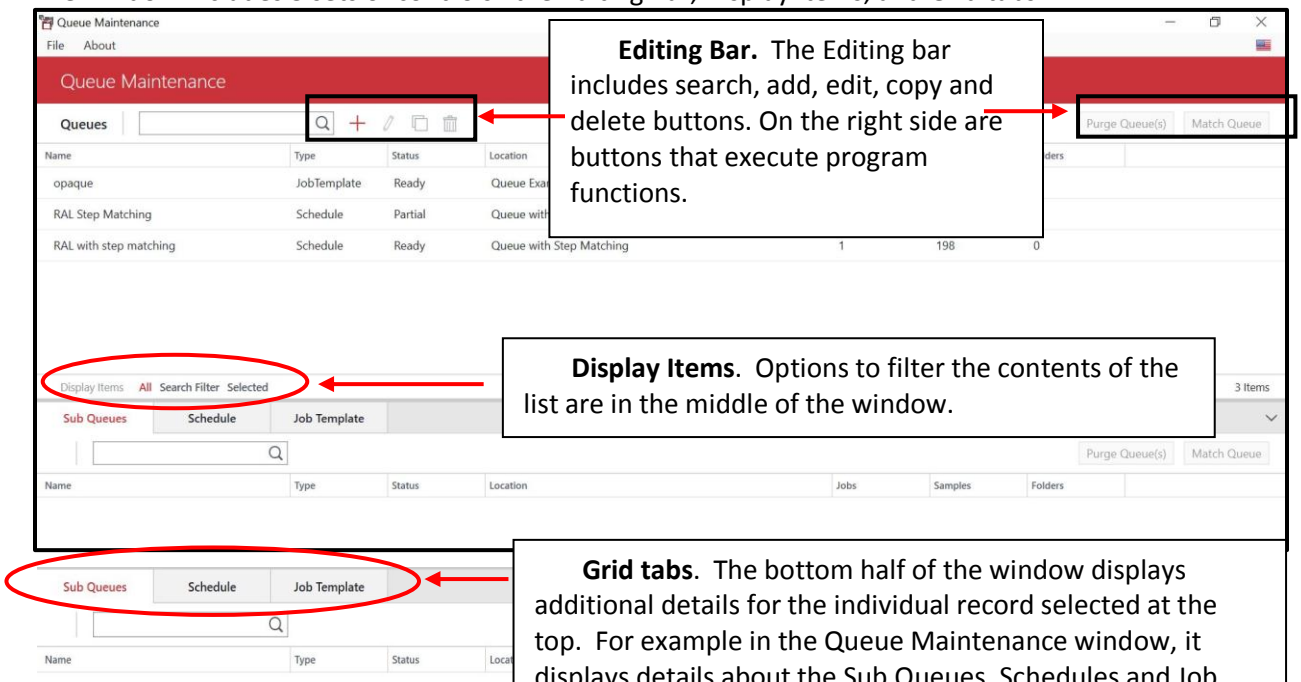
Queue Maintenance, Ingredient Maintenance, Ingredient Compatibility Manager, Schedule Maintenance and Product Line Maintenance now use a standard grid layout, and standard controls. This new design makes it possible to view all of the records and to locate individual records in the database from a single window.

This section will explain the controls common to the grids using this new design. However, each grid contains some unique information, which may require explanation of fields and controls specific to the grid. *See Queue Maintenance, Queue Viewer, Ingredient Maintenance, Schedule Maintenance, and Product Line Maintenance sections of this document for information unique to those grids.*

When you edit information in any of the grids, be sure to click the Save button before leaving the window. In some cases, the program will prompt you to save the changes before exiting. However, there are some options that do not confirm the delete before executing the option.

Maintenance Window Details

The window includes 3 sets of controls: the Editing Bar, Display Items, and Grid tabs



Editing Bar. The Editing bar includes search, add, edit, copy and delete buttons. On the right side are buttons that execute program functions.

Display Items. Options to filter the contents of the list are in the middle of the window.

Grid tabs. The bottom half of the window displays additional details for the individual record selected at the top. For example in the Queue Maintenance window, it displays details about the Sub Queues, Schedules and Job Templates stored in the selected queue record.

Editing Bar

The editing icons described below are standard for all of the DMP grids

Icon	Function
	Search for a record. *See Search Record below for additional information.*
	Add record.
	Edit selected record.
	Copy selected record.
	Delete selected record. **IMPORTANT** If the record is linked to another record (dependency), the program will display an error message and it will not execute the delete. When you choose this option, it will delete the record without displaying a confirmation dialog box.
	Reorder records in the grid. Highlight the record to be moved, and click one of these arrows to move up or down.

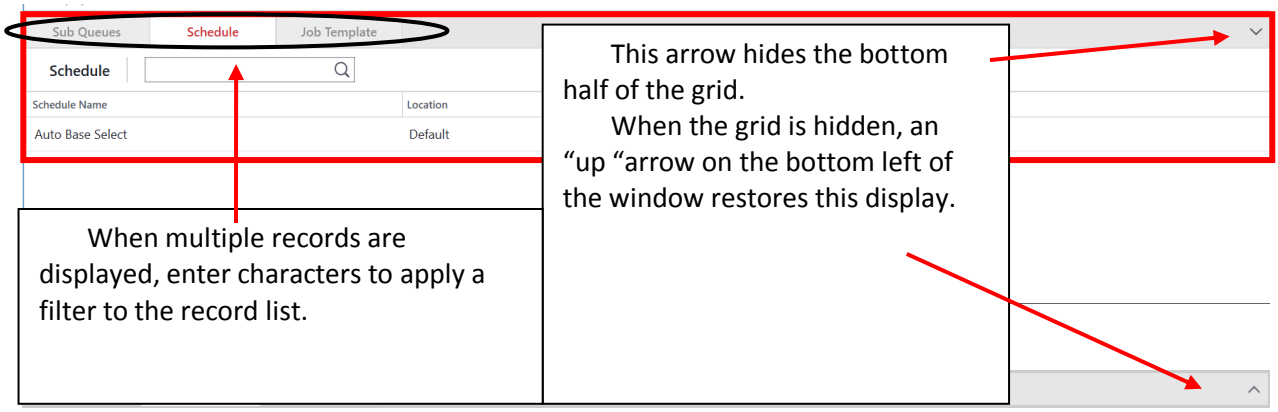
Display Items

These options are used to filter large record lists. When the function name turns red, the function is enabled.

	Displays all records.
	Displays records matching the text string input in the search field. When Search Filter is enabled, it starts searching as soon as the user enters characters into the field.
	Displays the records satisfying the filter.

Record Details

The bottom of the grid provides additional details about the content of the records. Click on the tab for the type of data to be displayed.



Sizing and Customizing Grids

In some grids, there are buttons on the right end of the editing bar to re-order and the re-size of the columns displayed in the grid.

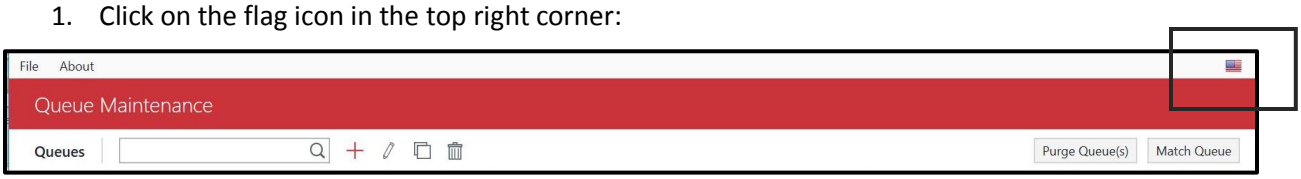
(set columns)	Opens a dialog for customizing the grid layout for the program module you are currently using.
Filter	This option *is only found* on the Ingredient Maintenance grid.

Language Selection

You can also change the language selection directly from any of these maintenance windows. When you change the language using this option, you do ***not*** have to restart the system to implement the change. It is made automatically.

To change the language:

1. Click on the flag icon in the top right corner:

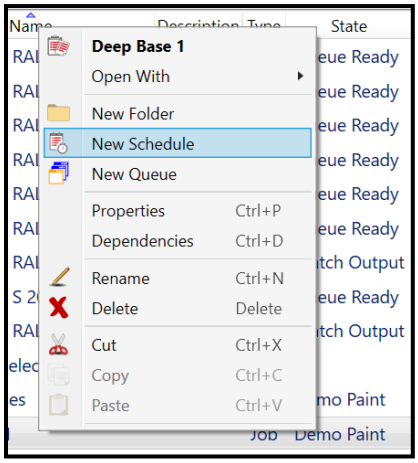


All of the available languages display:

2. Select the language to be displayed.

Menu Options

Menus are available throughout the grids. Right click in a grid to display a menu:



Menus are also displayed at the top of each maintenance window:

Often the menus provide alternative methods for accessing a particular maintenance option, such as editing options. However, in some cases they provide the *only* access to reporting options, dispensing functions and other features.

See Ingredient Maintenance, Queue Maintenance, Schedule Maintenance and Product line Maintenance in this document for all details specific to those grids.

Queue Maintenance

The queue function automates the matching process and allows the user to queue samples for matching at a later time. The queues built using Queue Maintenance require the same input that you provide when you run a single match in Formula Central.

Queue Maintenance displays both *queues* and *schedules* that are stored in the system. It provides access to all of the details for each queue, including job templates, sub –queues, and schedules. *See also Schedule Maintenance in this document for information on this advanced queuing function.*

Queue Maintenance v 4.0

The interface for Queue Maintenance has been updated for consistency with other maintenance grids in Datacolor Match Pigment.

Functional changes to Queue Maintenance in DMP v 4.0 include:

- User can select individual target samples or a complete folder containing targets to be matched. *Prior to this release, the user could only select individual target records*
- User can modify the details of a queue after it is created. This includes editing standard selection, folder locations, queue type and queues to be used.
- Multi-Schedule feature. This feature has been added to the Queue Type options. Multiple schedules can be combined in a single queue. Using this option, the program will look across multiple product lines to find an acceptable formula to match the target.
- User can view and purge queue results directly from Queue Maintenance
- Queue matching can be launched from Queue Maintenance or directly from Navigator.

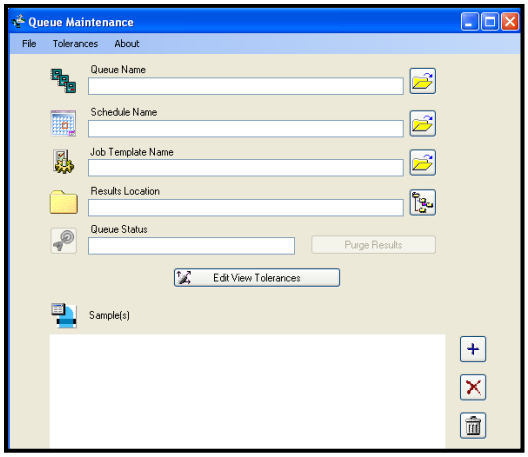
Queue Maintenance Grid Details

The layout and controls are consistent with the updated maintenance window design found in other DMP program modules. *See also Grid Layout for details regarding the common controls and indicators found on the grids in Datacolor MATCH PIGMENT.*

Below is a comparison of the old and new Queue Maintenance windows.

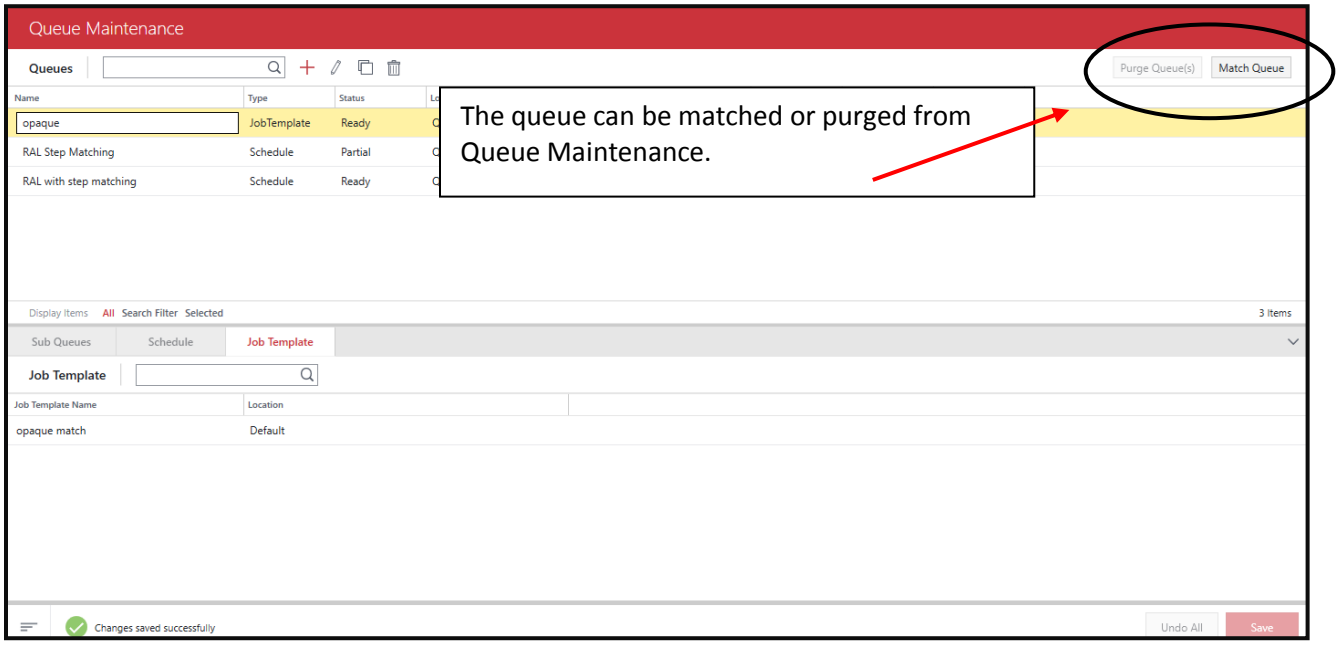
Old Window

Prior to this release, the queue maintenance window only displayed data for a single queue.



New Window

The new layout makes it possible to view all of the queue records and to locate and move between queue records in the database from a single window.

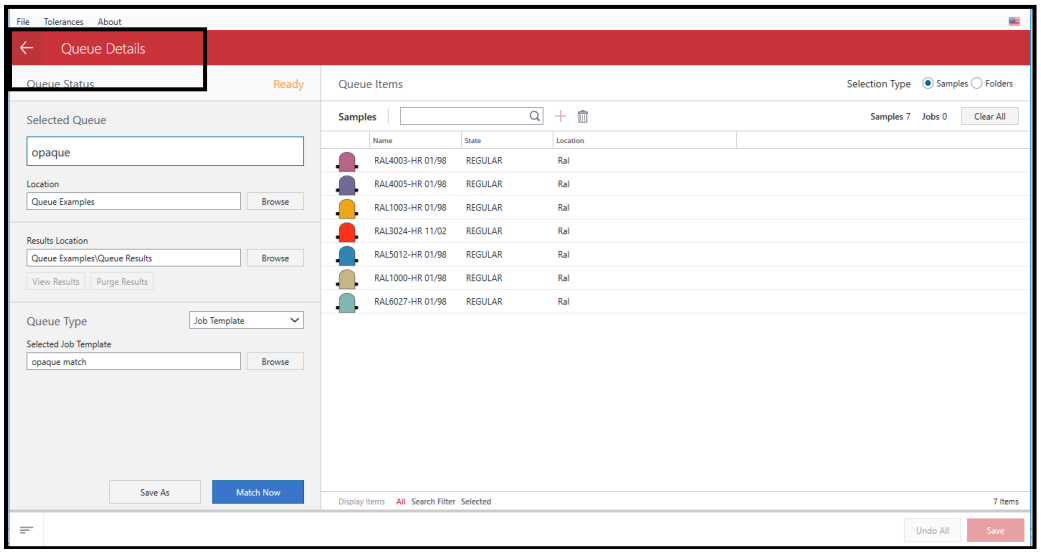


You must access the Queue Details window to view/edit selections for an individual queue.

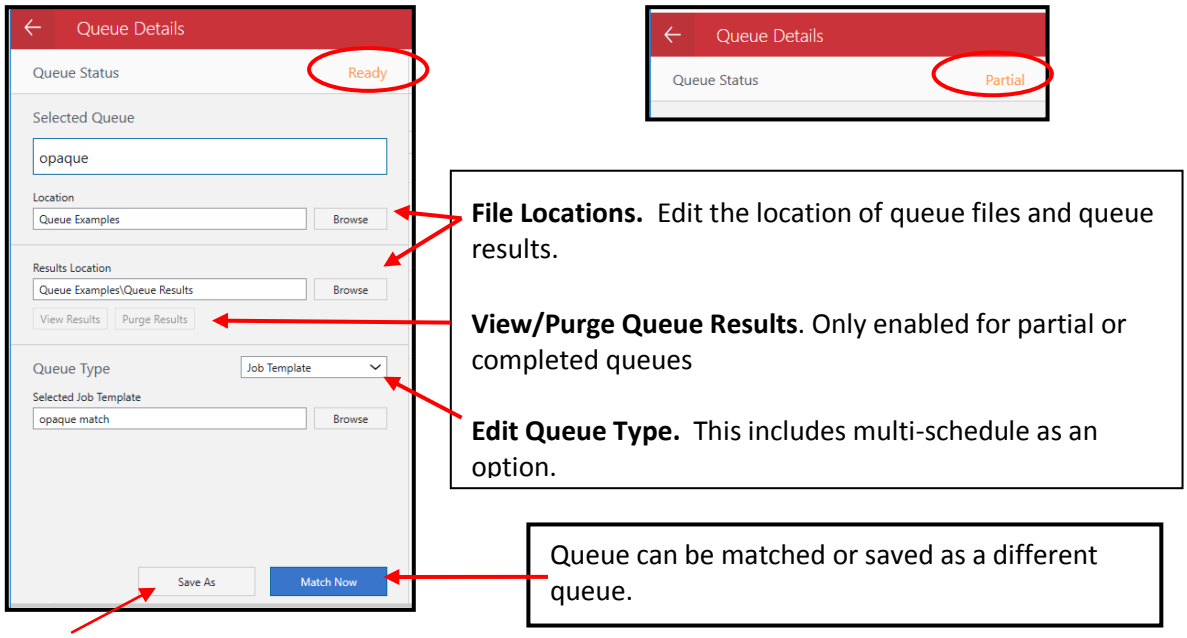
Queue Details Window

The *Queue Details* window is used to create new queues, copy queues or edit the details of existing queues.

1. To access *Queue Details*, double-click on a queue record in the list. The queue details window displays:



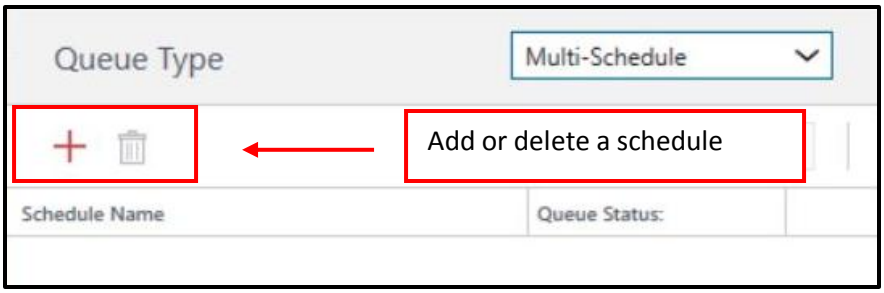
- **Queue Status.** When the queue status is *Ready*, the user can edit the selections in the left window pane. When a queue status is "partial", the editing functions for queue location, results location, queue type and schedule selections are disabled.



