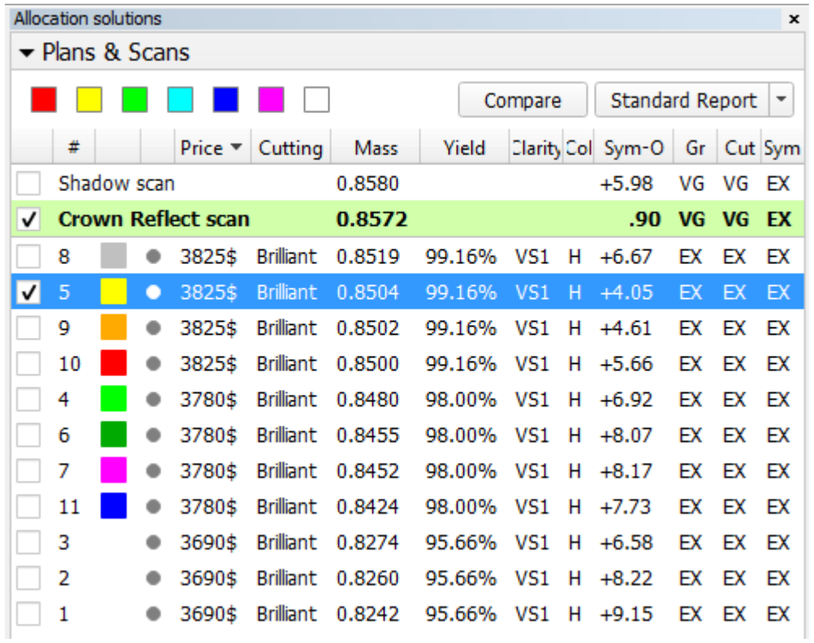
Models management

On this page:

Overview

HP Carbon is designed to work with multiple models simultaneously in a transparent and intuitive manner. The working models are listed on the **Plans & Scans** panel.



The models are named automatically in the following manner:

Name	Origin	Possible number of instances per project
Shadow scan	Model produced by shadow scanning.	At most one, since performing a new shadow scan erases the existing models.
Pavilion Reflect scan **Crown Reflect scan**	Models produced by reflect scanning.	Any number.
Edited model	Model produced by manual editing.	Any number.
Refined scan	Name used by older versions of HPOxygen instead of modern **Reflect scan** and **Edited model**.	Any number.
Imported model	Model imported from a *.oxgz file (to do so, press **File Import Model** in the top menu), or opened from a *.dmc, *.gem, or *.mmd file.	Any number.
Sample	Model imported as a sample (to do so, press **Load Sample** on the **Scan & Build** panel).	At most one, since loading a new sample unloads the existing one.
<number>	Recut solution.	Any number.

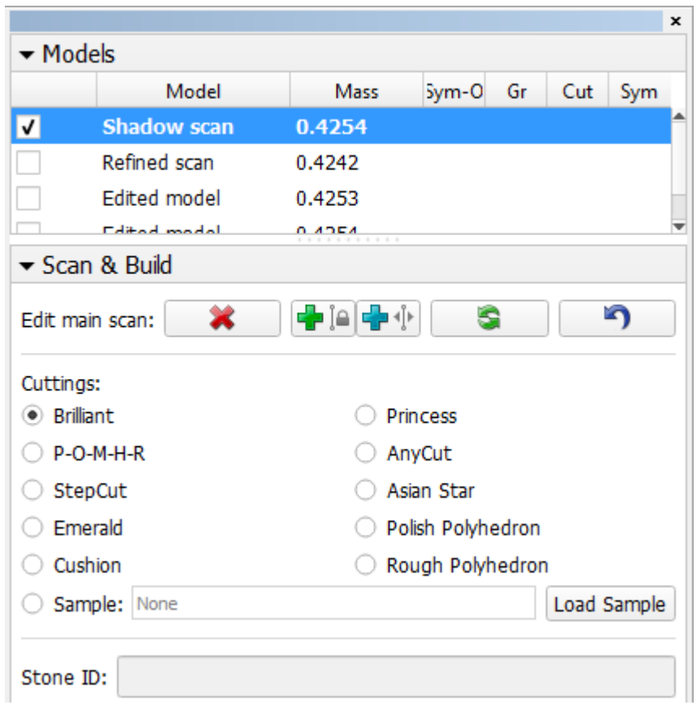
A model can't be renamed. When preparing a polish report, though, it is possible to enter an alternative name for a model to be used within the scope of that report.

