

# 2019-10-23 - HPOxygen Server 5.3.42

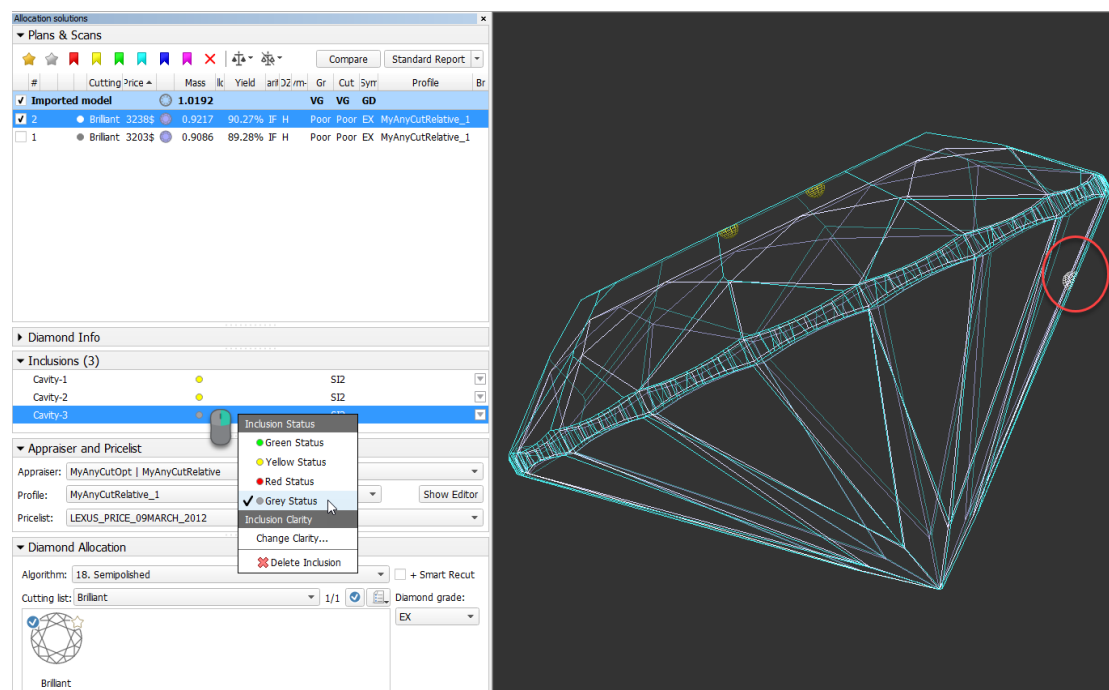
Here you can find information about what is new in HPOxygen Server version 5.3.42.