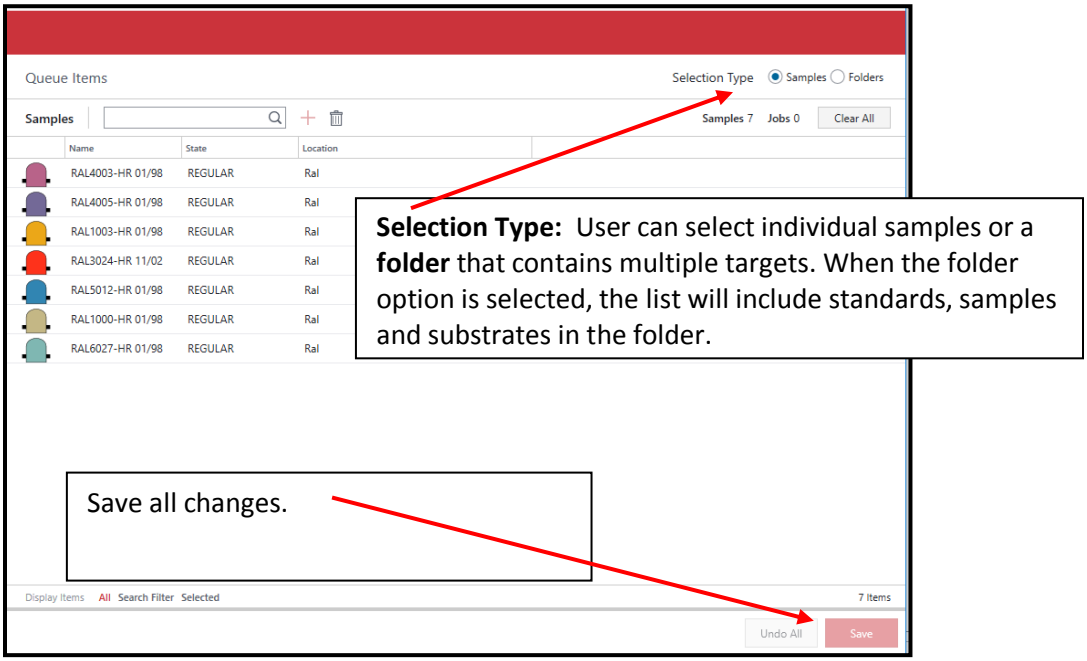
You can duplicate an existing queue to create a new queue. When you change any of the selections for the queue, the **Save As** button is enabled. Make the modifications to create a new queue, and then click the **Save As** button to store the new queue.

- **Queue Type.** Multi-schedule has been added as a queue type. When a user combines multiple schedules into a queue, a target can be matched across different product lines.

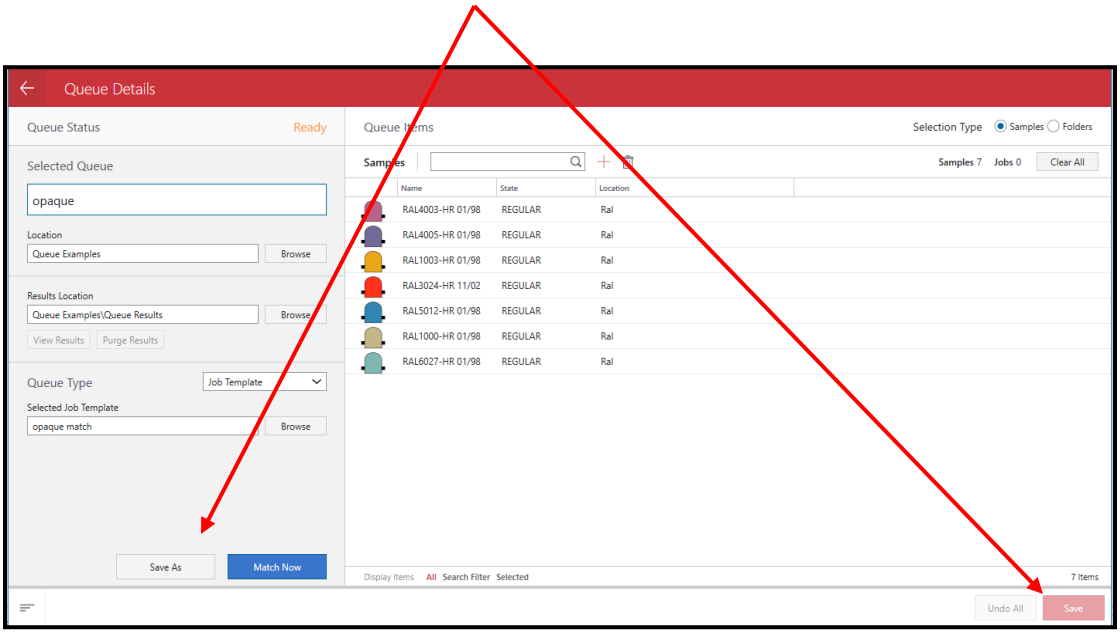
  - **Multi-Schedule** requires a minimum of 2 schedules. When only 1 schedule is selected the user will see an error message.
  - If no schedules are assigned, the user must add the schedules.



The options in the right window pane are used to filter, select and display target samples stored in the queue.



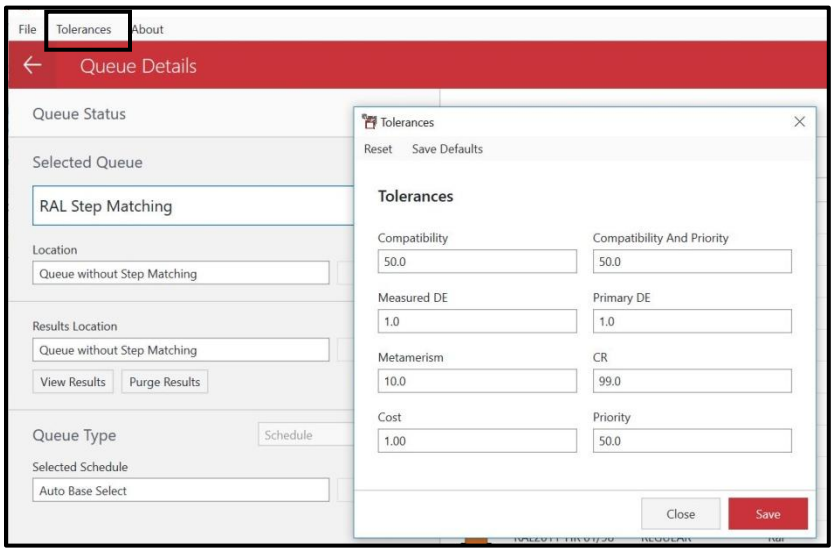
Save vs. Save As Option. When you make a change to details in the queue, such as the folder locations, job templates used, samples to be matched, the **Save** button on the right is enabled. You can store the changes for the current queue (Save) or save all of the information under a new queue name (Save As).



Queue Tolerances

Queue tolerances are distinct from the tolerances defined in the job template you are using. The tolerances in the job template are used to determine if a formula is an acceptable match. The Queue Tolerances assigned in Queue Maintenance are used as the basis for filtering and sorting the queue results. They are the same tolerances displayed and used in Queue Viewer.

1. Click on **Tolerances** at the top of the window. The current tolerances are displayed:



See Queue Viewer, Tolerances for a detailed explanation of these tolerances.

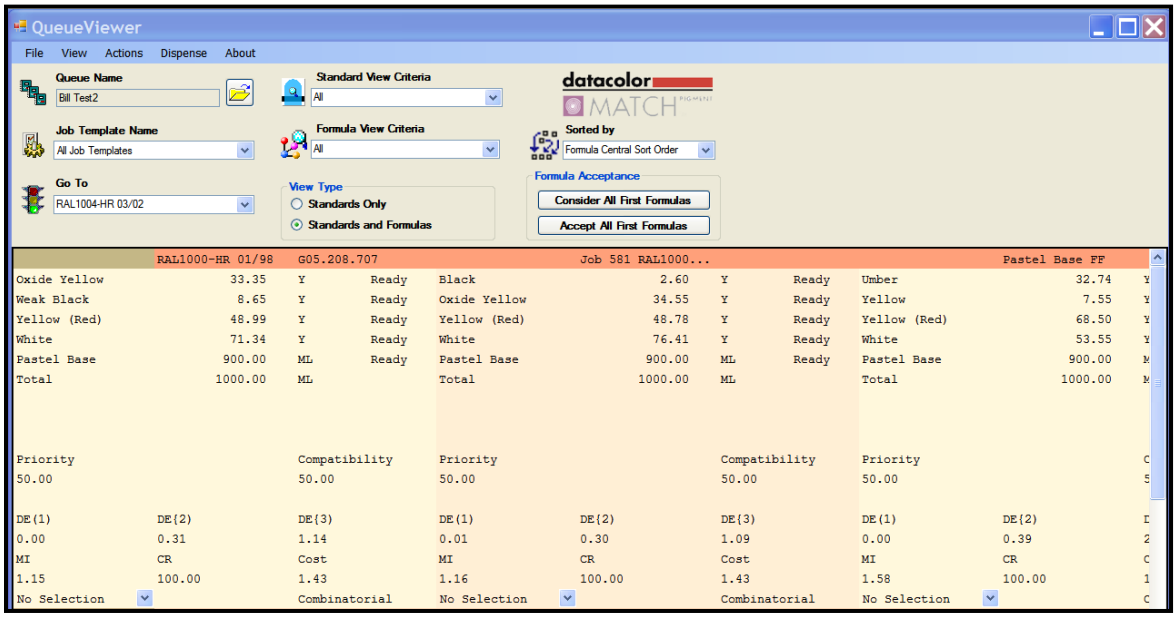
Queue Viewer 4.0

A Notes option has been added to the formula record. *See Notes below for details on this feature.*

The Queue Viewer interface underwent a significant change in DMP v 3.4. Also included in this section is a detailed review of the interface changes that have been made to Queue Viewer since the original release. Below is a summary of the features and controls on the current Queue Viewer Window, including the new Notes option.

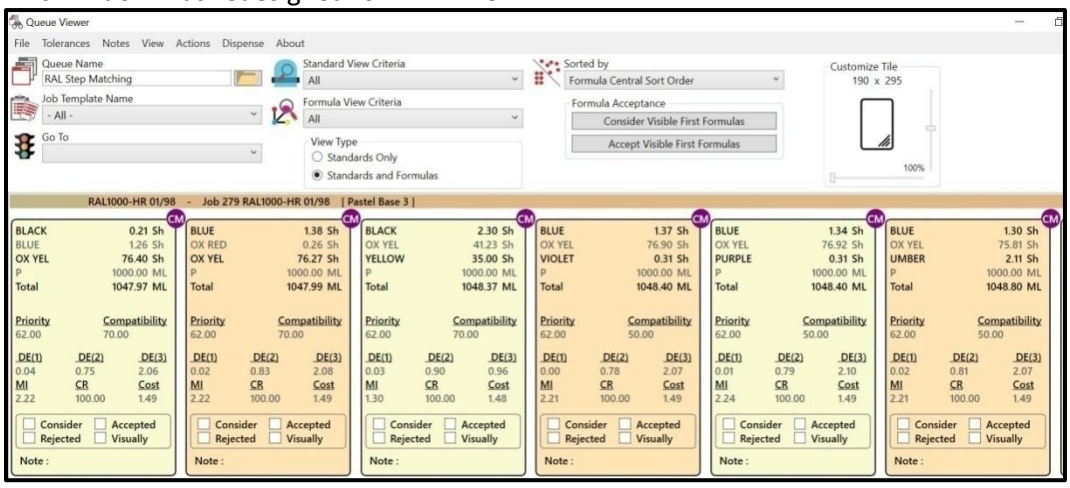
Original Window

Below is the original queue viewer window:



New Window

This window was redesigned for DMP v. 3.4:

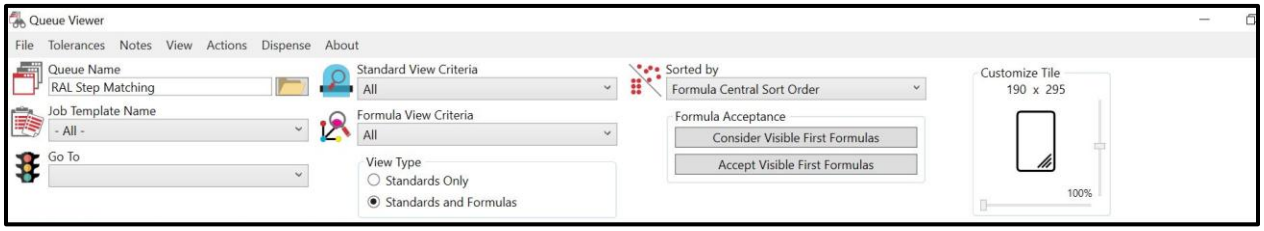


Queue Viewer Details

The new window design retains all of the original fields and formula information, and is now easier to understand and navigate.

Sort, Select and Display Fields

The fields at the top of the window control the parameters to sort, select and display the queue results.

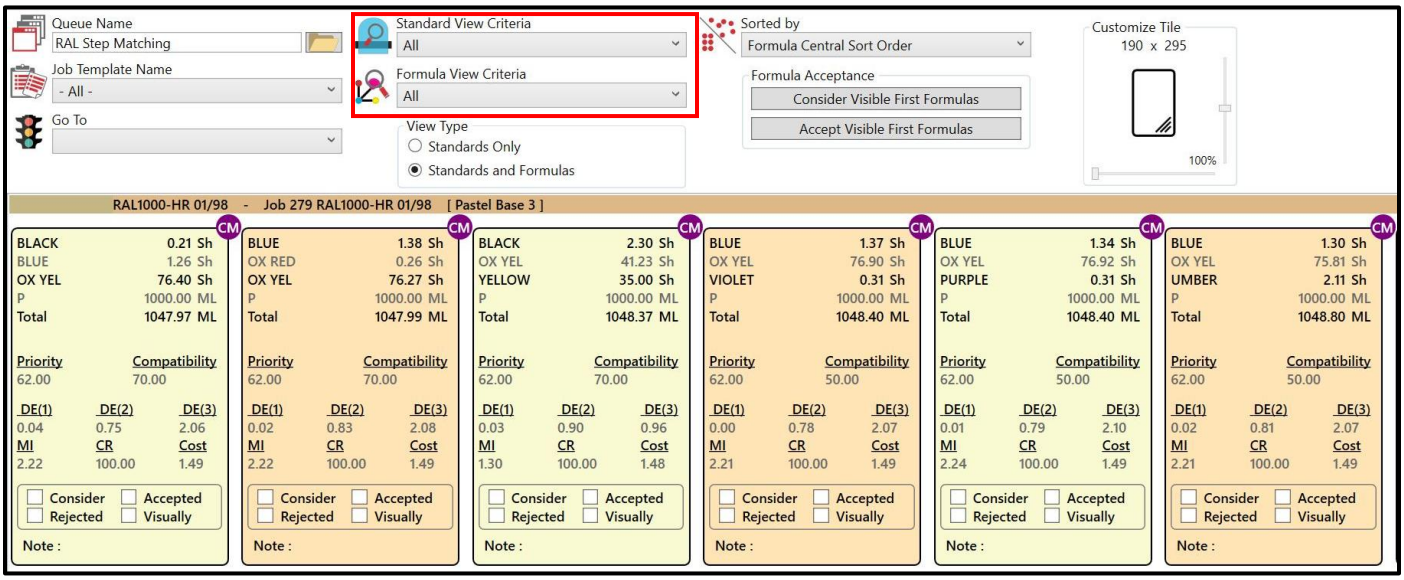


Below is a summary of all of the fields at the top of the window:

Queue Name	Change the queue that is displayed.
Job Template Name	*Displays results for all targets matched using a particular job template.*
Go To.	Displays all of the target names in the queue. Use this field to advances to a specific target color to view the results.
Standard View Criteria	Filters the formula results based on the characteristics of the standard. User can include/exclude formulas for particular standards, based on the properties of the standard.
Formula View Criteria	Filters the formula results based on the characteristics of the formula. Addition filter criteria have been added such as CR < Tolerance, CR> Tolerance.
Sorted By	The option allows the user to resort the formula results, before the formulas are filtered for either Standard or Formula requirements.
Formula Acceptance	The *First* formula for each target, displayed in the far left column, is always the best match found for the target *based on the job template used*. ck **Consider Visible First Formulas** to assign the status *Consider* to the first formula for every standard. A sort based on the status *Consider* will display a single formula for each standard. ck **Accept Visible First Formulas** to assign the status *Accept* to the first formula for every standard. This assignment allows you to resort the formulas based on this status. A sort based on the status *Consider* will display a single formula for each standard. *See Manual Formula Status Assignment for instructions to assign a status to individual targets or formulas.*
Customize Tile	This option resizes the display of individual formula details. Use the slide bars to adjust the dimensions of the formula display tile.

Formula Results

Below is an example of the queue viewer display:

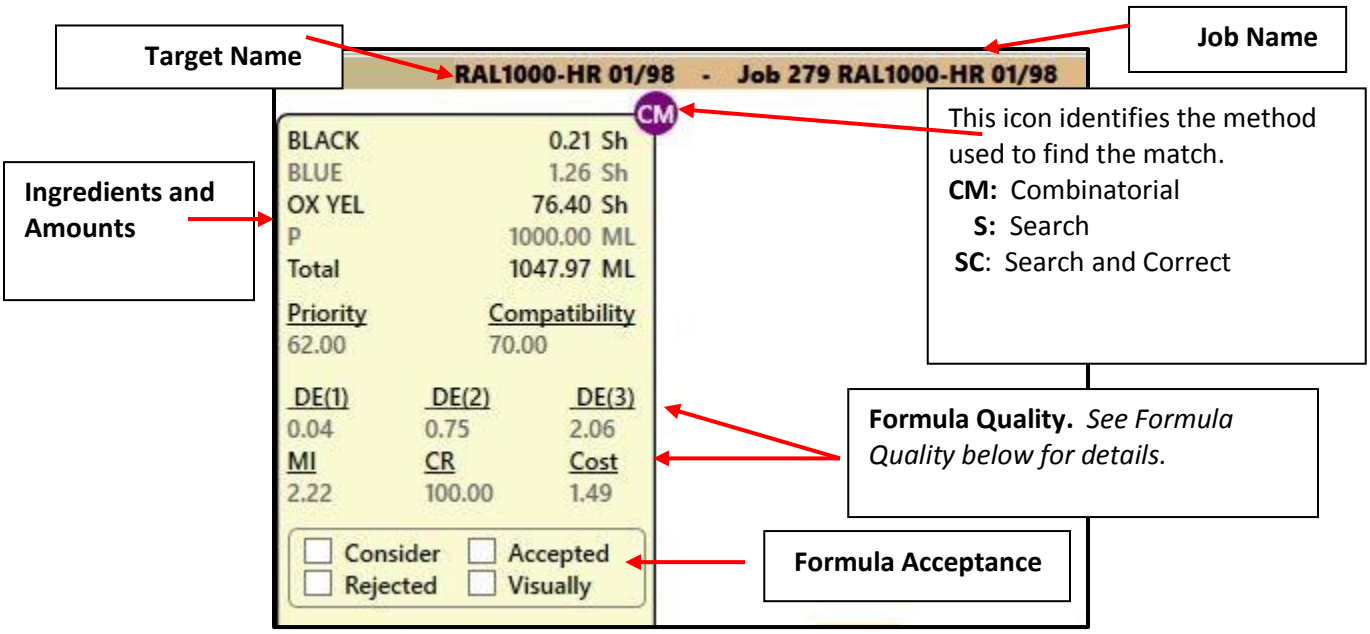


The display includes:

- Every *standard* that was matched *(all)* / included in the queue or schedule
- Every *formula* found for each target (*all*). The formulas are sorted best-to-worst, from left to right, using the sort criteria defined for the template.