The list contains the following data for each model:

Name	Title	Meaning
☑	-	A checkbox indicating whether the solution is selected (see **Selecting** below).
#	Model Name/Solution Number	Model name (assigned automatically); in case of recut solutions, just the number.
-	Label Color	Color label. Applicable to solutions only.
-	Clarity Status	Clarity status marker. Possible values: ● - not set (default state), ◕ - **Draft**, ○ - **Precise**.
Price	Price	Estimated price according to the price list. Applicable to solutions only.
Cutting	Cutting	Cutting type. Applicable to solutions only.
Mass	Mass	Mass of the stone.
Yield	Yield	Yield (percentage of mass of the original stone retained in the recut). Applicable to solutions only.
Clarity	Clarity	Estimated clarity grade. Applicable to solutions only.
Col	Diamond color (DZ)	Estimated color. See **DZ Color Estimate** for more details.
Sym-O	Optical Symmetry	Estimated optical symmetry. When turned on, requires the recalculation of optical symmetry for all models upon opening a file, which is a computationally demanding procedure and may cause perceptible delay. By default, this option is off, and the column is displayed empty.
Gr	Grade by GIA Facetware	Estimated overall grade.
Cut	Cut Grade by GIA Facetware	Estimated cut grade.
Sym	Symmetry Grade by GIA Facetware	Estimated symmetry grade.

Clicking at any column header sorts the list by the corresponding column value. Note, however, that the scans are still listed separately before the solutions, regardless of the sort order.

The **Scan & Build** panel also contains the list of working models with the same basic functionality. Note that it contains just the scans, and not the recut solutions. The columns specific to solutions are also hidden.



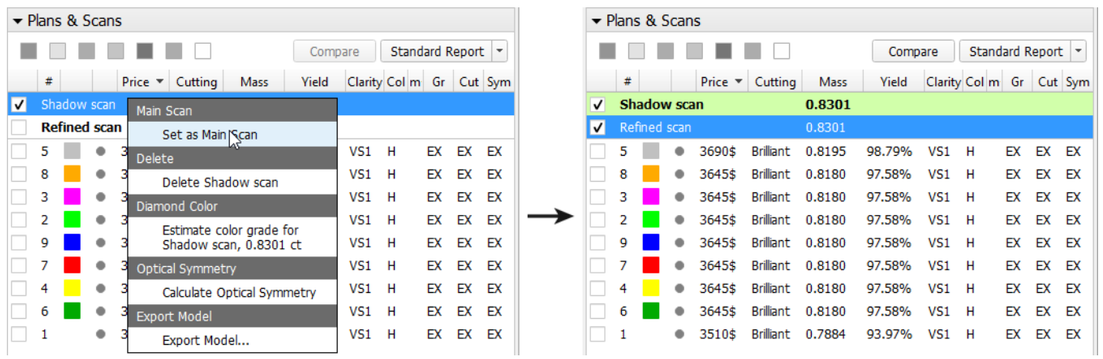
Main scan

One of the scans is considered the Main Scan. Its name in the list is emphasized with bold font and (only when selected together with another model) green background.

All manual edits and reflect scans take the current Main Scan model as the initial approximation and produce new Edited models or Reflect scans, correspondingly.

Recut solutions search uses the current Main Scan model as the original.