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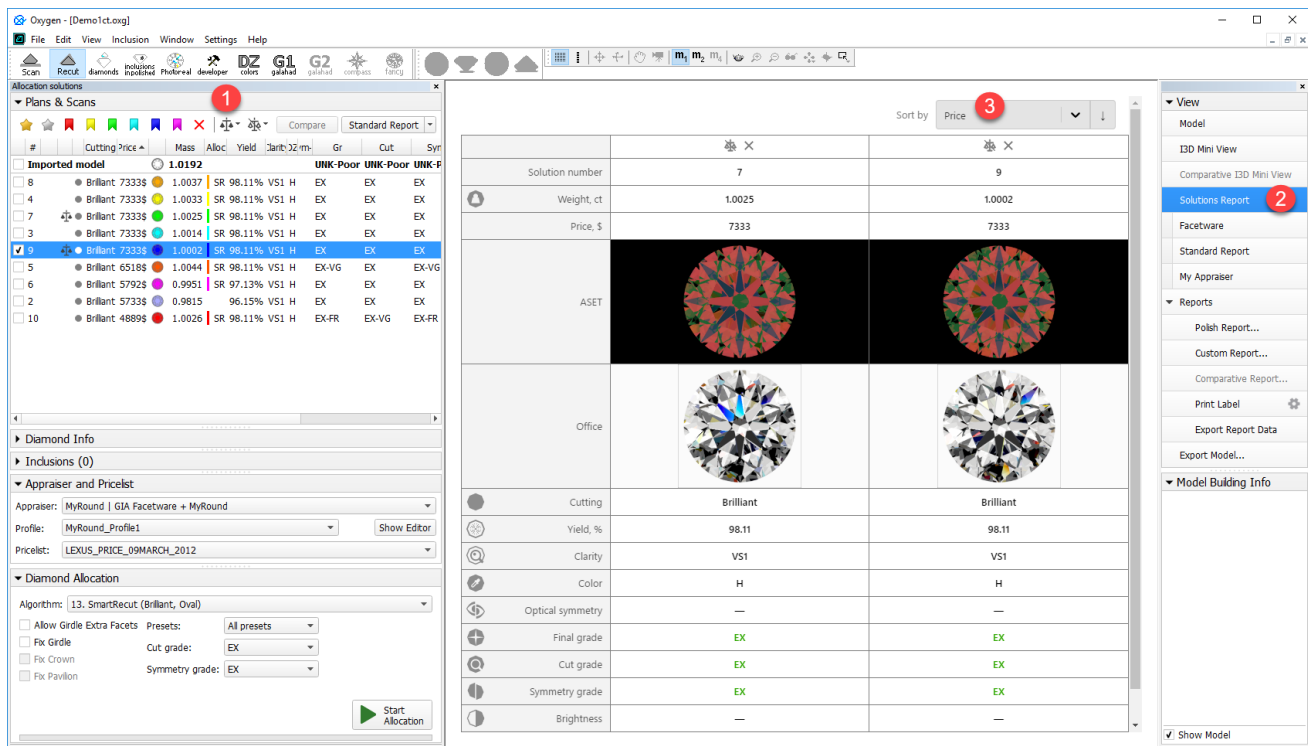
## Inclusions - Grey Status

Now you are able to set Grey Status for inclusions of your model. Inclusions having this status will not be taken into account during allocation.










## Solutions Report

The system now allows comparing solutions using *Solutions Report*. This report allows comparing solutions by main parameters including ASET and Office pictures.



To use the feature:

- In the Solution List, select solutions to be included in the Solutions Report, then click . The included solutions are marked with the  symbol.
- On the right panel, click **Solutions Report**. The report is displayed in the Scene.
  - **Note** If you include many solutions in the report they can be displayed not all at once, but on different pages
  - Page switcher and the **Columns per page** setting are displayed in the bottom of the report page
- You can sort the solutions in the report using the **Sort by** control.
- You can add or remove solutions from a report via the Solution List using the context menu.
- You can remove a solution from the report by clicking  (do not confuse with  which removes the solution from report and **deletes** from the Solution List)
- When deleting a solution from the list, it is deleted from the report as well.
- You can add/remove all solutions at once. To do so, in the Solution List, click the arrow  to the right of  or , then from the displayed menu, select **Add All Solutions to Solutions Report** or **Remove All Solutions from Solutions Report** correspondingly.

## Customizing Profiles - Improvements

In HP Oxygen, each profile consists of cutting parameter intervals and Smart Recut presets values. The system allows copying both cutting parameter intervals and presets values into your own editable profile - there you can further tune them.

Now copying intervals and preset values is improved. You can:

- Duplicate existing profile into yours in one click (all tabs, all parameters, both intervals, and preset values)
- Quickly compare your profile with any other - both intervals and preset values
- Load intervals for all parameters (all tabs!) - in one click
- Load intervals only, presets only, or both intervals and presets - in one click
- Load presets values - for all presets or only for one preset