Formula Detail

Below is an explanation of all of the information provided for a single formula:



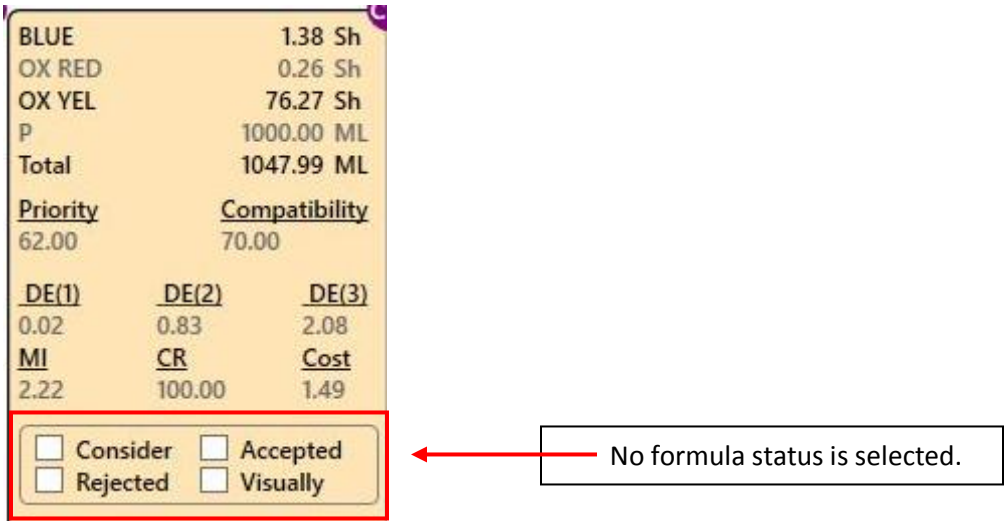
Formula Quality

Several characteristics of the formula are displayed to help evaluate and select the best formula to match the target. These characteristics cannot be customized.

Priority	The priority value displayed here is an average of the priority values assigned to individual ingredients in the formula. The default value for each ingredient is 50. The larger the assigned value, the higher the priority.
Compatibility	In Ingredient Maintenance you can identify ingredient combinations that you prefer to use in the formulas. This field indicates the compatibility value for this formula. The default compatibility value is 50. The larger the assigned value, the higher the compatibility.
DE(1) **DE(2)** **DE(3)**	The display includes color difference (DE) reports for Illuminants/Observer conditions 1, 2 and 3. The illuminant/Observer conditions are defined in Job Preferences/Tolerances. *See Datacolor Match PIGMENT User's Guide for details on creating/editing these tolerances.*
MI	**Metamerism Index.** Displays the metamerism index for the formula. The lower the value, the better the match quality. The default method used is Curve Fit. *See Datacolor Match PIGMENT User's Guide, Job Preferences for details on creating/editing these tolerances.*
CR	**Contrast Ratio.** Contrast ratio indicates the hiding or translucency of the sample. A value of 0.0 indicates it is not active. *See Datacolor Match PIGMENT User's Guide, Job Preferences for details on creating/editing these tolerances.*
Cost	Formula Cost

Formula Acceptance

Filtering and sorting formulas based on the Formula View Criteria is a powerful tool to evaluate the queue results. In order to use this option, you must assign a criterion, or status, to the formula results. When a queue is matched, the program does not assign a status to any formula. The user must make that assignment.



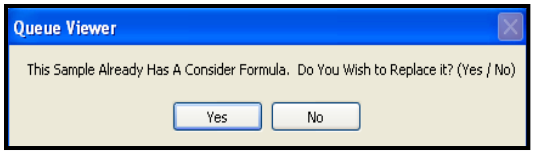
Formula Status

Consider. The formula has been selected as a potential candidate for use.	***Accepted.*** The formula is accepted.
Rejected. The formula is unacceptable.	**Visually.** The formula has been made, and the sample has been evaluated and accepted visually.

IMPORTANT

- For status other than *Accepted* or *Consider*, the formula status assignment must be done manually.
- You can automatically assign the status *Accepted* or *Consider* to multiple formulas using buttons at the top of the window. *See also Formula Acceptance.*

You can only assign **Consider**, **Accepted** and **Visually** status to one formula per target. You must check the formulas across the row to determine if the status is in use. If the status assignment is attached to another formula, you will see an error message:

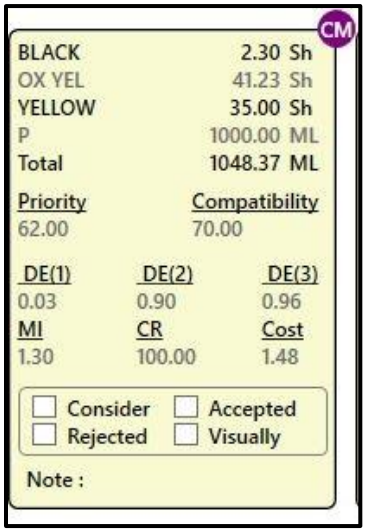


- Click **Yes** to make the assignment. The formula that was attached to this status will automatically be reset to *No Selection*.

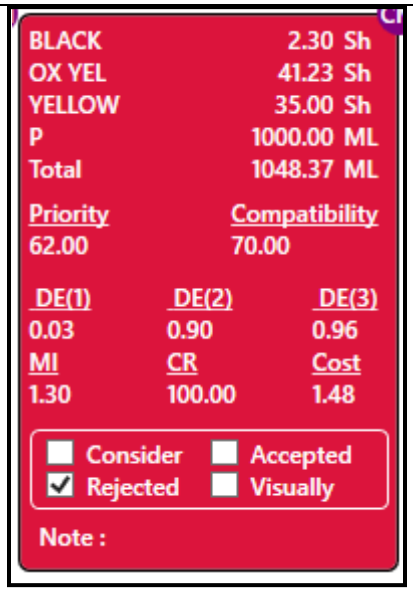
Manual Formula Status Assignment

To manually assign a status to a formula:

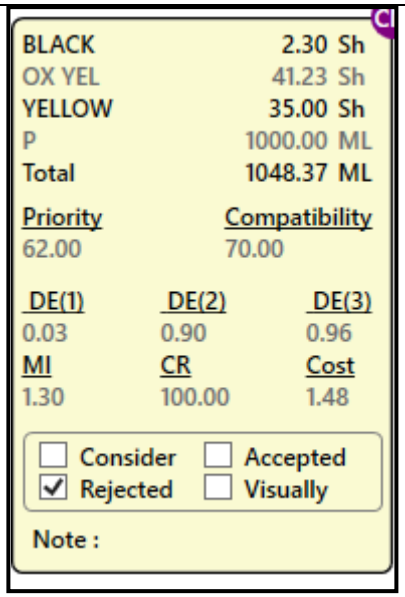
1. Select a formula to evaluate.



The selected formula turns red. Click on the status to be assigned.



Click anywhere in the queue viewer to de-select the formula.

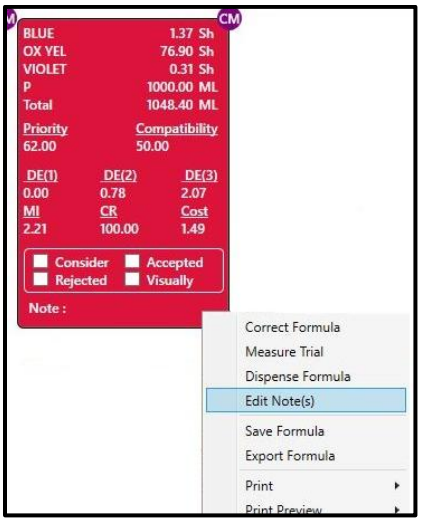


Notes Option

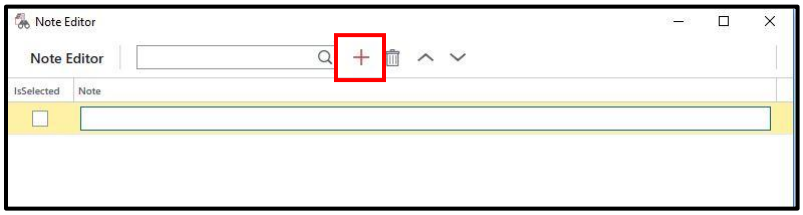
A *Notes* field has been added to Queue Viewer. You can use this feature to create and store notes that are commonly added to a formula record. The notes can be recalled and attached to a single formula or to all formulas.

The option is useful when you have comments or notes that can be attached to a large number of formulas. For example, a particular base may require a primer to be applied to the substrate before it is painted. The note "may require a primer" can be attached to all formulas using that particular base.

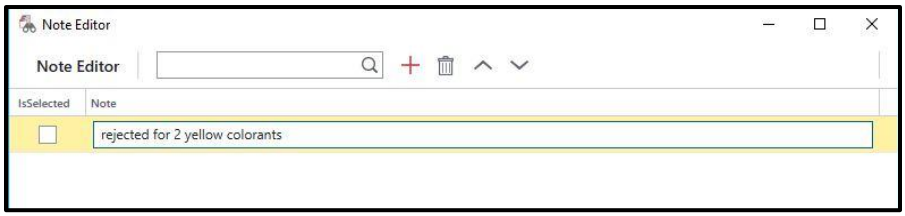
To access the Notes option, select a formula that needs a note, right-click to view the menu, and select Edit Notes:



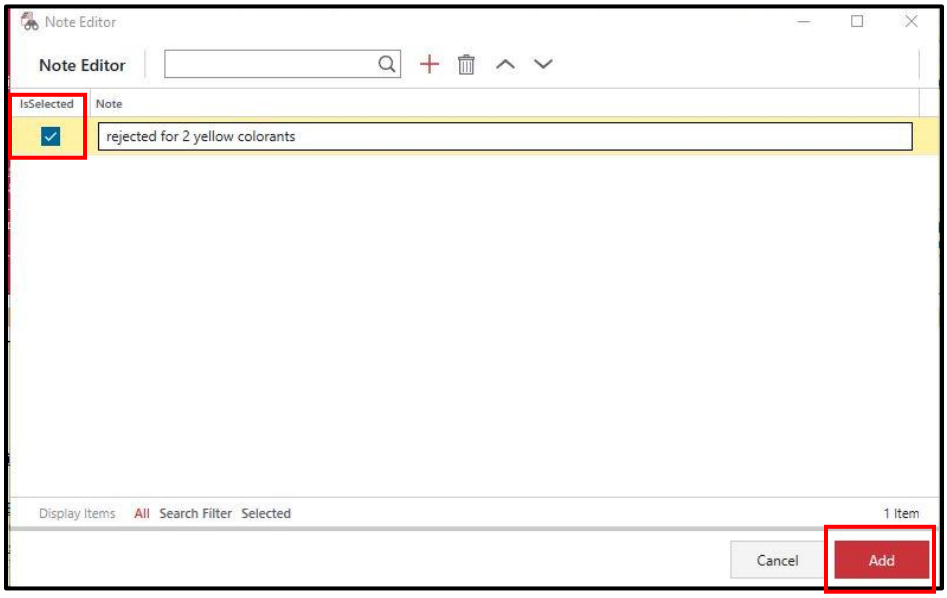
1. The Notes Editor displays. Click on the **Add** icon to create a new note.



2. In the *Note* field enter the comment.

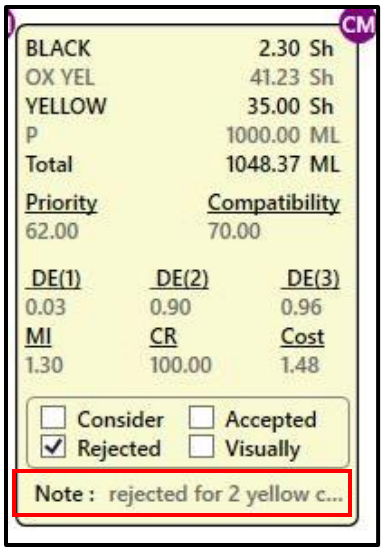


3. **Click Save** to store the note.
4. Click in the *Selected* box to attach the note to the selected formula:



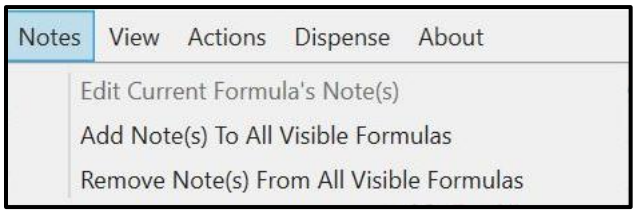
5. Click **Add**. The note will be added to the selected formula record.

Click anywhere in the grid to deselect the formula.

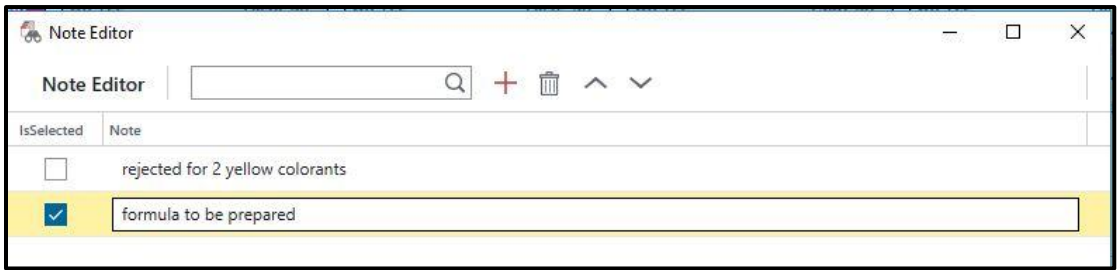


Notes Menu

The Notes Menu includes additional Notes editing options. These options let the user edit an existing note, and add or remove notes from all *Visible* Formulas. "Visible" formulas are formulas that are displayed.



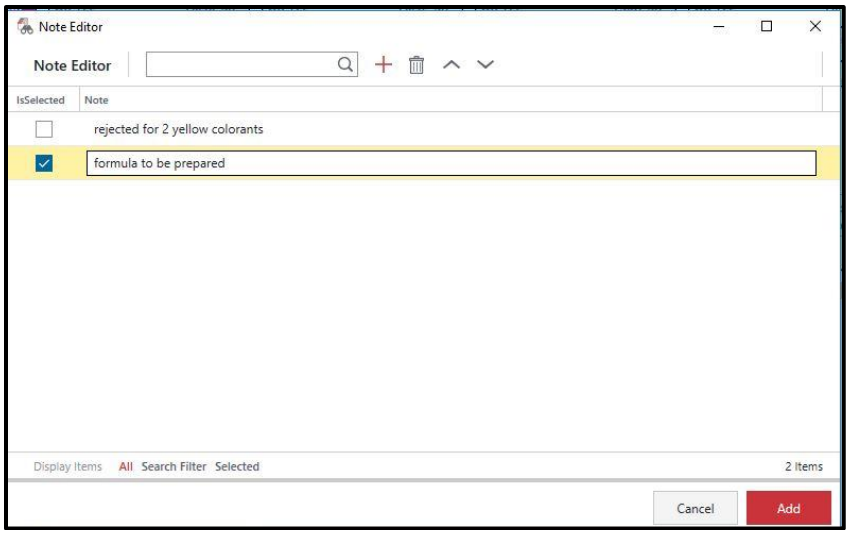
- Select either of the 3 options displayed the Notes Editor



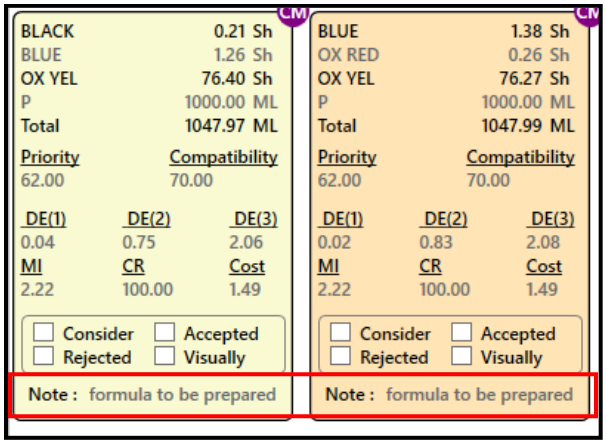
Add Note to all Visible Formulas

When this menu option is accessed, the selected note is attached to all visible formulas. The note is added to all visible formulas, not to the visible formula for a single target color.

1. Select the Note to be attached, and click **Add**.



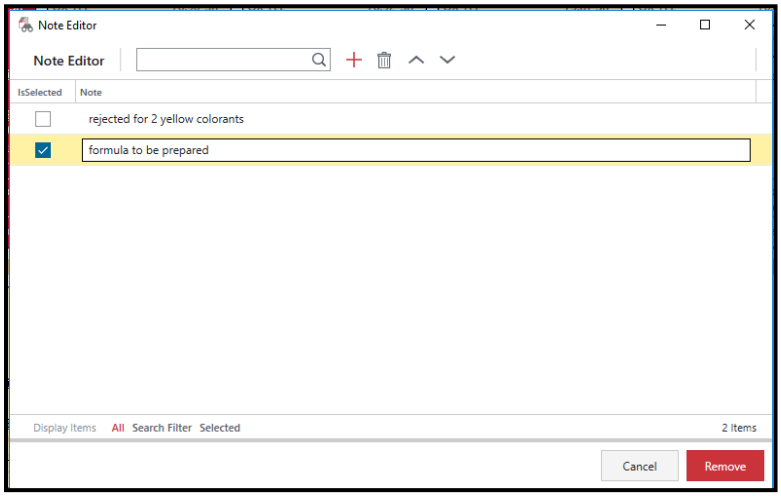
The same note appears in multiple formulas:



Remove Note from all Visible Formulas

Choose this option from the Notes Menu. The Notes Editor Displays.

1. Select the note to be removed and click **Remove**.



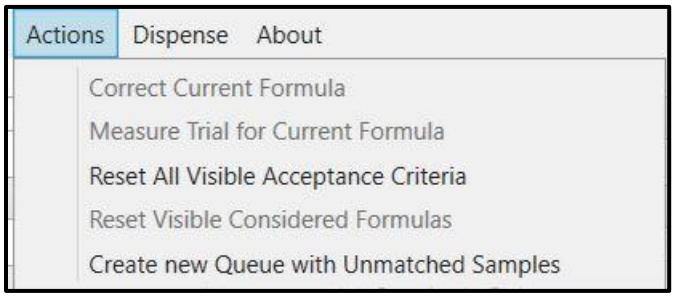
The Note will be removed from all *Visible* formulas.

Queue Viewer Menus

The Actions Menu and Tolerances Menu provide the only access to specific program functions.

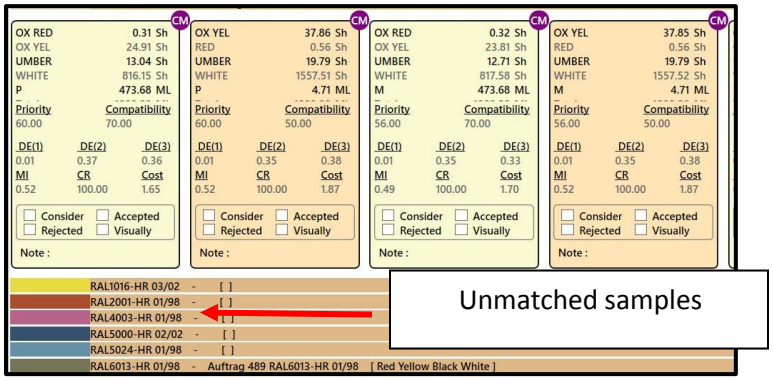
Actions Menu

The Actions Menu includes a series of options to add or edit formula information:



A "partial" queue is a queue that has run, but failed to find formulas for *all* targets.