Any scan (except Sample, see below) can be made the Main Scan by right-clicking it in the list and selecting **Set as Main Scan**:

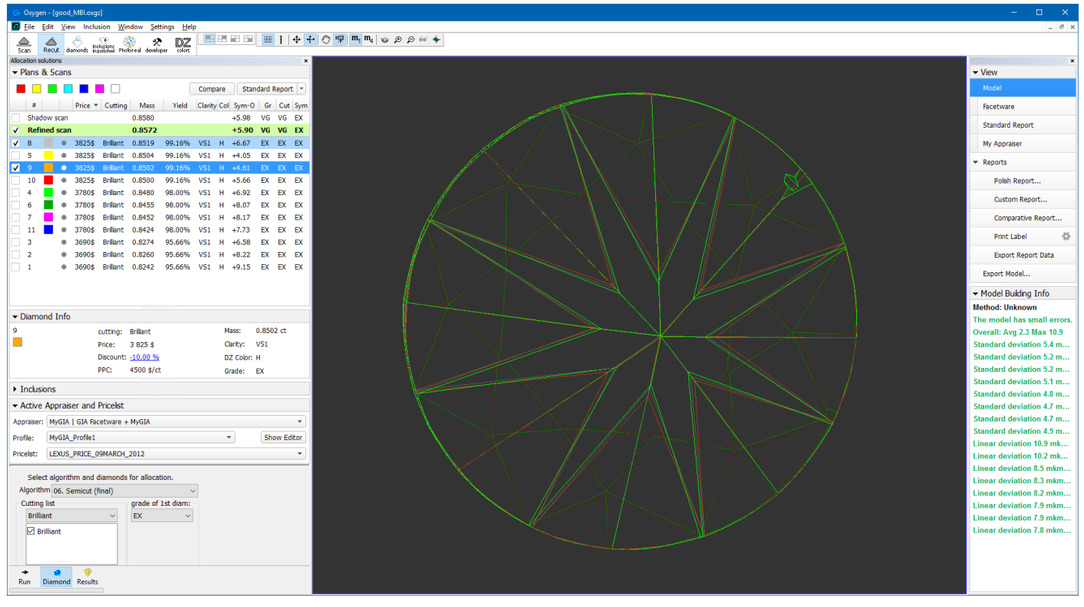


A sample is a standard model to refine your stone against (see **Shadow Scan**). It can be loaded from a `*.dmc` file on the **Scan & Build** panel. Once loaded, it remains in your list of models under the name **Sample.**

Selecting models

Any model can be selected for viewing. Moreover, any combination of models may be selected simultaneously and viewed together in different colors (assigned automatically). For more details on the selection interface, see below.

Note that viewing selected models works only in Model view mode. In Photo and Scanner view modes, only the Main Scan is displayed.



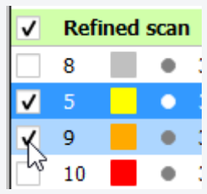
The selection persists when the user switches between the panels **Plans & Scans** and **Scan & Build**.

When a recut solution is selected, the Main Scan is selected too (unless the user deselects it explicitly by unchecking its check box).

The last selected model is designated *current* model and marked with a dark blue background.

The selection behavior is summarized in the table below:

Action	Scan (including the Main Scan)	Solution

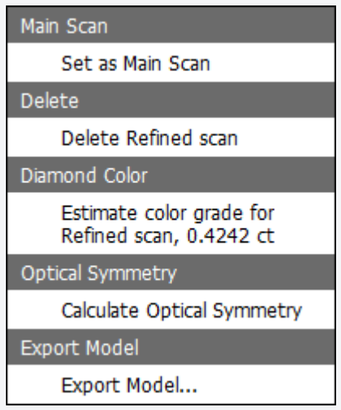
Click		If this is the current model: does nothing. Otherwise: selects it, makes it current, and deselects the rest.	If this is the current model: does nothing. Otherwise: selects it, makes it current, selects also the Main Scan, and deselects the rest.
Ctrl + Click **or** **Click on the check box**		If this is the current model: does nothing. Otherwise: toggles selection of this model, not resetting the current and not affecting the rest.	
Shift + Click		If this is the current model: does nothing. Otherwise: selects all models in the list between this and the current model (inclusive), and makes this model current.	
Right click		If this model is selected: opens the context menu for it (see below). Otherwise: selects it, makes it current, deselects the rest, and opens the context menu.	If this model is selected: opens the context menu for it. Otherwise: selects it, makes it current, selects also the Main Scan, deselects the rest, and opens the context menu.
Arrow keys **(Up / Down)**		Selects the model one step up or down in the list from the current one, makes it current, and deselects the rest.	Selects the model one step up or down in the list from the current one, makes it current, selects also the Main Scan, and deselects the rest.