Appraiser Editor

GIA Facetware + MyRound  
Profile: MyRound\_Profile1

Hide Presets

Parameter	[ FR ]	[ GD ]	[ VG ]	[ EX ]	[ EX ]	[ VG ]	[ GD ]	[ FR ]	1.UltraSym	2.HighSym	MediumSym	1.NormalSym	5.Standard	6.LowSym	ExtendedLim	8.MaxMass	
Table	10	46,5	49,5	51,5	62,4	66,5	69,5	99	1	0,9	1	1	1	1	1	1	100
CrownAngle	10	21,75	26,25	31,25	36,75	38,75	40,25	90	1	1	1	1	1	1	1	1	100
PavilionAngle	10	38,7	39,7	40,5	41,9	42,5	43,1	90	1	1	1	1	1	1	1	1	100
SweetLine	-9	-6	-3	-1,5	1,5	3	6	9	1	1	1	1	1	1	1	1	100
StarLength	10	32,5	37,5	42,5	57,5	72,5		90	1	1	1	1	1	1	1	1	100
LowerGirdleLength	50	57,5	62,5	75	80	92,5		99	1	1	1	1	1	1	1	1	100
GirdleBezel	0	1,25	1,75	2,25	4,75	5,75	7,25	20	1	1	1	1	1	1	1	1	100
GirdleValley	0	0	0,35	0,75	2,94	4,14	6,14	20	1	1	1	1	1	1	1	1	100
CrownHeight	5	10,5	12	12,3	17	17,5	18,5	40	1	1	1	1	1	1	1	1	100
TotalHeight	10	54	57	58	64,5	66	70	90	1	1	1	1	1	1	1	1	100
Culet	0	0	0	0	0,2	1,5	2	20	-	0,5	-	1	-	1	-	1	100
CrownPainting	-9	-6	-3	-2,5	2,5	5	7	20	1	1	1	1	1	1	1	1	100
PavilionPainting	-9	-5	-3	-2,5	2,5	4	6	20	1	1	1	1	1	1	1	1	100
SumPainting	-9	-6	-5	-3,5	5	8	10	20	1	1	1	1	1	1	1	1	100
GirdleVerticality	-20	-1,5	-1	-0,5	0,5	1	1,5	20	1	1	1	1	1	1	1	1	100
HeightGirdleExtraFacet	0	0	0	0	2	4	8	20	-	0,5	-	0,6	-	0,6	-	0,8	100
GirdleCrownExtraFacets	0	0	0	0	0	2	4	20	-	1	-	1	-	1	-	1	100
GirdlePavilionExtraFacets	0	0	0	0	3	4	6	20	-	1	-	1	-	1	-	1	100
GirdleExtraFacets	0	0	0	0	2	4	8	20	-	1	-	1	-	1	-	1	100