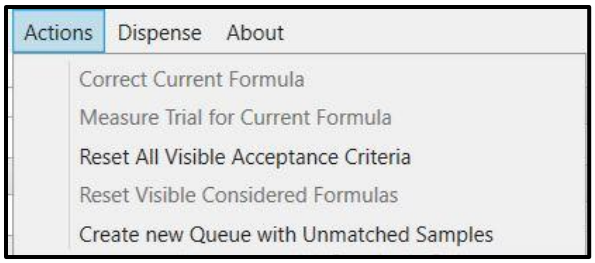
When the Queue Viewer displays a partial queue, it displays the sample names for those colors that are unmatched:



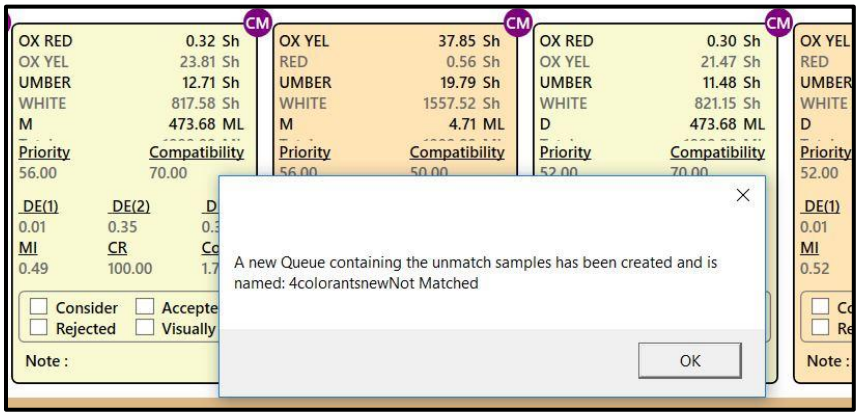
Create New Queue with Unmatched Samples

*This feature was added in v 3.4.*To access this feature:

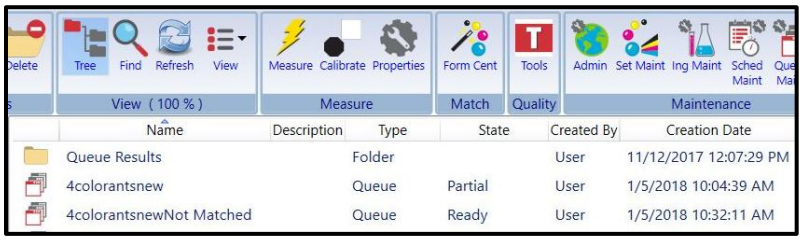
1. Click on the Actions Menu and select **Create New Queue with Unmatched Samples**



A new queue will be created with the name of the original queue, and with “Not matched” appended to the end.

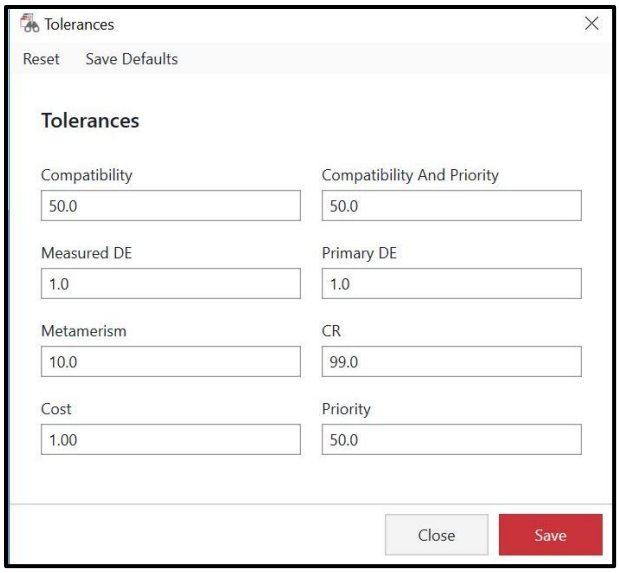


The new queue will display in the Navigator list.



Tolerances Menu

The tolerances displayed in Queue Viewer are used to sort/display the formula results. They are *not* the acceptability tolerances used to calculate accept/reject formulas to match a target.



Compatibility. Displays all formulas having a compatibility value greater than this value. *See also Ingredient Maintenance, Ingredient Compatibility Manager for an explanation of this feature*.

Compatibility and Priority. Displays all formulas having a combined Ingredient Compatibility and Priority value greater than this value. See also Datacolor MATCH PIGMENT User Guide, Ingredient Maintenance for an explanation of the compatibility and priority features.

Measured DE. For some formulas, you may have a physical sample made from a formula that is stored in the database. This entry displays all formulas which have a ***measured DE*** which less than this value.

Targets that do not have a measured DE (measurement of a physical sample) are excluded from the display.

Primary DE. Displays all formulas having a DE in the primary illuminant that is less than this value. *See also Data Color Match Pigment Users Guide, Formula Central, Tools Menu, Job Preferences, Tolerances for instructions to select the illuminant to be used for the Primary DE.*

Metamerism. Displays all formulas having a metamerism index value that is less than this value. *The default metamerism index used is Curve Fit.*

CR (contrast ratio). Displays all formulas having a CR (contrast ratio) that is greater than this value. Contrast ratio is only available for translucent colorant sets. *See also Formula Central, Tools Menu, Job Preferences, Appearance for instructions to display the contrast ratio for a formula.*

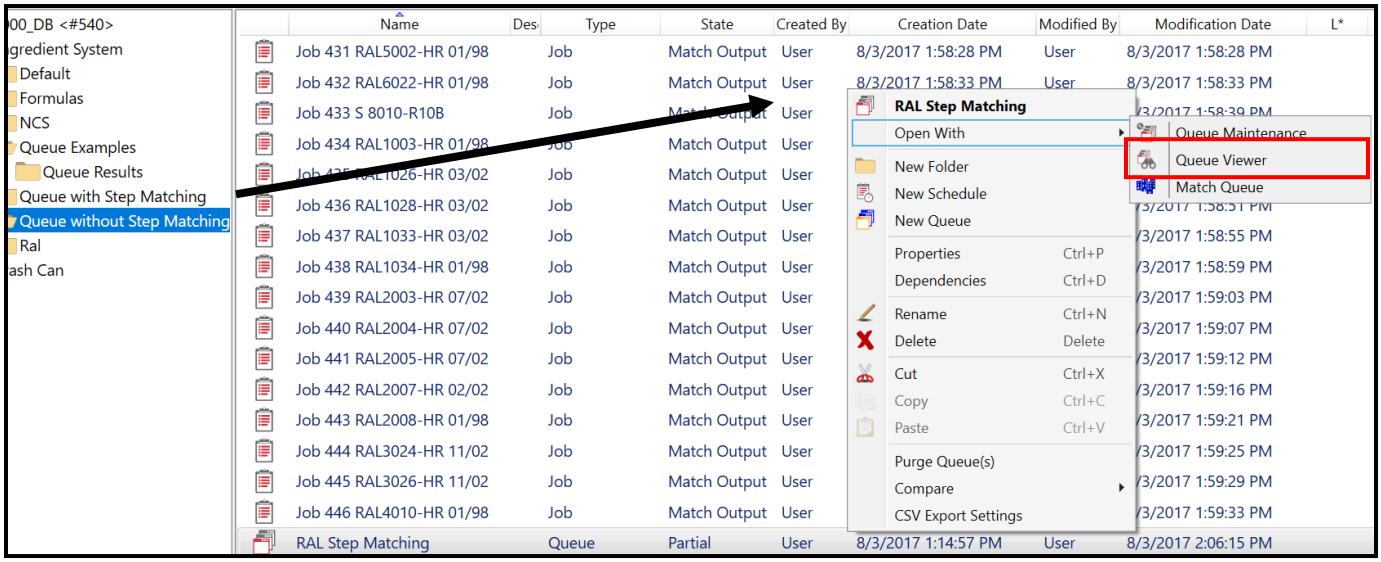
Cost. Displays all formulas having a total cost less than this value. The cost displayed for the formula is the total formula cost. This field can accept a maximum of 8 characters (00,000,000). See also Ingredient Maintenance for instructions to assign a cost to an ingredient.

Priority. Displays all formulas having an Ingredient Priority value that is greater than this value. A priority value is calculated for a formula based on the priority values assigned to each ingredient in the formula. See also Ingredient Maintenance, Ingredient Priority for an explanation of this feature.

Queue Viewer and Navigator

Queue Viewer, Queue Maintenance and Match Queue options can also be launched from Navigator.

1. In Navigator, select the queue folder, and right-click to see the menu:



2. Click **Open With Queue Viewer**. The default display includes all of the formulas stored in the queue.

Ingredient Maintenance

This program option stores non-colorimetric information about each ingredient in the system.

Ingredient Maintenance 4.0

The Ingredient Maintenance and Ingredient Compatibility windows have been updated to improve ease-of-use and to be consistent with the interface now used for Queue Maintenance, Schedule Maintenance and Product Line Maintenance. Note the following:

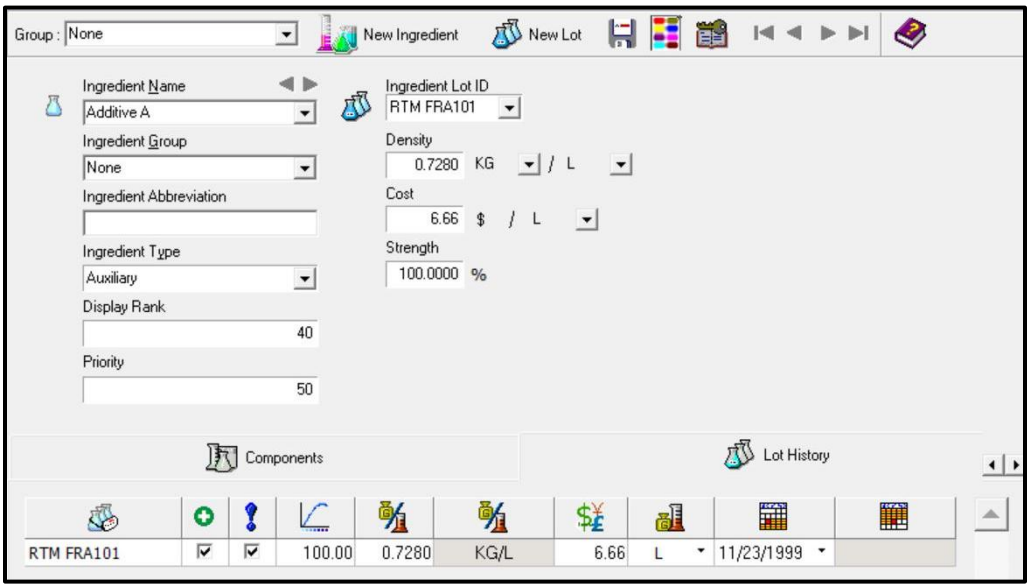
- No changes have been made to the functions for assigning and editing ingredient compatibility.
- Keywords access has been moved to the lower grid.

Ingredient Code field is an internal program code, which was added in v 3.4.

Old Window

Prior to this release, the Ingredient Maintenance window only displayed data for a single ingredient record.

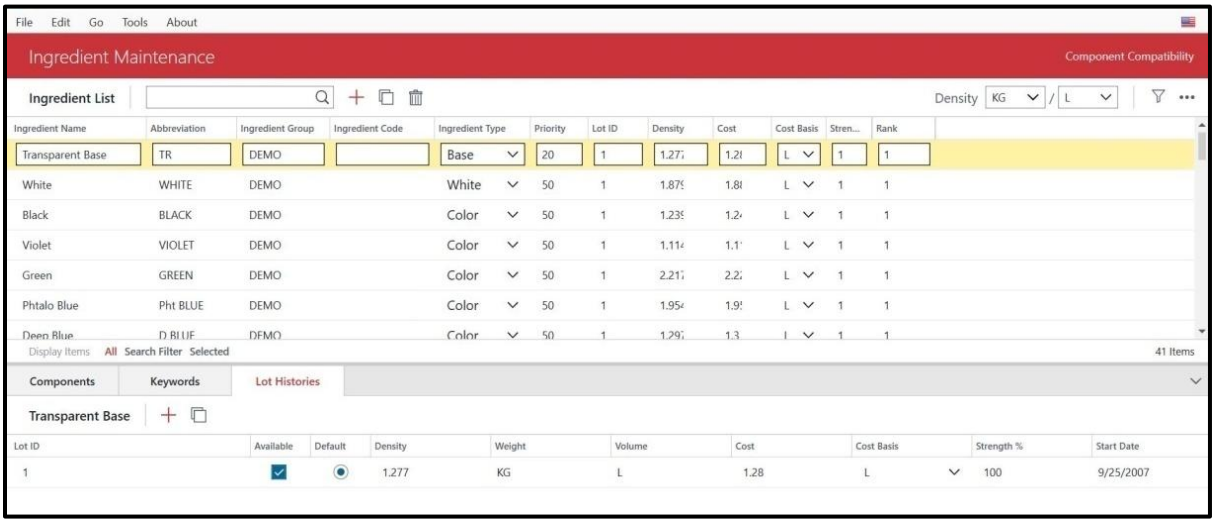
Old Window



New Window

The new layout makes it possible to view all of the records and to locate and move between individual records in the database from a single window.

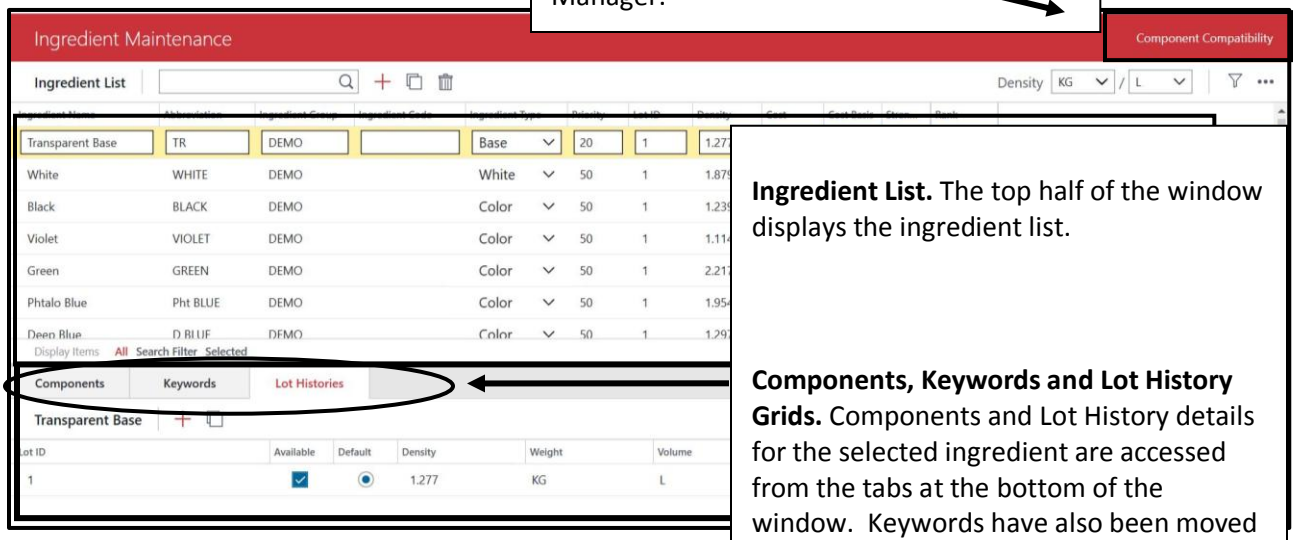
New Window



Ingredient Maintenance Details

The ingredient list is displayed at the top of the window. Details about the components, keywords and lot histories for in an individual ingredient are accessed from the tabs below the ingredient list.

Component Compatibility. Click on this option to open the Ingredient Compatibility Manager.

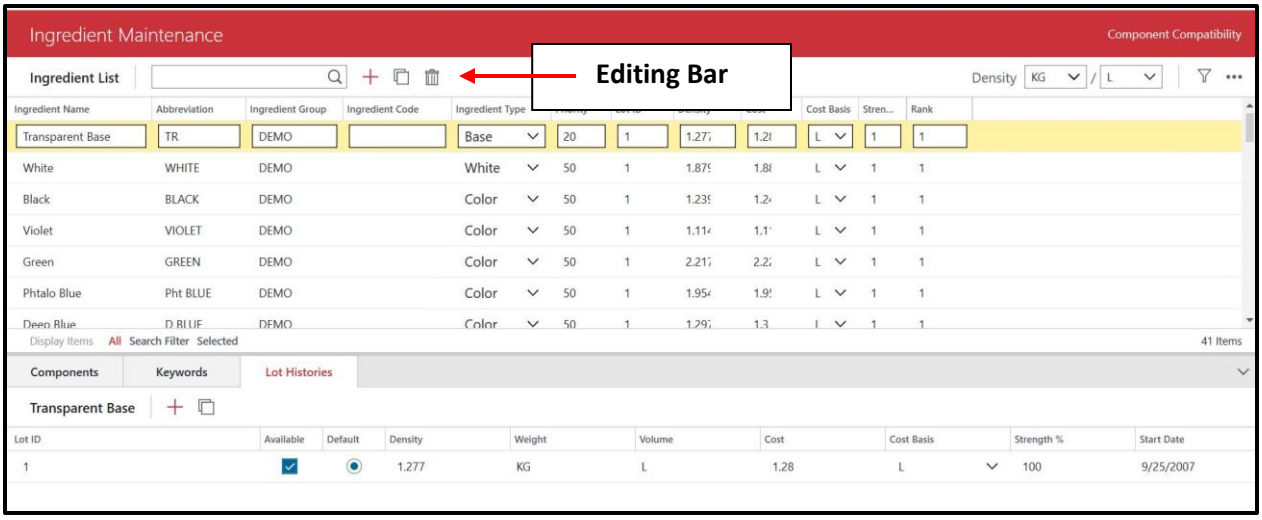


Ingredient List. The top half of the window displays the ingredient list.

Components, Keywords and Lot History Grids. Components and Lot History details for the selected ingredient are accessed from the tabs at the bottom of the window. Keywords have also been moved to the tabs at the bottom of the window.

Customize and Reconfigure Ingredient List

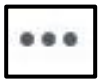
The Editing bar includes options to Add, Search, Edit and delete ingredient records. *See New Maintenance Grid Design for details on the Editing Bar.*



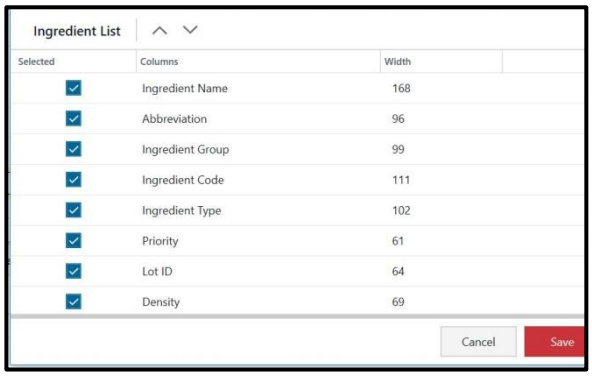
Immediately below the Component Compatibility button are 2 icons used to edit the content and configuration of the ingredient list:

These icons access a set of options to filter and configure the Ingredient List display.

Filter Options

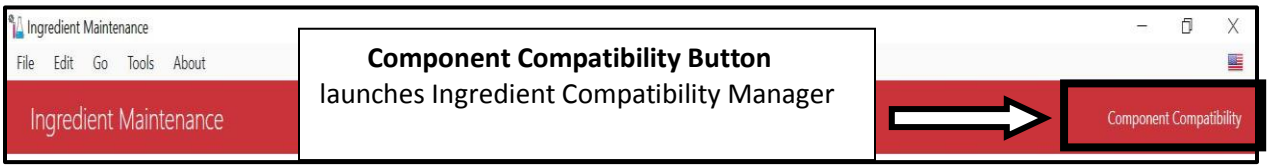


Grid Configuration



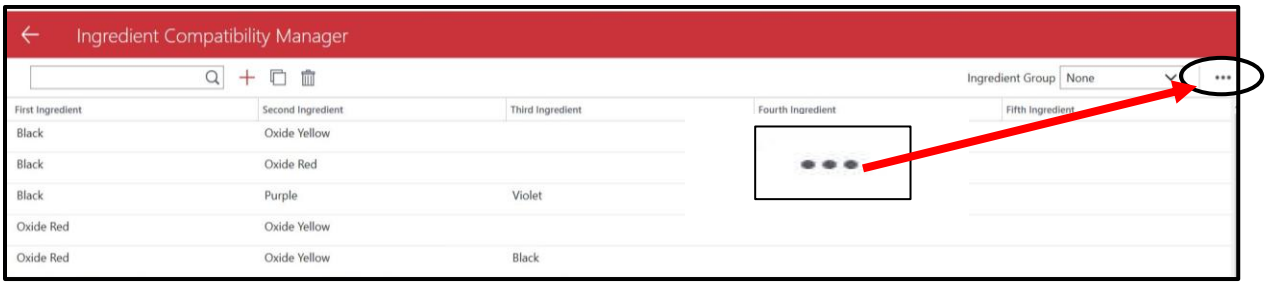
Ingredient Compatibility Manager

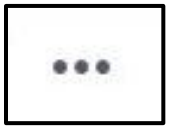
Click on **Component Compatibility** button to display the Ingredient Compatibility Manager.