Any model except the Main Scan (see above) can be deleted from the list by pressing **Delete** on the keyboard or selecting **Delete model** in the context menu.

Context menu

Right-clicking on a model in the list causes the context menu to appear.

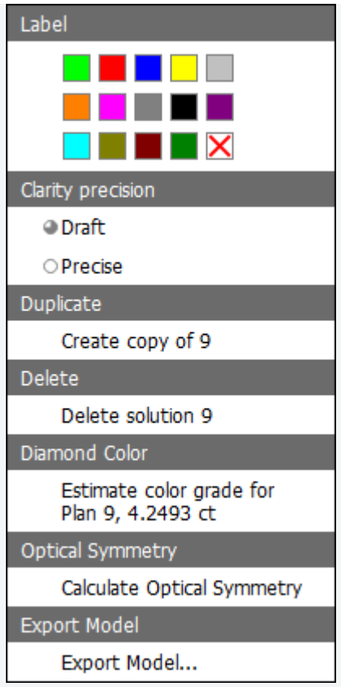
When a single scan is selected, the menu contains the following available actions:



Main Scan	Makes this scan the Main Scan (see above).
Delete	Deletes the selected scan.
Diamond Color	Initiates the color estimation procedure (see **DZ Color Estimate**).
Optical Symmetry	Toggles the optical symmetry calculation for all existing and new models.
Export Model	Exports the model in a user-selected format (see **Export**).

When a single solution is selected (possibly together with the Main Scan), the menu contains the following available actions:

Label	Select the color label for this solution. Initially, the solutions obtained by Smart Recut (see **Smart Recut** for details) are assigned color labels in accordance with the corresponding presets. In all other methods, the solution labels are initially left blank.
Clarity precision	Sets the clarity precision to **Draft** or **Precise** (initially set to neither).
Duplicate	Create a duplicate of this solution and add it to the list.
Delete	Deletes the selected solution.
Diamond Color	Initiates the color estimation procedure (see **DZ Color Estimate**).
Optical Symmetry	Toggles the optical symmetry calculation for all existing and new models.



Export Model	Exports the model in a user-selected format (see **Export**).

When multiple scans are selected, the set of available actions narrows down to **Delete** and **Optical symmetry**.

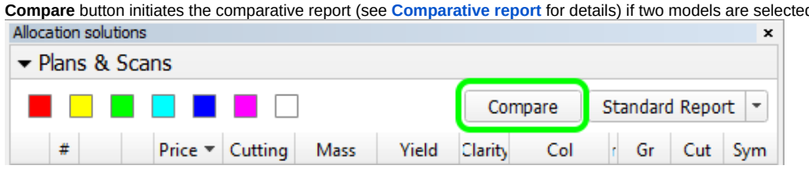
When multiple models including some solution(s) are selected, the available actions are **Label**, **Delete**, and **Optical symmetry**, with the implication that **Label** applies only to the solutions and not to the scans.

Note also that the Main Scan can not be deleted even when deleting multiple selections in which it is included.

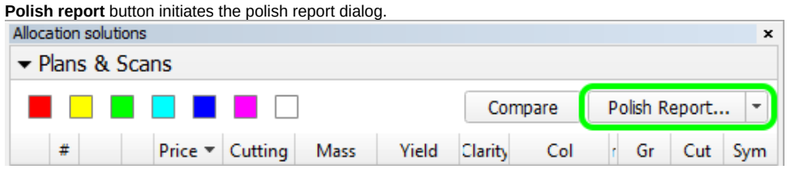
Top buttons

The top part of the **Plans & Scans** panel contains two buttons that act on the selected model(s):