Import... Show difference from: MyRound\_HA

Export Load profile

Discard Apply

Show difference from: MyRound\_HA

Load presets

Unsaved Changes Duplicate profile

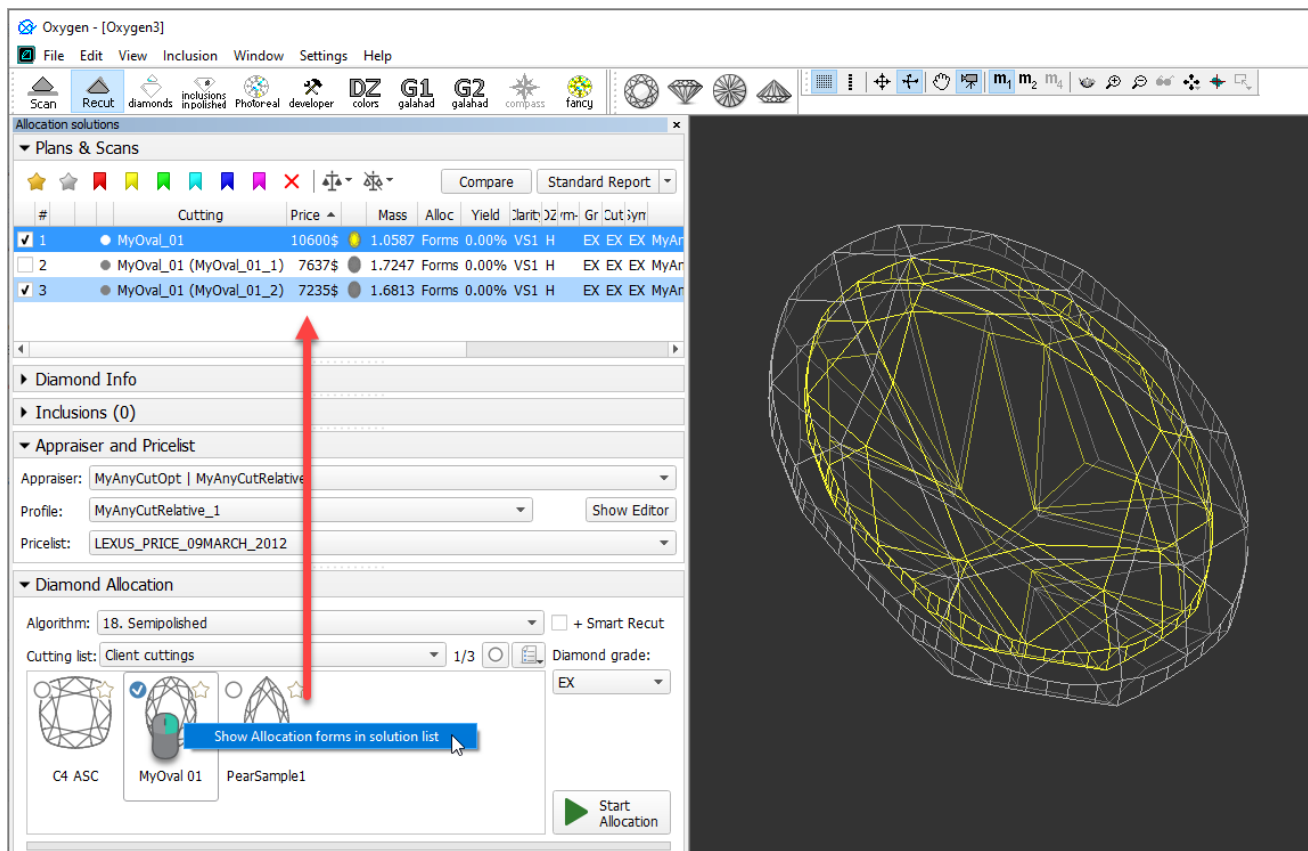
Discard Apply

Below is a brief description of how to work with the new features:

- You can only modify editable profiles, so first go to one of them under your appraiser.
  - Click **Show Presets**, if necessary.
  - To compare your profile to another one, in **Intervals** and/or **Presets** sections, select value in **Show difference from**. Mouse over the highlighted differences to see details.
  - To select parameter click it. Use the context menu to select all.
  - To deselect parameter, click it again. Use the context menu to deselect all.
  - For selected parameters, use the context menu to load **Intervals from**, **Presets from** or **Intervals and Presets from**.
  - Unsaved changed values are highlighted with bold. **Unsaved changes** notification is displayed.
  - To save changes, click **Apply**. Applying saves on all tabs. Applying intervals also saves presets, but not vice versa.
  - To load intervals for all parameters (all tabs), in the **Intervals** section, use **Load Profile**.
  - To load preset values for all parameters (all tabs), in the **Presets** section, use **Load Presets**. Use **All presets** or select the preset to load.
  - To load an entire profile (all parameters and preset values on all tabs), use **Duplicate Profile**. Changes are automatically applied immediately.
  - You can **Discard** unsaved changes. Discarding erases changes on all tabs, for intervals and presets separately.
- You can at any moment step-by-step **Undo** or **Redo** your changes. Works both for saved and unsaved.
  - You can copy and paste values, using CTRL-C, CTRL-V or the context menu.
  - You can rename your editable profiles.

## Managing Allocation Forms

Now you can manage allocation forms of your registered cuttings in the solution list.