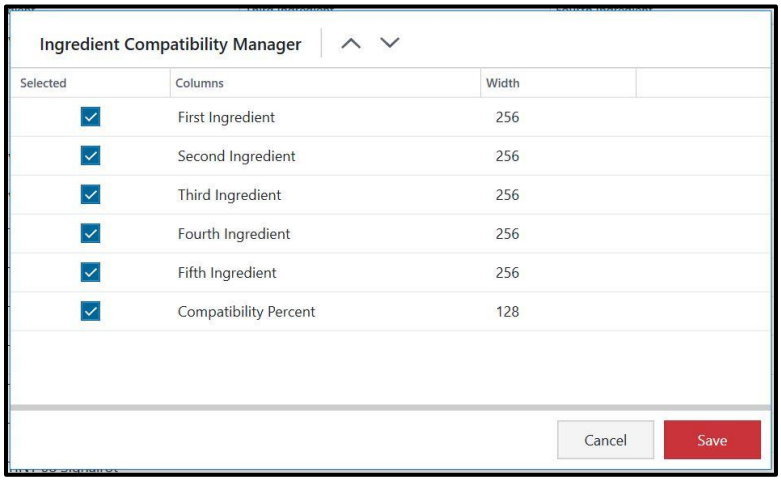
Configuration

Click on the **Set Columns** icon to customize the Ingredient Compatibility Manager.





Set Columns Option



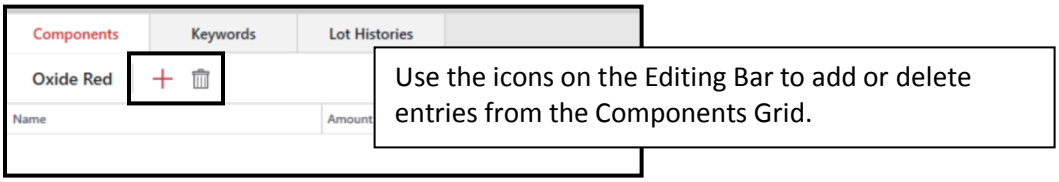
See New Maintenance Grid Design for details to customize the display.

Ingredient Grids

Three ingredient grids, Components, Keywords and Lot Histories are available at the bottom of the window:

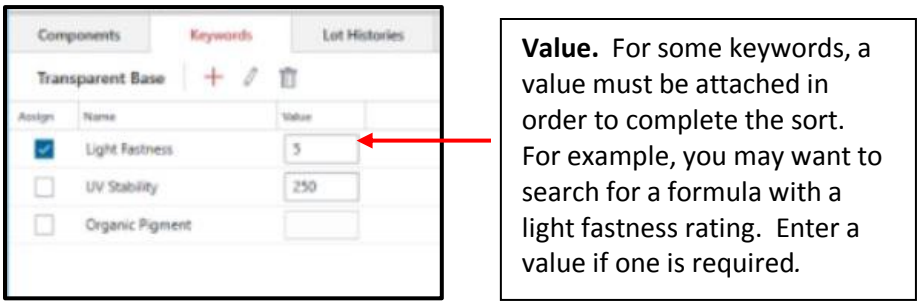
Ingredient Components

Select an ingredient from the ingredient list, and click on the Component tab to view the ingredient components in the grid:



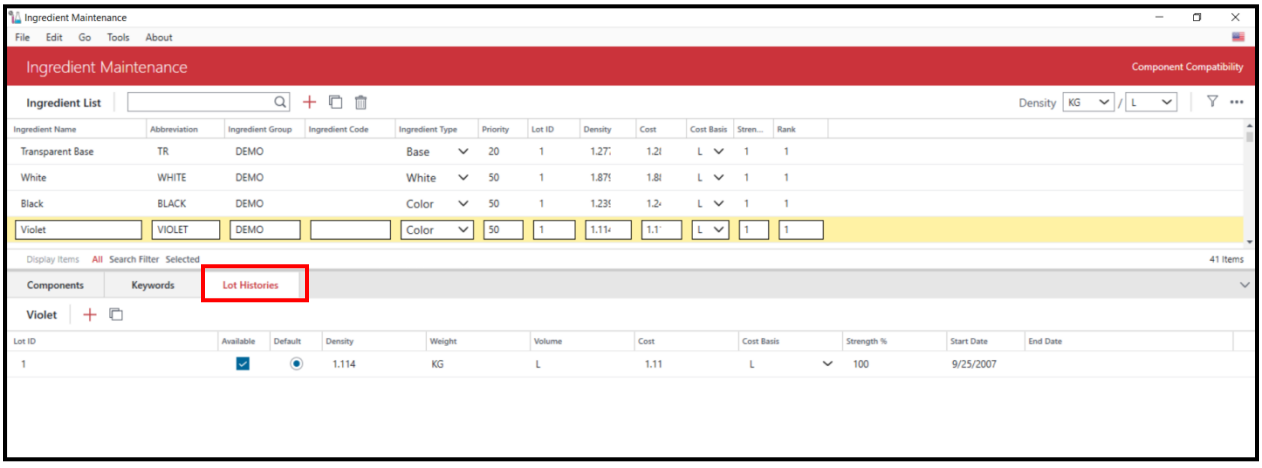
Ingredient Keywords

Select an ingredient from the ingredient list, and click on the Keywords tab to view or edit the keywords assigned to the ingredient.



Ingredient Lot Histories

Select an ingredient from the ingredient list, and click on the **Lot Histories** tab to view or edit this information.



You can add or copy lot history information for the ingredient. Lot Histories cannot be deleted.

Schedule Maintenance

Schedules are created to match large color queues. For users running hundreds or thousands of colors through a single job template, there will be a significant number of unmatched targets. The Schedule function enables the user to store several job templates for use in matching a single set of targets. A schedule directs the program to automatically retry with the 2nd, 3rd, 4th, etc. template to find an acceptable match when a match is not found using a single job template.

Schedule Maintenance DMP 4.0

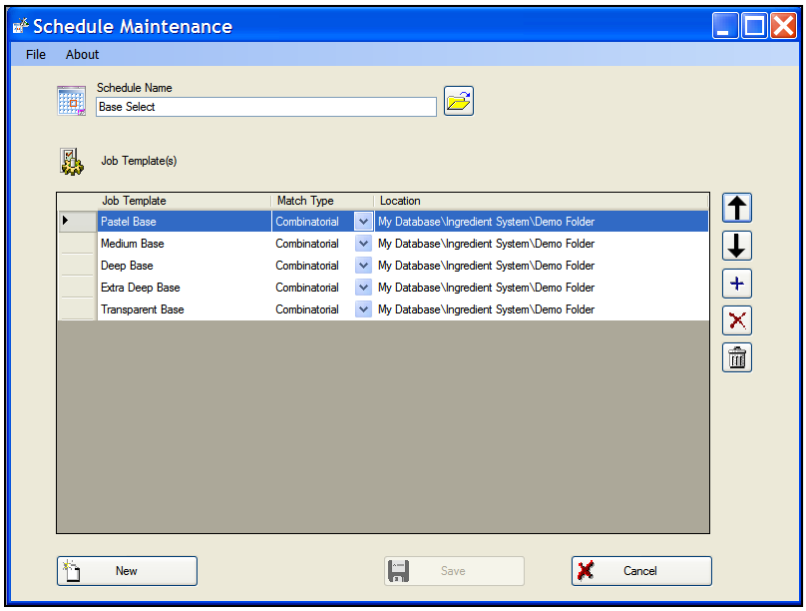
Functional changes to Schedule Maintenance in this release include:

- The Schedule Maintenance window has been updated for consistency with other maintenance grids in Datacolor Match Pigment.
- DMP can now match a target using different product lines without requiring separate queues(Multi-schedule) *See Queue Maintenance for instructions to create a multi-schedule queue.*

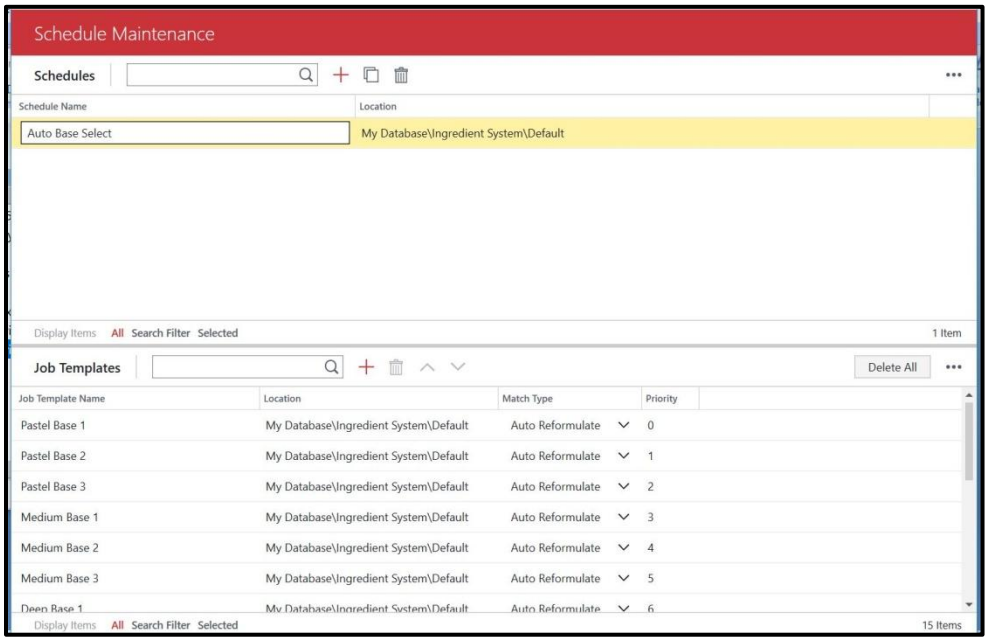
Schedule Maintenance Details

The new interface design provides fundamental information about the details of each job template without requiring the user to navigate to a different screen.

Old Window



New Window

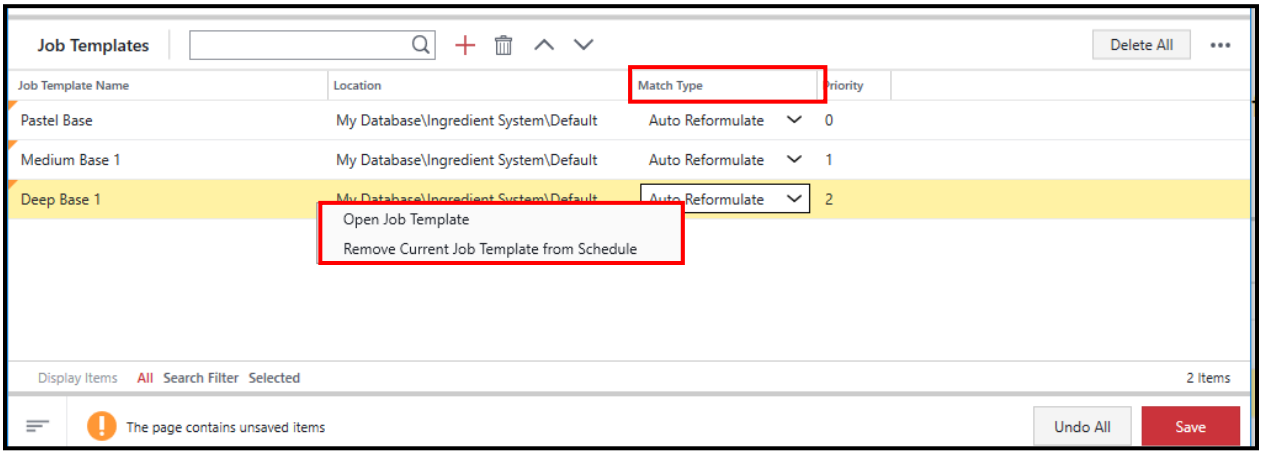


The layout and controls are consistent with the maintenance interface found in other DMP program modules. *See also New Maintenance Grid Design for details regarding the common controls and indicators found on the grids in DMP.*

Other Schedule Maintenance Configuration Options

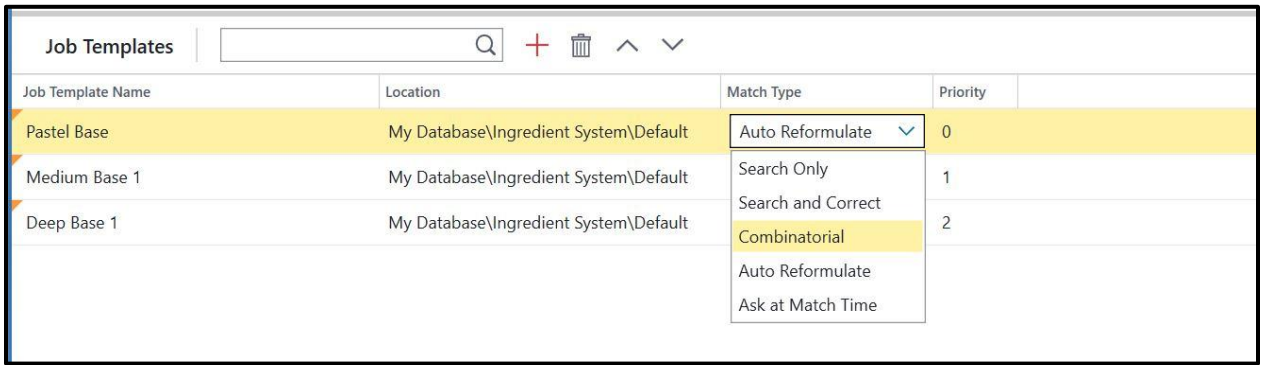
Details about the templates contained in a schedule are accessed directly from a control on the window, or from a menu, including:

- Match Type
- Job Priority
- Open Job Template
- Remove Current Job Template from Schedule

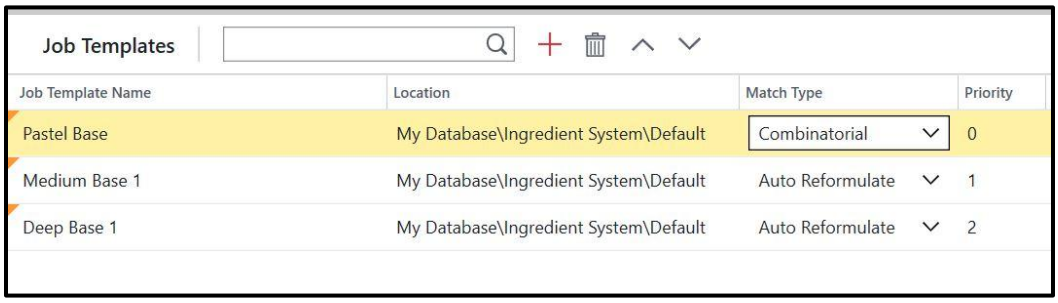


Edit Match Type

1. Highlight a job template and click the down arrow in the Match Type field to view the options:



2. Highlight the change. In this example, the *Match Type* for job template Pastel Base has been changed to Combinatorial.



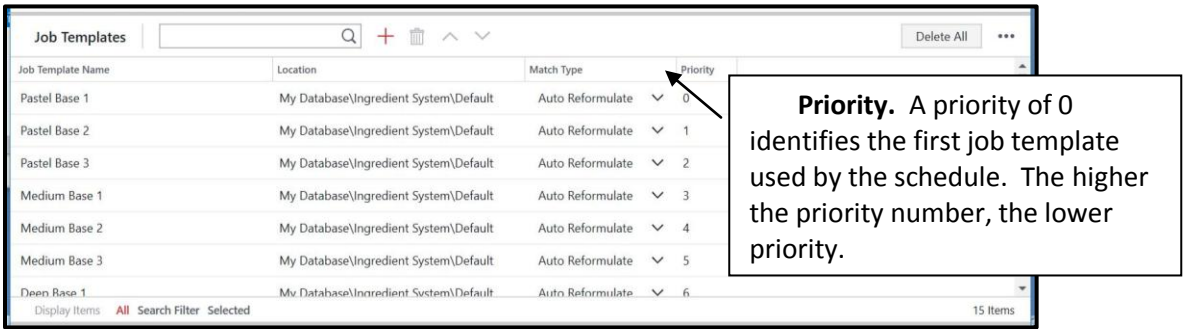
3. Click **Save** to make the change to the schedule. This change does not affect the job template.

IMPORTANT

- When the Schedule option finds a single match for a target, it will consider the target "matched" regardless of the number of formulas requested by the job template.

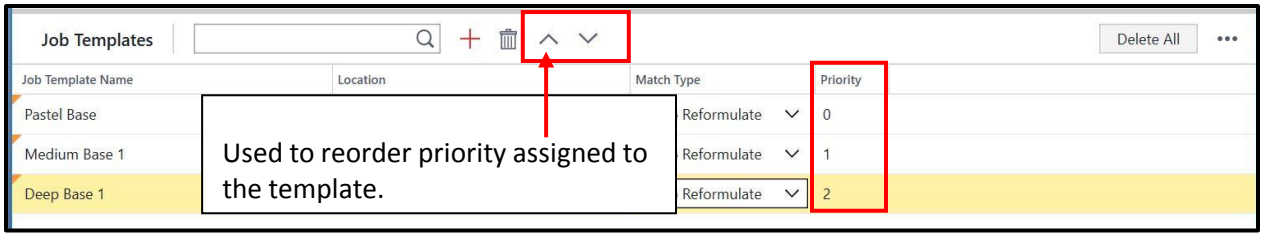
Edit Job Template Priority

The job template grid displays all of the templates stored for the selected schedule.



All target colors are run through the job template with Priority = 0. Unmatched targets are then run through job templates 1-n, until a match is found. Priority is assigned based on the order of the job templates in the schedule.

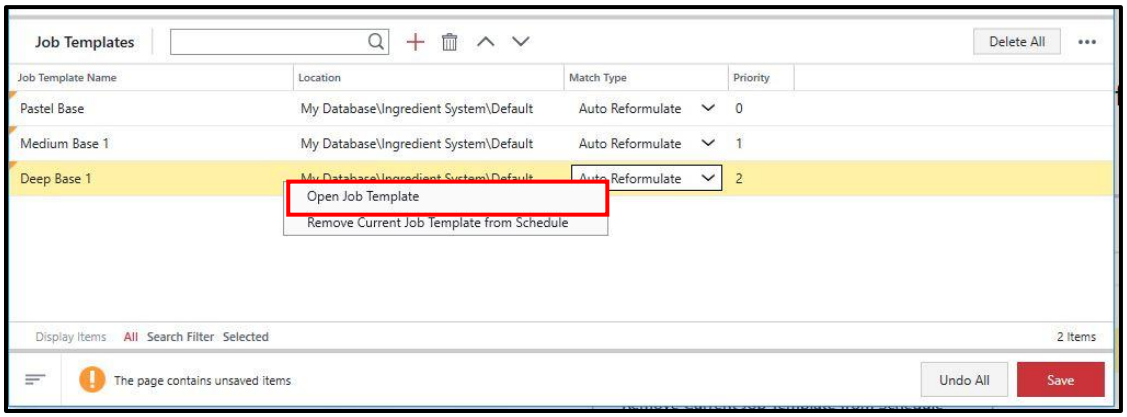
To change the priority assigned to a job template in the schedule, use the up/down buttons to change the order of the templates.