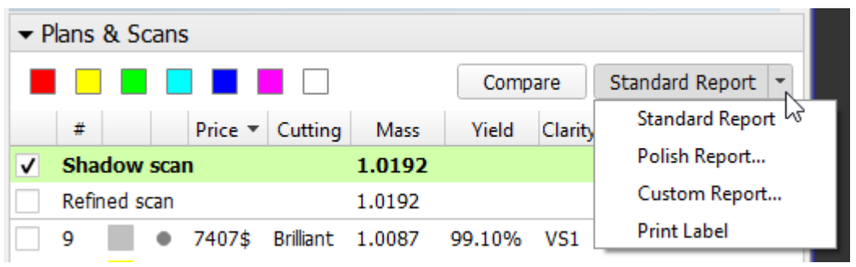
- **Compare** button initiates the comparative report (see **Comparative report** for details) if two models are selected. Otherwise, the button is disabled.



- **Polish report** button initiates the polish report dialog.

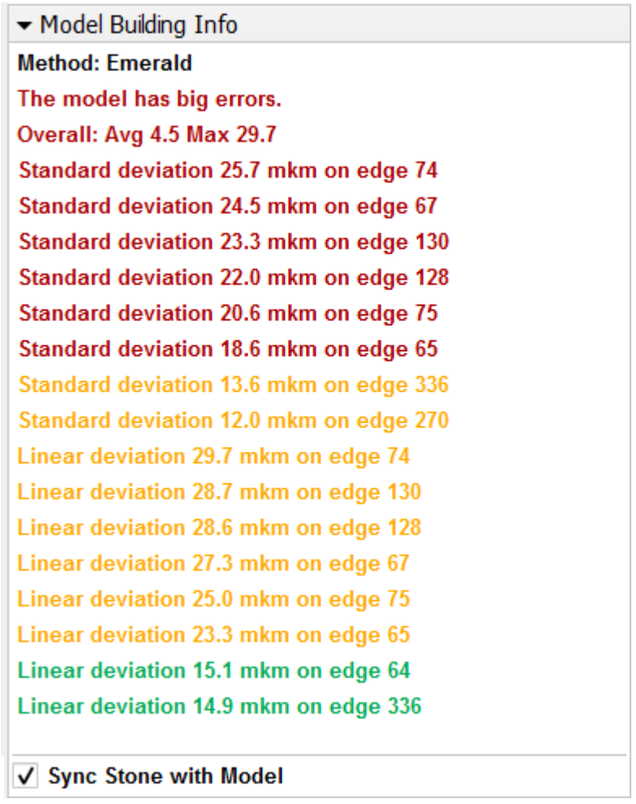


Note that the latter button is multi-optional. The dropdown list to the right provides a selection of options: **Standard Report**, **Polish Report**, **Custom Report**, and **Print Label**. Once selected, the option persists until the program is closed or a new model is opened.



Model Building Info

When a scan is selected, the **Model Building Info** panel is displayed to the right (see **Model Building Info (MBI)** for more details).



The building info describes how well the model matches the scanned contours. It contains the header referring to the overall model quality, followed by the lines that describe individual problem spots. Lines are color-coded according to the severity of the errors they signify. Each of these lines is a link; pressing such a link while viewing the model in the Photo mode would orient the model so as to display the corresponding contour. The matching photo is also shown. If **Sync stone with model** is checked, then the actual stone would be also oriented the same way, which would position the problem-causing edge against the door. This is useful for manual cleaning of the stone, in case if the deviation was caused by dirt.

> Scanned models prepared in the older versions of HPOxygen may lack the Model Building Info.

Comparing models

Any two models can be selected for comparison (see **Comparative Report**). If one recut solution is selected, it would be compared against the Main Scan (which is automatically selected as well in this case). If two solutions are selected, they would be compared against each other, even though the Main Scan is selected too.

The comparison behavior is summarized in the table below:

Models selected	Action of Comparative report
One	Not available.
Two	Compares the two models.
Three	If one of the three models is the Main Scan: compares the other two. Otherwise: not available.
Four or more	Not available.