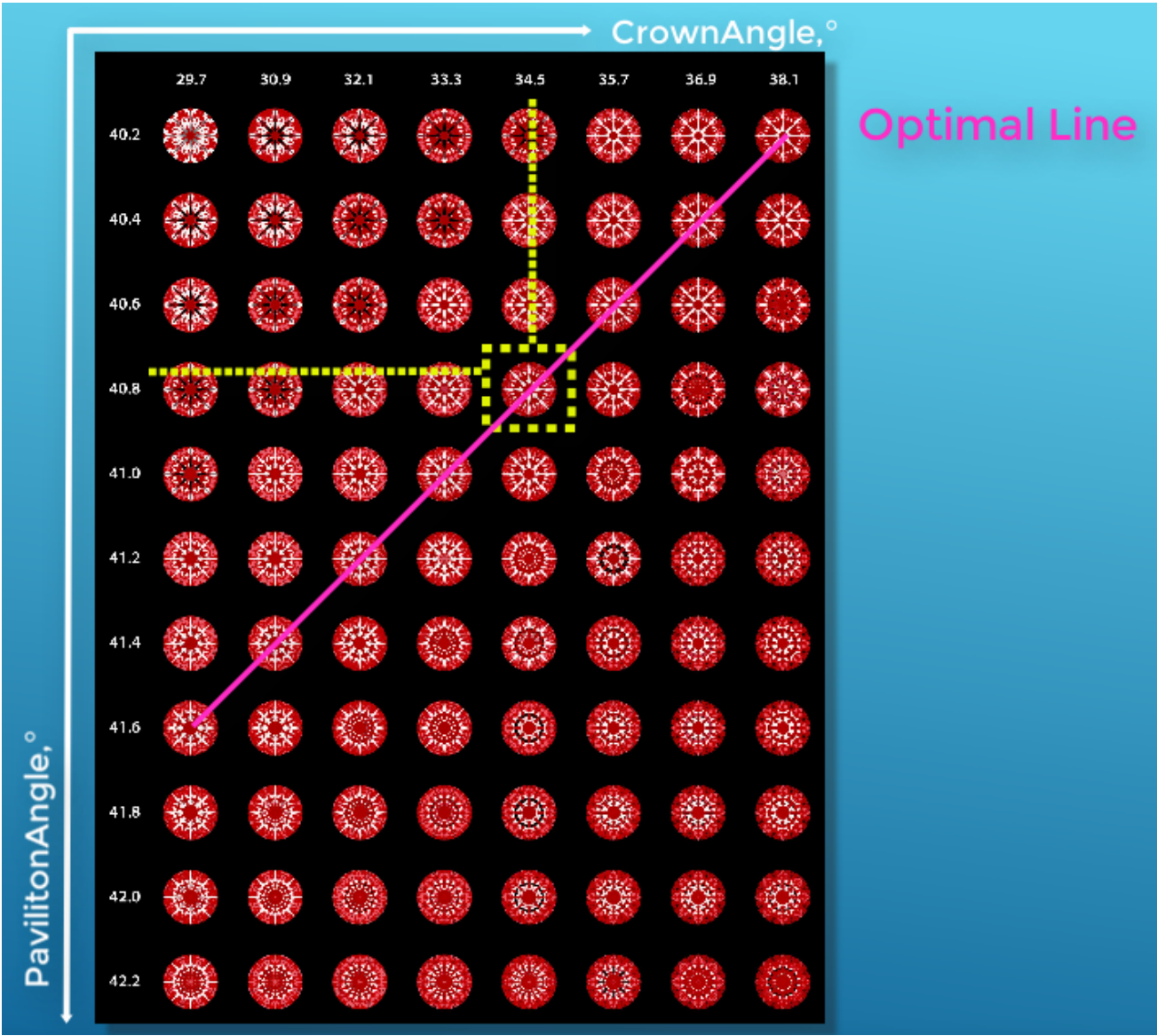


How you can manage the allocation forms:

- You can use empty project via **File > New**. This will provide you with an empty solution list.
- Or add your allocation forms to solution list of any opened project.
- To show allocation forms, select your cutting, then right-click it and select **Show allocation forms in solution list**. If your cutting has allocation forms, they will be **copied** to the solution list.
- You can use all tools of the system, available for usual solutions, to analyze characteristics of your allocation forms.
- **Note** Your displayed forms are copies. If you make some changes to them, this will not affect the initial copies actually assigned to the cutting. Still, you are able to register changed copy as the additional form for the same cutting.
- In the solution list, from the contextual menu, you can:
  - **Remove from allocation forms...** This is the only operation affecting not only the copy but also the source.
  - **Add as allocation form to another cutting...**
  - **Register as new cutting...**
- If necessary, you can save you displayed copies of allocation forms as a separate project.

## SweetLine Improvement

As the result of additional research, for the SweetLine parameter, the slope of the optimal line is changed from "negative 1:4,5" to "negative 1:6" which means "each 6° increase of CrownAngle is 1° decrease of PavilionAngle". This improves the accuracy of defining the set of solutions with the better optical performance.




Detailed information about using the SweetLine parameter is presented in the video below:


Video   SweetLine - Time-Saving Approach to Getting Better Optical Performance				
Published:	2019, October 1	Last Updated:	2019, December 5	v.2.0
Your browser does not support the HTML5 video element				
Video summary:				
<ul style="list-style-type: none"><li>• CrownAngle = 34.5 and PavilionAngle = 40.75 named <i>Tolkowsky Point</i> provide the best optical performance</li><li>• Brilliants belonging to axis going through Tolkowsky Point with the negative slope 1:6 also provide excellent optical performance</li><li>• The SweetLine parameter sticks solutions to this axis</li><li>• There are two ways of using SweetLine: via SweetLine profile or using your own editable profile with SweetLine, CrownAngle and PavilionAngle set to your needs</li></ul>				
Video keywords: SweetLine, SweetLine axis, optical performance, CrownAngle, PavilionAngle				
Published in:	Release Notes	<a href="#">2019-10-23 - HPOxygen Server 5.3.42</a>		
	Documentation	<a href="#">Using SweetLine</a>		
	Playlists	<a href="#">All Videos</a>		
	Also	<a href="#">As Separate Page</a>   <a href="#">Specification</a>		