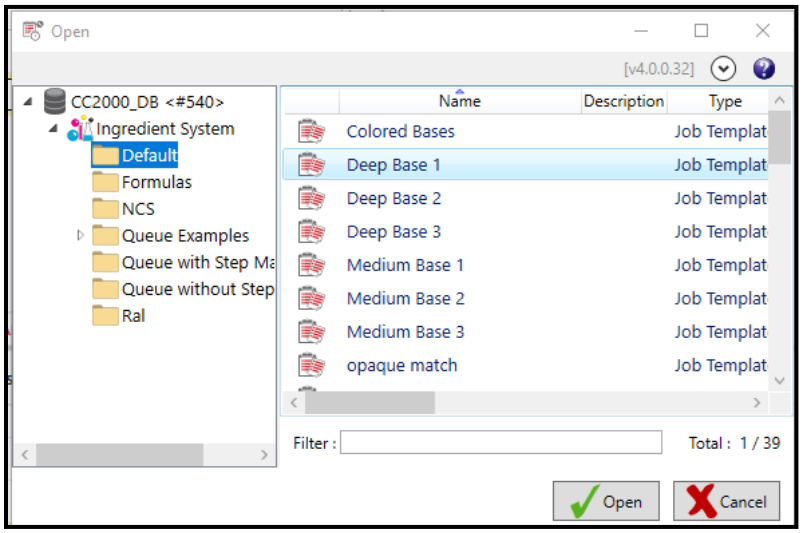
Open Job Template

This option provides access to all of the job templates in the folder.

1. Select a job template from the Schedule and right-click to access the option.



The navigator dialog displays:

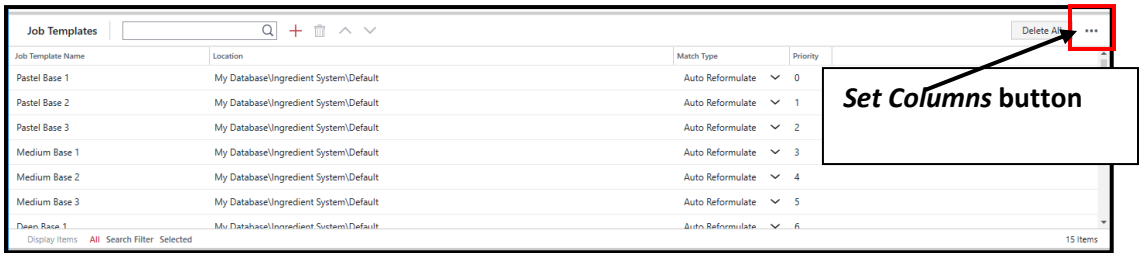


2. Select job template, and click **Open**. This option adds a new template to a schedule. It does not open the job template itself.

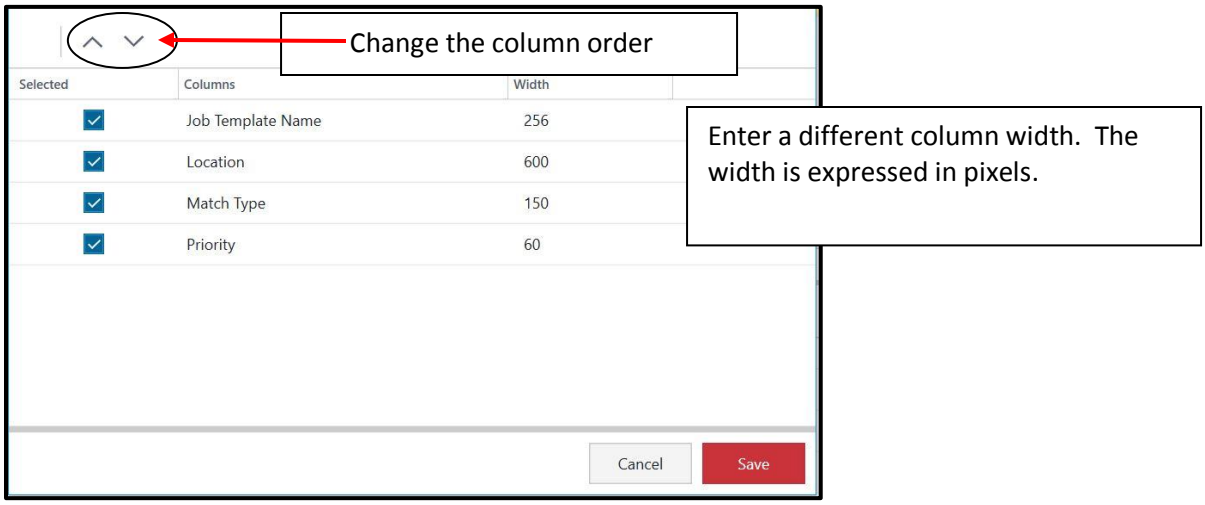
Configure Job Template Details Display

You can customize the order and size of the fields displayed in the Schedule Maintenance grid.

1. To access these options, click on the **Set Columns** button.



The dialog below displays:

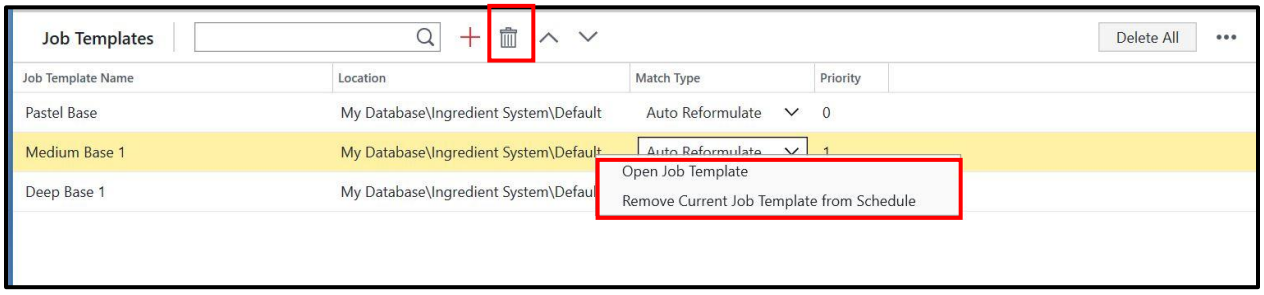


2. Make changes as needed and click **Save.**

Delete Job Templates

You can delete a template from a Schedule using either the delete icon or the menu option.

1. To delete a job template, highlight the template to be deleted (*Medium Base 1)*. ***Right-click to view the menu*** OR ***click on the delete icon***.

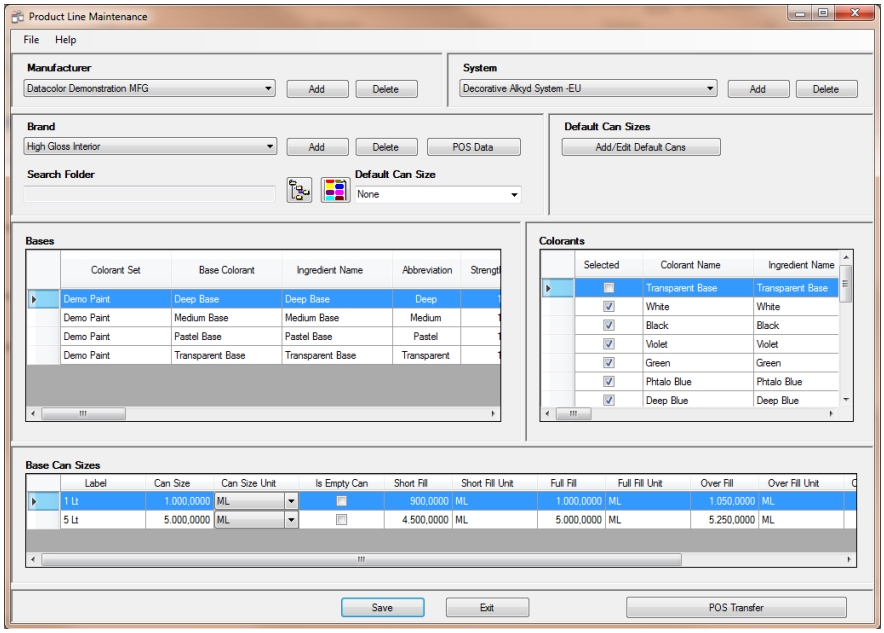


WARNING: The Delete icon deletes the record immediately without displaying a confirmation dialog.

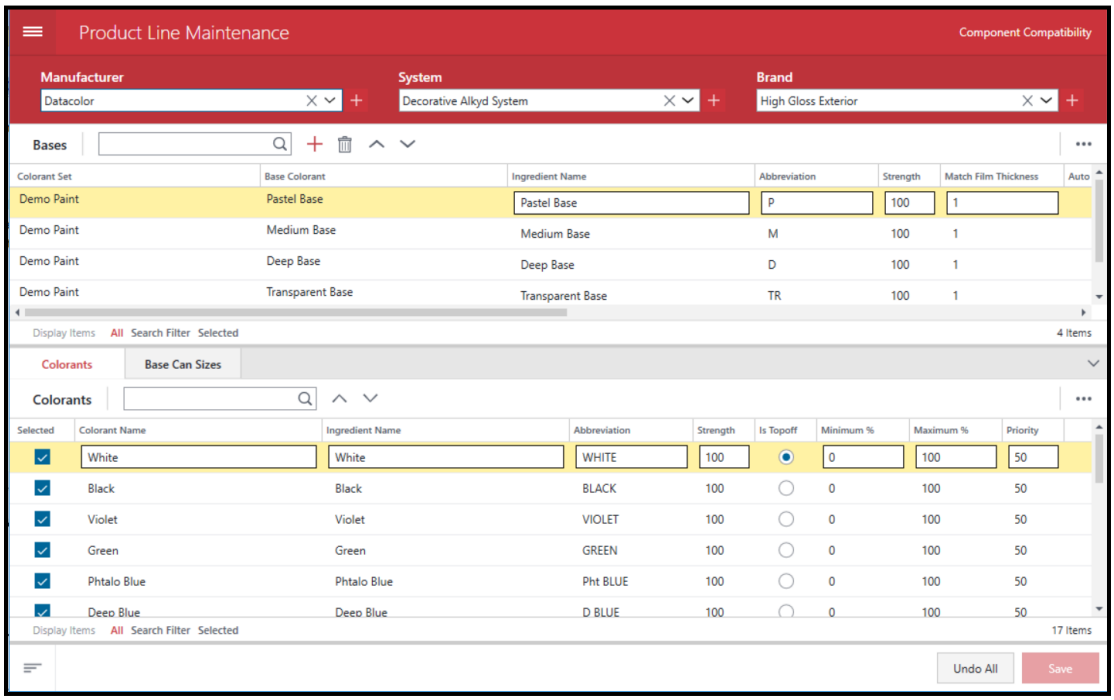
Product Line Maintenance

Product Line Maintenance is a program module used to set up systems, brands and bases for the retail PAINT application. The new maintenance window design has been applied to Product Line Maintenance. See also *New Maintenance Grid Design* for an explanation of the controls and indicator common to this updated design.

Old Window

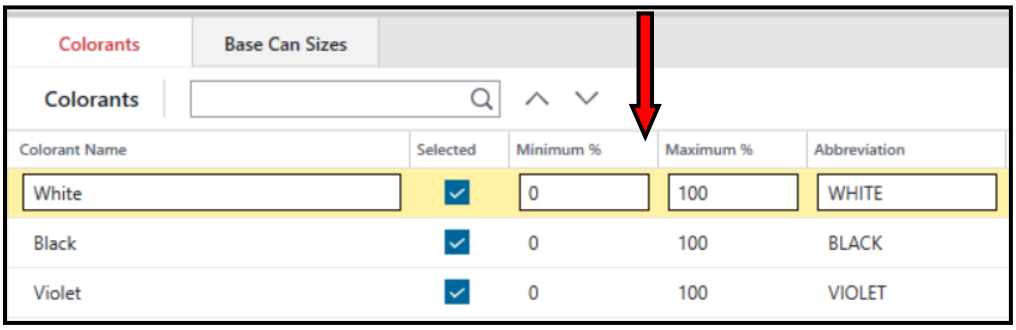


New Window

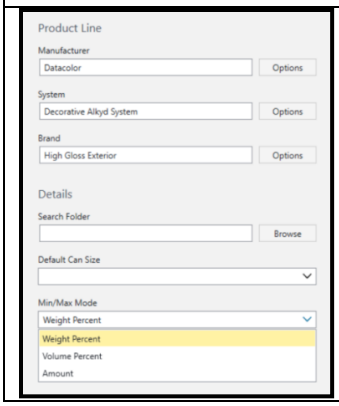


Product Line Maintenance 4.0 Details

The min/max concentration values can be now be expressed as either amount or percent



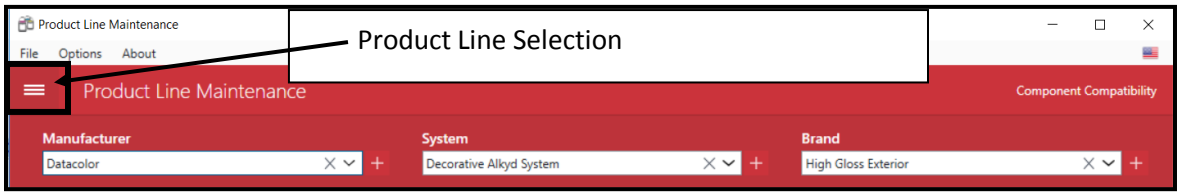
- In the case of percent, the user must identify whether the mode of expression is weight percent or volume percent.
- In the case of amount, the user must identify the units to be used:

Percent	Amount
	

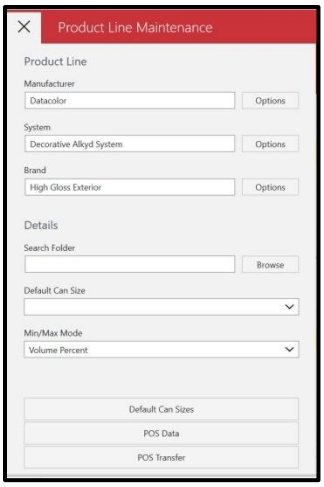
Product Line Maintenance Menu

To select, add, edit or delete a product line:

1. Click on the Product Line Maintenance Menu:



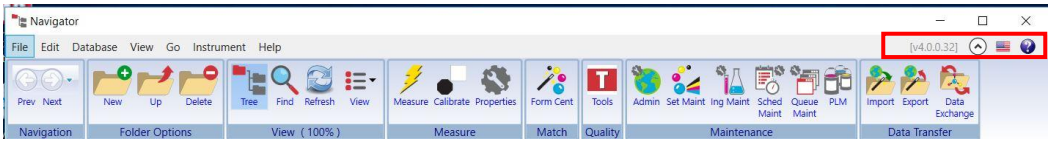
2. The product line details are displayed. Use these fields to create/edit *Product Line* information.

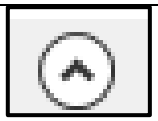


Data Navigator

There have been several improvements to the Navigator feature beginning with v 3.0. These improvements include:

- Queues can be launched and purged directly from Navigator.
- Queue results can be compared from Navigator.
- All delete functions now run in the background. Datacolor MATCH PIGMENT is now truly a multi-tasking program.
- A progress bar displays when deleting data objects. This is especially helpful when deleting large groups of data including the trash can.
- When deleting data from the Navigator module, data objects are permanently deleted. They are *not* moved to the trash can.
- Database menu has been added. This includes functions to create and import Datacolor databases.
- Recalculate RGB's. When 20 nm measurement data is used, the color patch is not always a good representation of the color. This option recalculates the RGB's for the samples selected, and should improve the accuracy of the on-screen color.
- Enter offset values. Offset values can be entered directly from Navigator.
- Icons have been added to the right side of the Navigator menu bar.



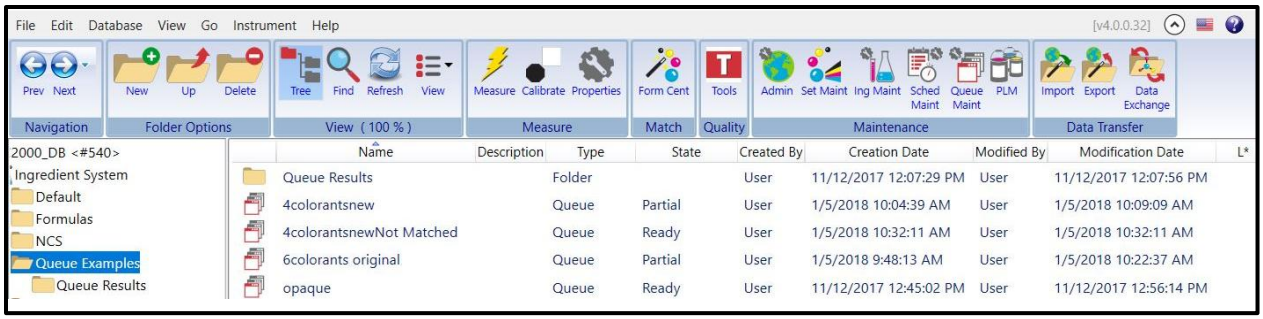
Icon	Feature
	Identifies version of Datacolor Match Pigment that is running.
	Hide/Show ribbon bar
	Current language selection. Click the icon to view the available languages and select one.

Launching and Purging Queues

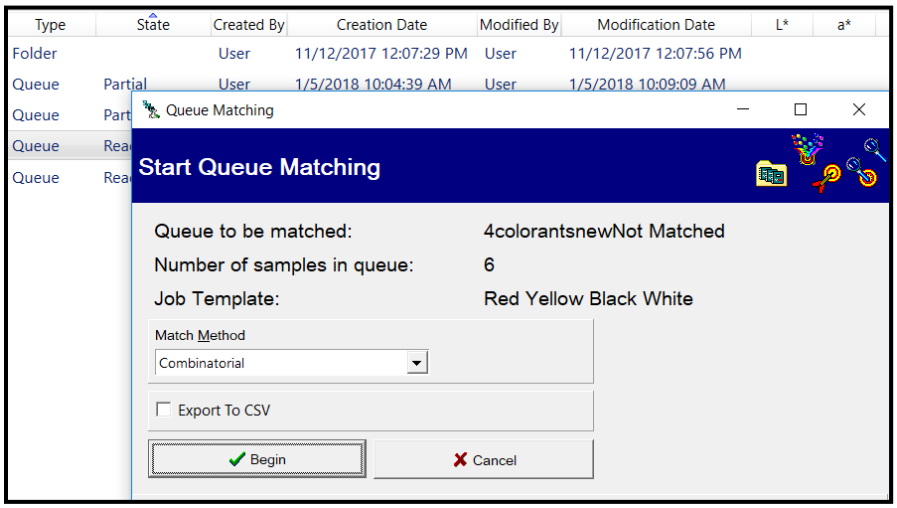
Queues can be launched or purged directly from the Navigator. You can select a single queue, or multiple queues to run either option.

Launching a Queue

1. Double-click on a queue labeled *Ready* to start matching:



The queue matching wizard launches.

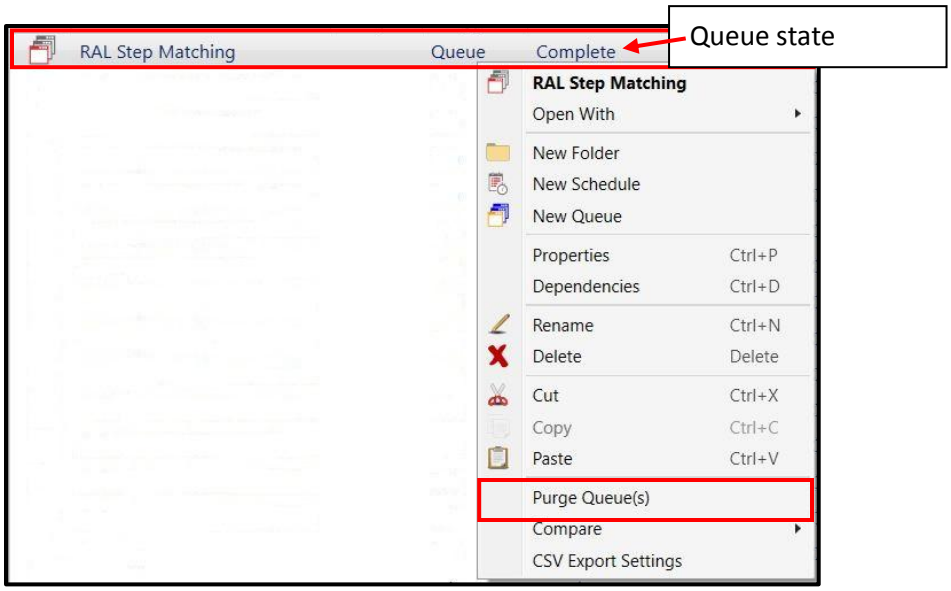


- View/change the *Match Method*.
- Enable/disable *Export to CSV*.

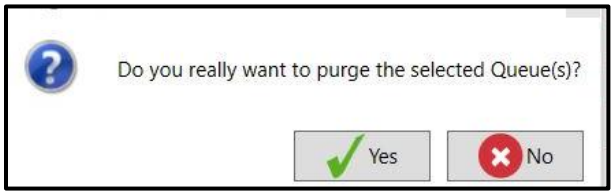
2. Click **Begin.** The queue will run and you will be notified when it is complete.

Purge a Queue

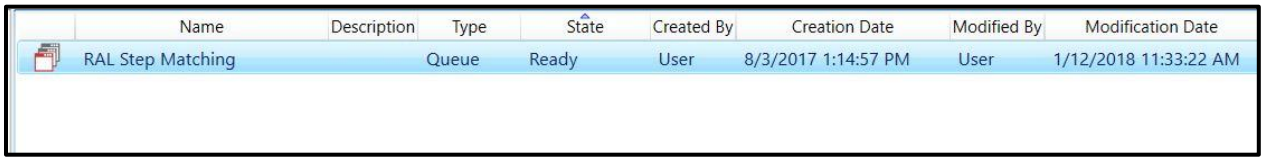
1. Select a *Queue* with State *Partial* or *Complete*, and right-click to display the menu:



2. Select **Purge Queue(s)**. A confirmation dialog will display:



When the purge is completed, all of the jobs in the queue are deleted, and the Queue State is changed from *Complete* to *Ready*.

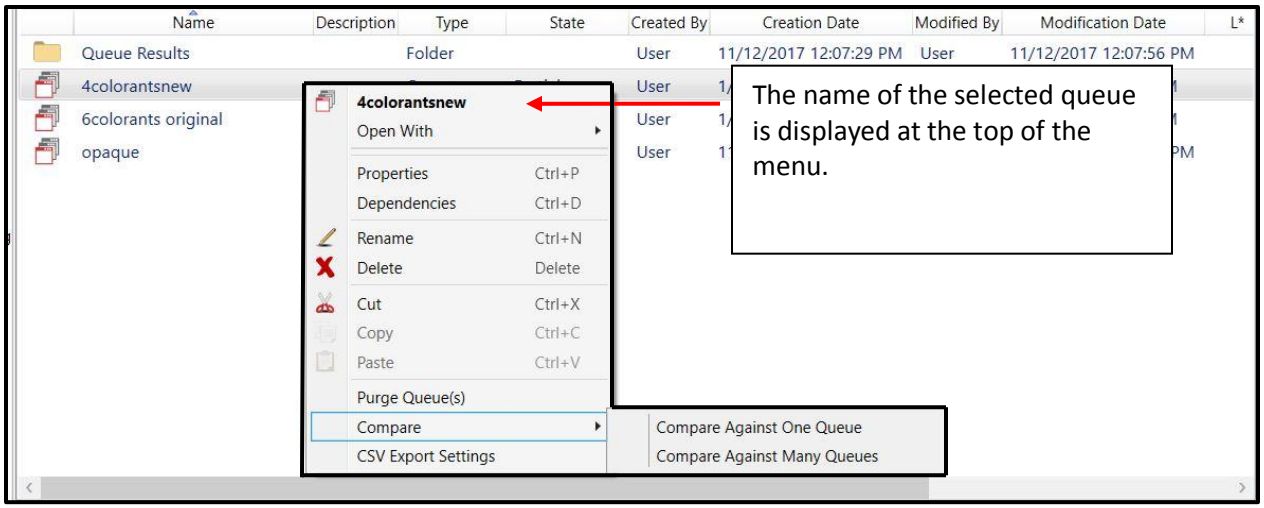


Compare Queue Results

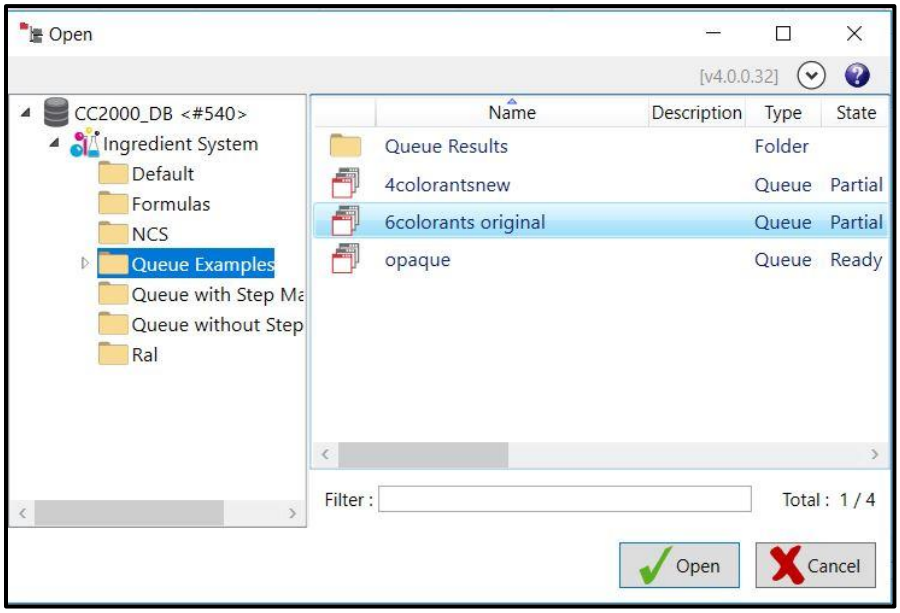
The results from any queues marked *partial* or *completed* can be accessed and compared. You can compare queue results between 2 or more queues. The data is stored in a CSV file format which can be opened with commonly used 3rd party software.

To use the Compare option:

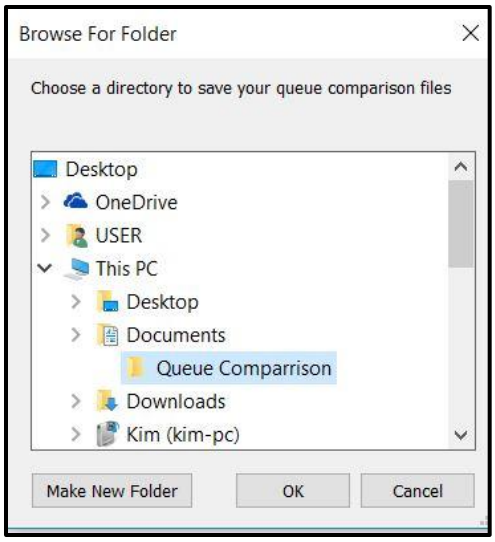
1. In Navigator, highlight a queue to be included in the comparison and left click to see the menu.



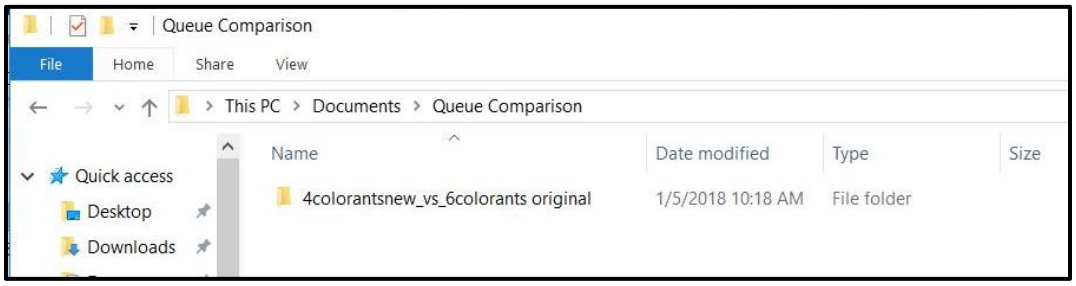
2. Select **Compare** and choose the number of queues to be included in the comparison. In this example, the results for the selected queue will be compared to one queue.
3. Navigate to the folder containing the queue to be included in the comparison and select it:



4. Click **Open.** The program will prompt you for a file name and location to save the queue comparison. You can make a new folder or store it in an existing folder.



5. Create/highlight the folder location and click **OK**. The comparison is immediately executed.



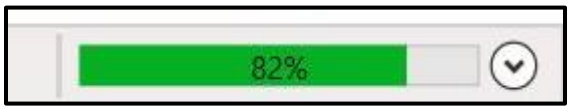
Below is an example of the information included in the queue comparison.

	A	B	C	D	E	F	G	H	I	J
1	Queue Name	Standards	Average Cost	Average DE1	Average CR	Average MI	Average Compatibility	and Priority		
2	4colorantsnew	3	1.67	0.04	100	1.33	55.97			
3	6colorants original	7	1.65	0.05	100	1.19	53.66			
4										
5	Templates in 4colorantsnew:	Red Yellow Black White								
6	Standards Matched Per Template	3								
7										
8	Templates in 6colorants original:	Red Yellow Black Blue Green White								
9	Standards Matched Per Template	7								
10										
11	Bases used in 4colorantsnew:	D	ED	M	P	TR				
12	Standards Matched Per Base (Accepted	0	0	0	3	0				
13	Average Cost Per Base	0	0	0	1.7	0				
14										
15	Bases used in 6colorants original:	D	ED	M	P	TR				
16	Standards Matched Per Base (Accepted	0	0	0	7	0				
17	Average Cost Per Base	0	0	0	1.67	0				

New Delete Features

Delete functions now run in the background. This includes the option to empty the trash can. Below are important notes regarding this functionality:

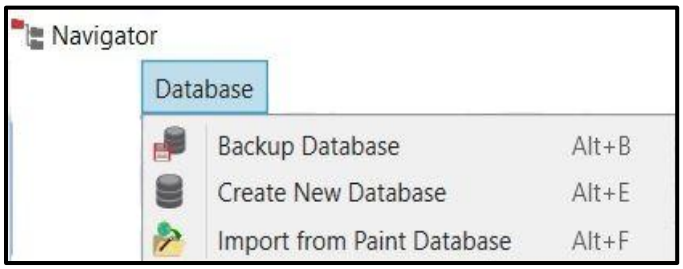
- If the data selection is large, a progress bar displays at the bottom of the window to provide the status of the delete function:



- If you use the Windows command (Shift/Delete key combination) to delete data objects, this is a permanent delete function. The data is not moved to the trash can, **it is permanently deleted**.

Database Menu

A new Database menu has been added to the Navigator menu bar. It included maintenance options used for both Datacolor MATCH PIGMENT color databases and Paint databases.



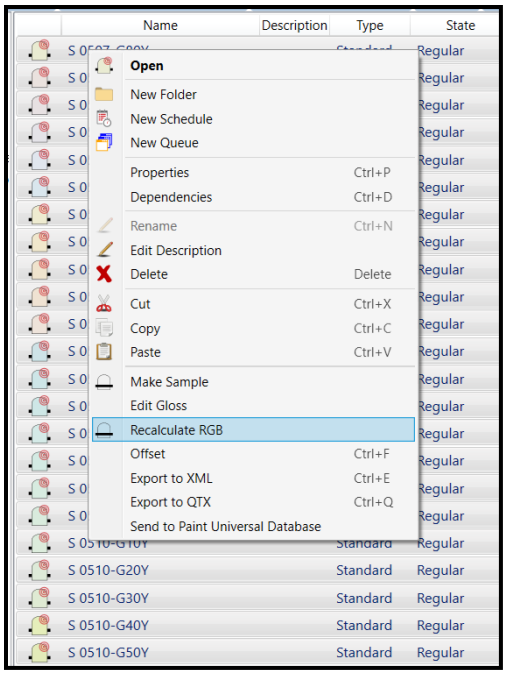
- **Backup Database.** Choose this option to make a backup of the current Datacolor MATCH PIGMENT database (color.db).
- **Create New Database.** Creates a new, empty color.db for Datacolor MATCH PIGMENT. **This feature should be used only under the direction of a Datacolor Applications Engineer.**
- **Import from Paint Database.** Imports a *.mdbfdt file for use with the current version of Datacolor PAINT. **This feature should be used only under the direction of a Datacolor Applications Engineer.**

Recalculate RGB

When measurement data is limited to 20nm input, the color patch displayed on the screen does not always accurately represent the color of the sample. This option is used to recalculate the RGB values for the sample. When this option is applied, the color patch displayed after the recalculation should be a closer representation of the sample color.

This option is accessed from Navigator. To apply this calculation to a sample(s):

1. Highlight the sample(s) to be adjusted, and right-click to view the menu options:



2. Select Recalculate RGB.

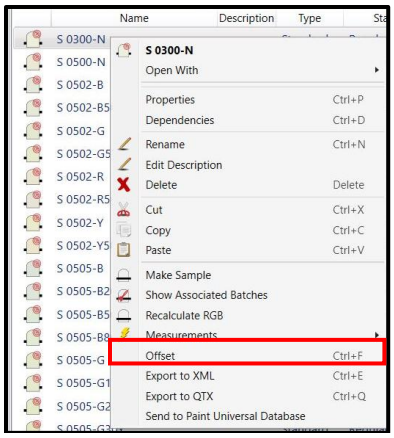
Enter Offset Matching Values

Offset values can also be set in Navigator. *See Offset Matching for details regarding the configuration to enable this feature.*

Before you begin, confirm that the offset values option is enabled in Admin and Job Preferences.

To enter matching offsets from Navigator:

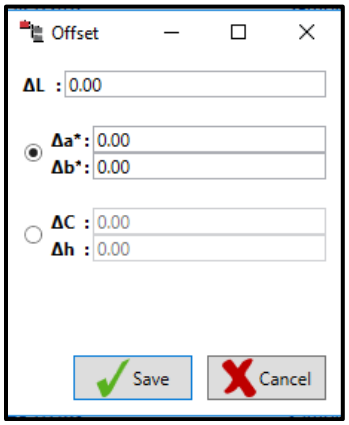
1. Select a sample, and right click to view the menu. In this case, S 0300-N is the selected target.

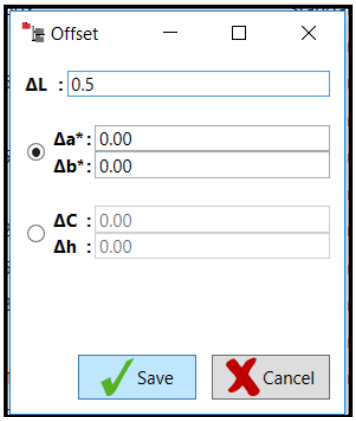


2. Highlight the Offset option.

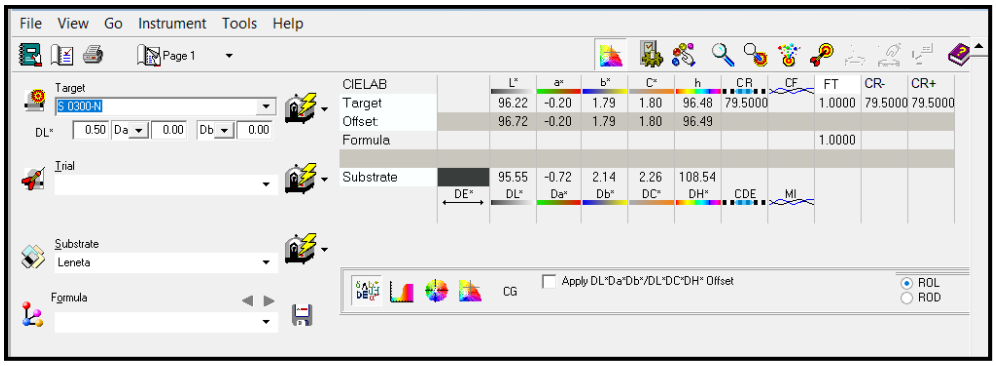
The offset dialog displays.

3. Click the radio button to select either a*/b* or C*/h* coordinates to be used for the offset.





4. Click **Save**.
5. In Formula Central, select the target color for which the offset values were stored. In this example, the target is S 0300-N

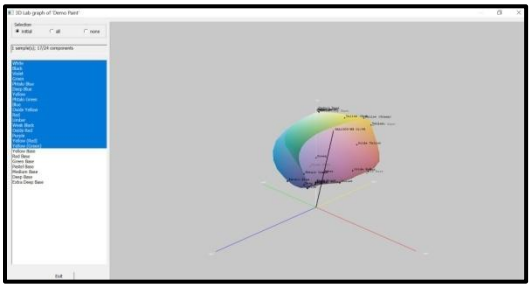


The offsets stored for the sample are displayed. On the Evaluation Window, the program prompts you to apply the offset.

6. Check the box to enable to offset, and execute the match. *See Offset Matching for an explanation of the results.*

Gamut Mapping

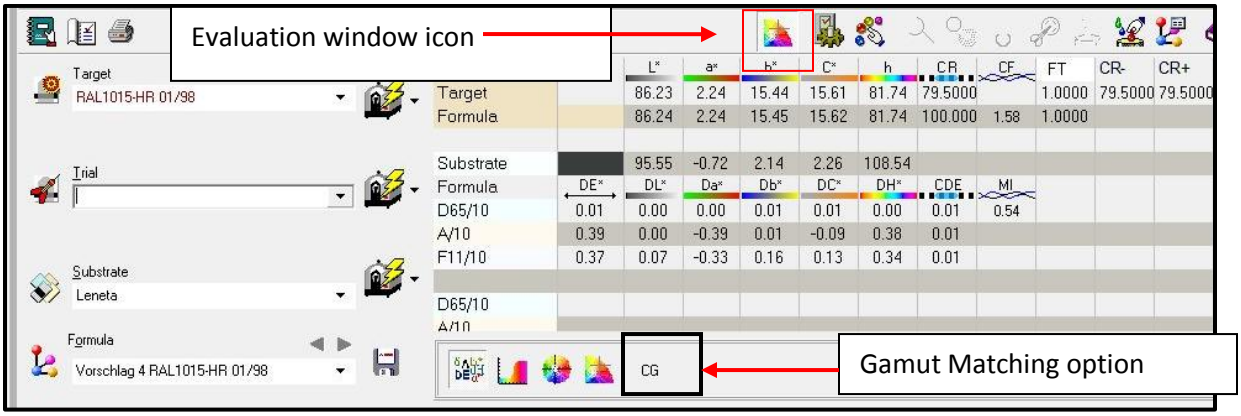
Gamut mapping is a tool for analyzing colors when no matches are found. Each colorant set has a gamut that is defined by the colorants in the set. The gamut is created by determining the color coordinates for each colorant, and plotting them in color space. The result plot is a 3-D solid.



All target colors with color coordinates that fall inside the solid can be matched with the colorants selected for the match. When a target plots outside of the gamut it cannot be matched with the colorant selection.

- If the match is not using all available colorants in the set, you can add/remove colorants to change the shape, size and orientation of the gamut. This may solve the problem when no matches are found.
- All colorants in the set are plotted even if they aren't included in the colorant selection.
- When all colorants are included in the selection, you must add new colorants to the set in order to match colors in an area falling outside the gamut.

The gamut mapping tool in Datacolor Match Pigment is accessed from Evaluation Window icon in Formula Central:



Gamut Mapping Graphic

The gamut mapping tool is a 3-D graphic. The user can zoom in/out of a particular area of color space and/or rotate the graph to look at the gamut from different angles. These features are controlled using the mouse keys, and the keys can be used simultaneously.

- Right mouse button. Zooms the image.
- Left mouse button. Rotates the gamut through 3D color space.

Offset Matching

Offset matching is a powerful tool for reconciling the visual acceptability of a match with the calculated color differences. While color space maps are very useful in defining a target color and evaluating color differences in terms of distances on a map, equal distances between samples on a color space map do not always translate to equal visual differences. This is because visual color differences are not linear. As a result, color space maps are not completely uniform with respect visual evaluations.

For example, color differences that are due to lightness differences are typically less objectionable visually than are differences in hue or chroma. Working in an L*a*b* map, a DE of 1.0 between two samples may capture a shift along the lightness axis. In another case a DE of 1.0 between the samples may identify a shift along the a* axis (red/green) or b* axis (yellow/blue) A DE of 1.0 along the lightness axis may be acceptable visually, while a DE of 0.75 for a match to the same target may not be visually acceptable because the shift is along the a* or b* axis.

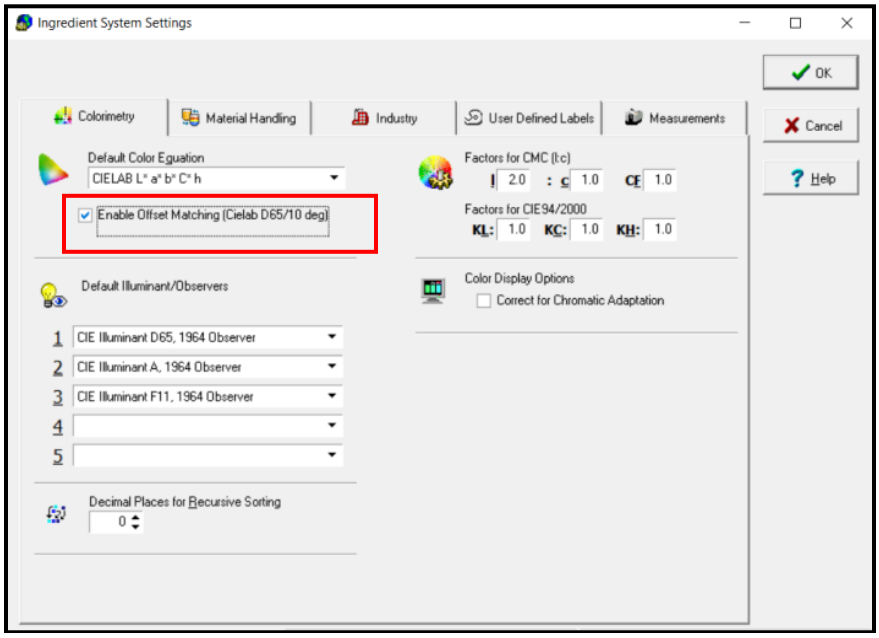
Offset matching was enabled in v 3.0. Below is an explanation of the configuration and results from the offset matching feature.

Enable Offset Matching

The default setting for offset matching is disabled. There are two settings that must be enabled to use offset matching. The option itself is enabled/disabled through the Admin program module. The offset values to be used can be entered either through Formula Central or directly from Navigator.

To enable Offset Matching,

1. Launch **Admin** and select **View System Details, Colorimetry**.
2. Click in the box to enable offset matching and click **OK**.



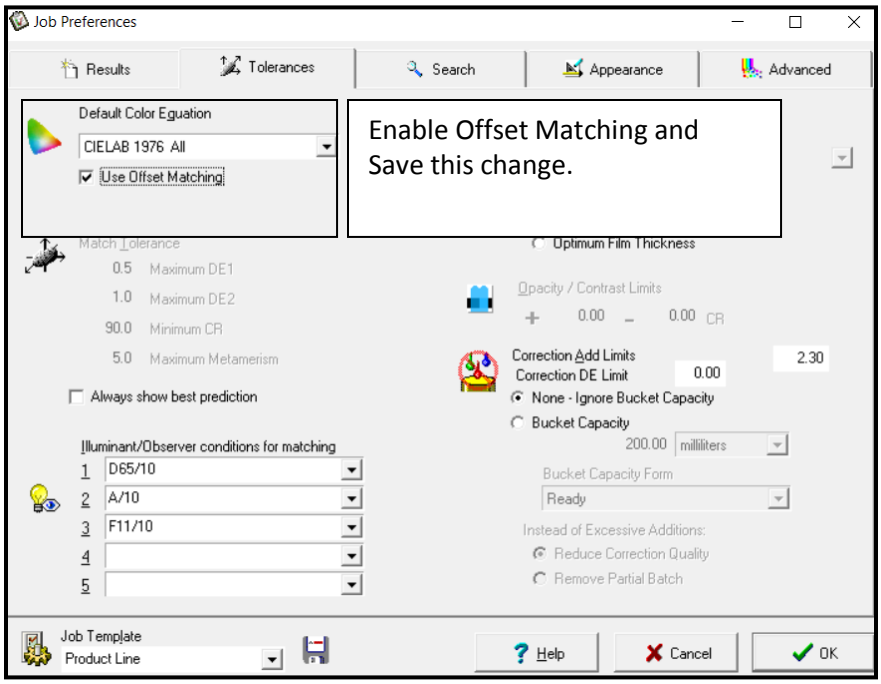
- You must restart DMP to see the change.

Enter Offset Matching Values Matching in Formula Central

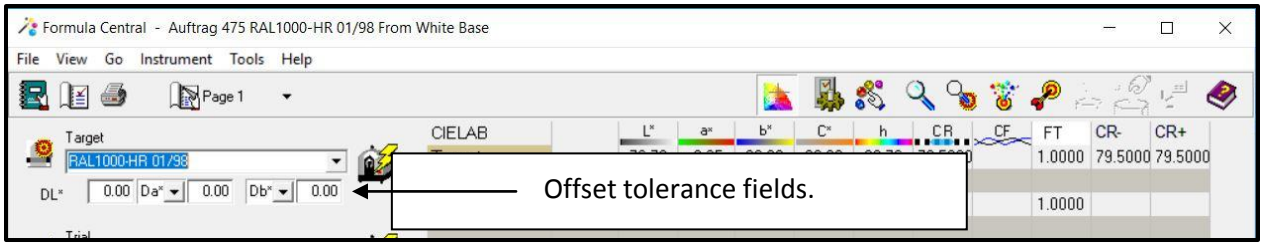
After Offset Matching is enabled in System Admin, the user must enter specific offset matching values. These values are entered using either Formula Central/ Job Preferences or from directly from Navigator.

To enter offset matching values from Formula Central:

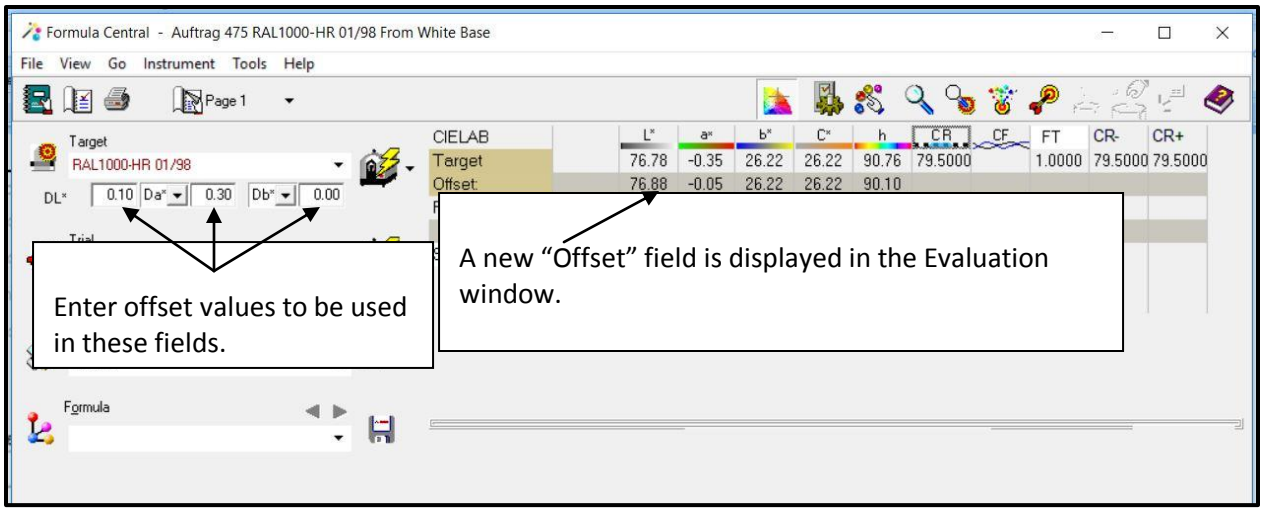
1. Navigate to **Job Preferences/Tolerances**.



Offset matching tolerance fields will display in Formula Central:



2. Enter an offset value for 1-3 coordinates.



In this example, a variation is acceptable on the L* and a* values. . In this example, an offset value of .1 L* and .3 a* were entered. The program interprets this input as ±.1 L* and ±.3a* respectively. For this target color, a variation is acceptable only on L* and a#.

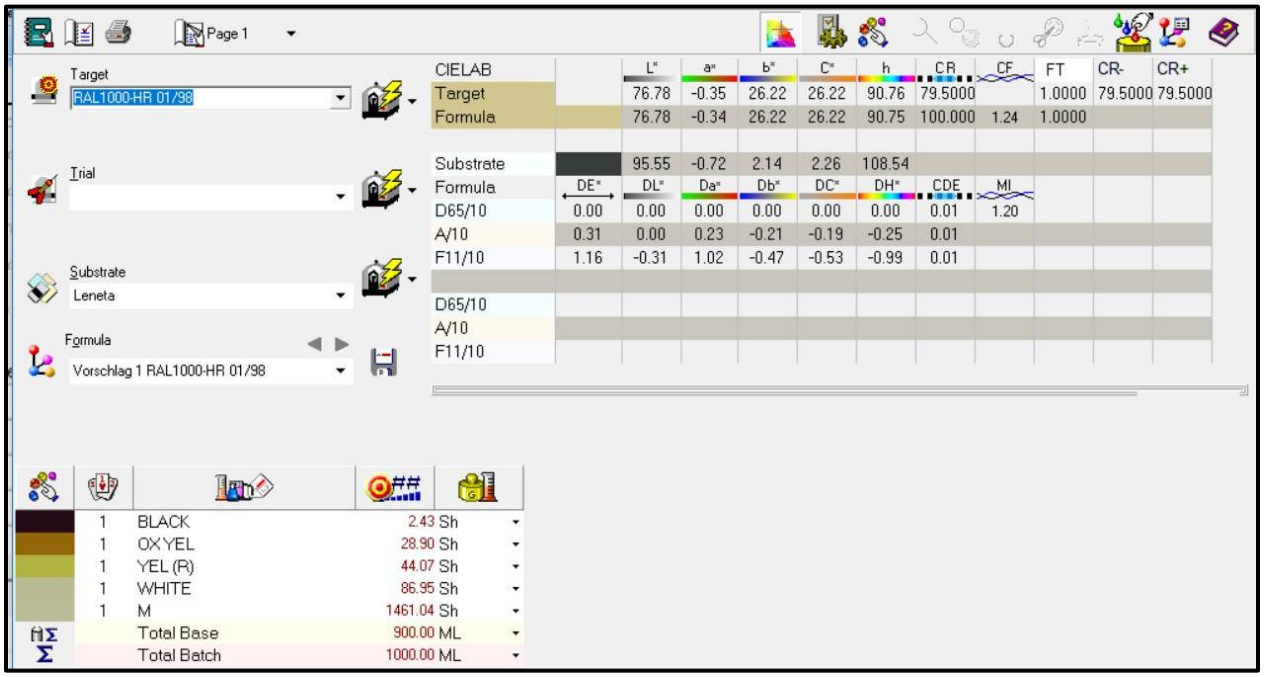
Enable Offset Matching in Navigator

Offset values can also be set in Navigator. See Navigator, Offset Matching Values for details.

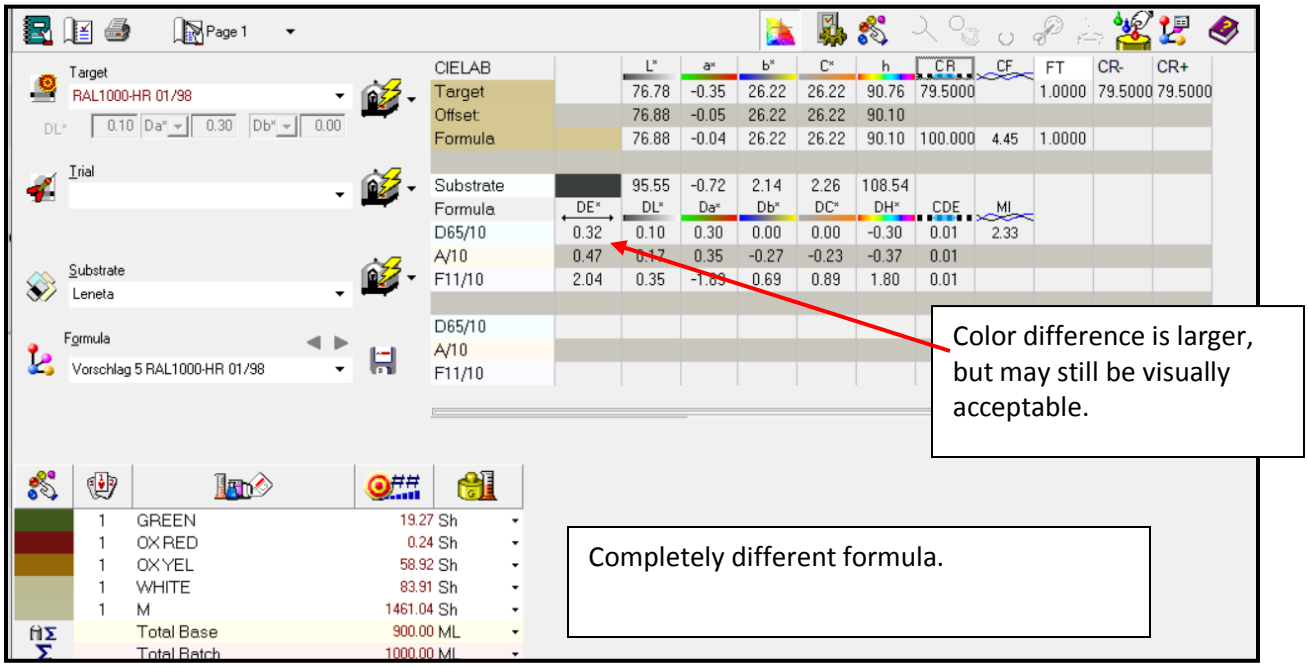
Offset Formula Results

Below is a comparison of the formula with and without offsets applied to the job tolerances.

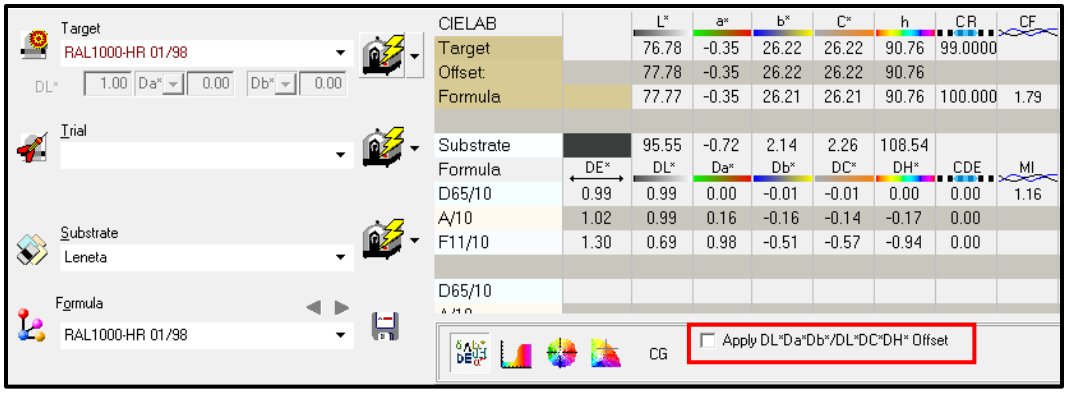
Match without Offsets



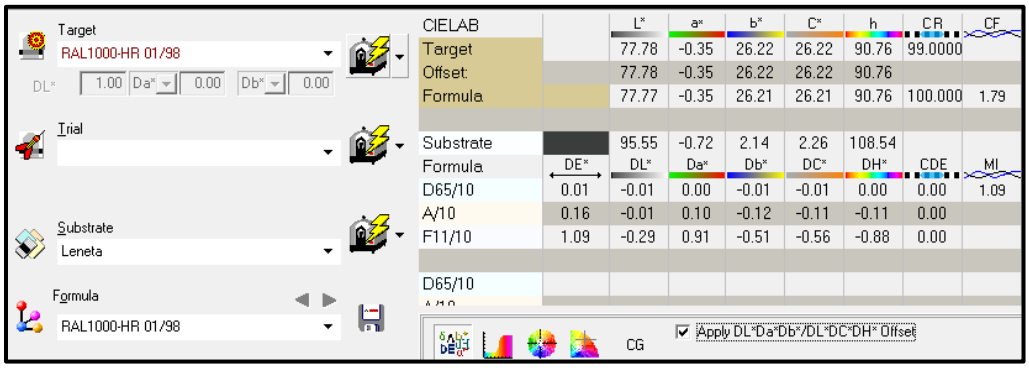
Match with Offset Values



- To view the calculated color difference between the offset standard and the formula, place a check in the *Apply checkbox to display the adjusted DE.*

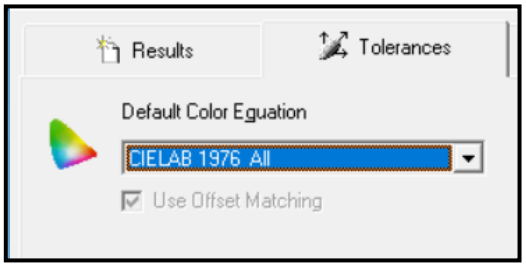


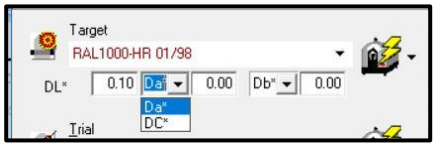
The adjusted DE is the difference between the projected "offset" standard and the predicted formula.



Offset Matching Notes

- The offsets are applied only to the CIEL*a*b 1976, with D65/10˚ Illuminant/Observer condition selected. They cannot be used with a different color equation or a different Illuminant/Observer selection.
- The set of coordinates available are determined by the CIELab color difference equation selected in the job template. When CIELAB 1976 is enabled, the user can store offsets for either DL*, Da*, Db* or DL*, DC* or DH*.





System Requirements

Below are the minimum system requirements to run Datacolor Match Pigment v 4.0:

Component	Minimum (Stand Alone)	Recommended Minimum (Stand Alone)
Processor	1 GHz 32-bit (x86)	2GHz Dual Core
Memory	8GB RAM	8GB RAM
Free Hard Drive	500 GB	500 GB
Video Resolution	1024 X 768 16-bit	1024 x 768 True Color
DVD Drive	DVD Reader	DVD Reader
Available Ports	(1) USB/ (1) Serial Port	(3) USB/ (1) Serial Port
Printer Port	USB or Parallel	USB or Parallel
32- Bit Operating System	Windows® 7	Windows® 7, Windows® 8.1 Windows® 10
64-Bit Operating System	Windows® 7	Windows® 7, Windows® 8.1 Windows® 10

Notes:

1. Datacolor spectrophotometers use either an RS-232 Serial or USB connectors

2. For Terminal Server setup, please refer to Terminal Server – Software and Hardware Requirements document.