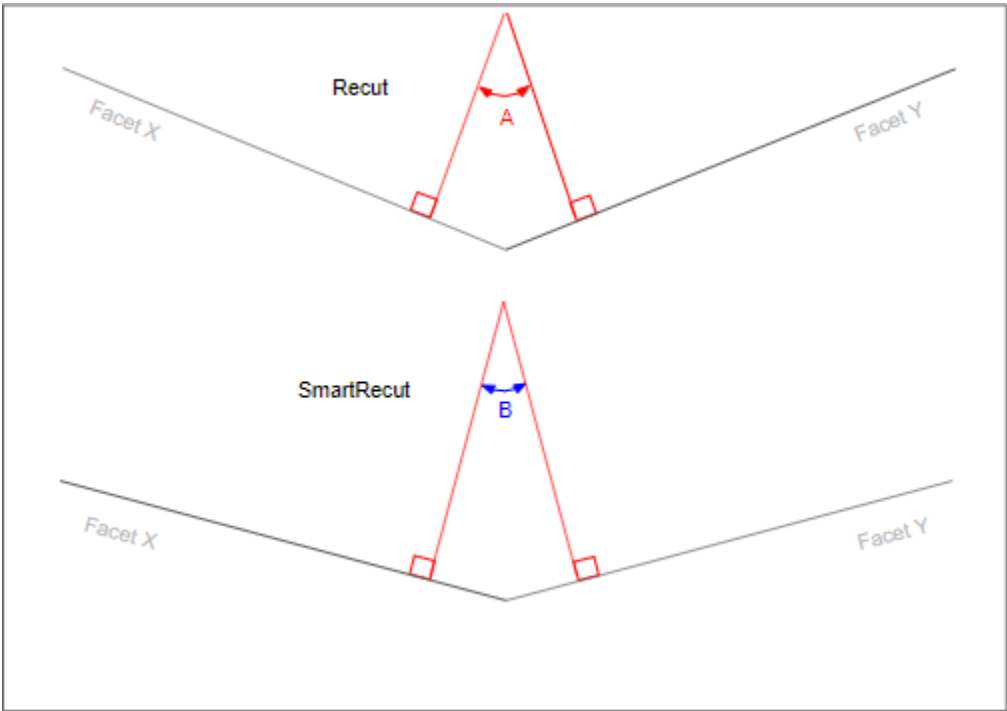
# New Smart Recut Parameters

The new parameters have been added to the appraisers used by the Smart Recut algorithms:

 This parameter is applicable to the following cuts: AnyCut (only when performing SmarRecut via Relative appraiser).

Defines how much (in %) the angle between normals of any neighboring facets can deviate after Smart Recut comparing to Recut.

 If at least one of the neighboring facets is girdle or culet, the limitation is not applied. The girdle shape is controlled by the [Girdle Shape Tolerance](#) parameters. The culet is not taken into account.



### Calculation

The parameter is set manually via preset and control the rule:

$A(1+\text{min}/100) < B < A(1+\text{max}/100)$

Where:

- A** - the angle between normals of neighboring facets after Recut
- B** - the angle between normals of neighboring facets after Smart Recut
- min** - a left boundary in preset, should always be negative, for example, "-25"
- max** - a right boundary in preset

### Usage and Examples

If the parameter set to "-25, 50" and the angle between normals of neighboring facets after Recut (**A**) is "10°" then:


- $10(1-0.25) < B < 10(1+0.5)$
- $7.5 < B < 15$
- the angle between normals of the same facets after Smart Recut (**B**) should be within the interval from 7,5° to 15°.

### Reporting


Reported in	Section	Values	Units	Bookmarks	Name in Reports
None	NA	Single value	% from the initial angle	NA	NA

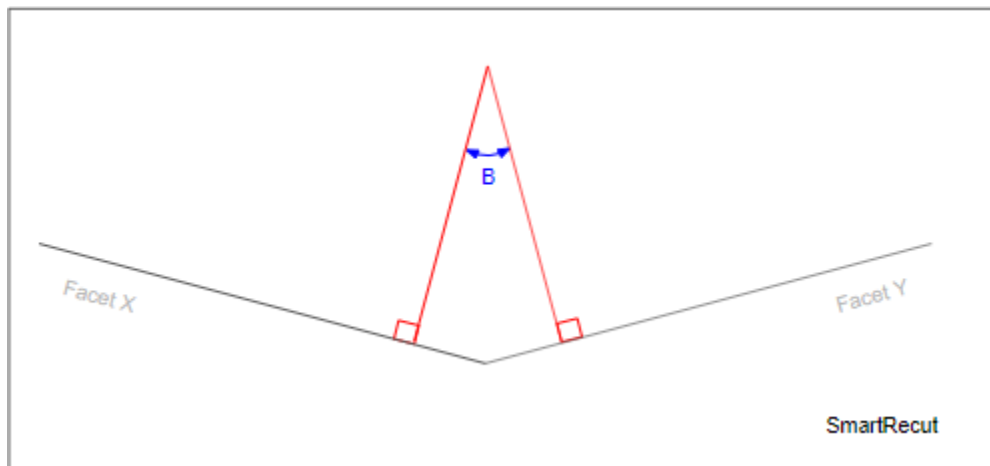
### Visualization in Appraisers

Value	Units	Bookmark	Tab	Parameter Name	Comment
Single value	% from the initial angle	NA	Cut	AdjacentFacetsAnglesEveryTolerance, %	Visible only when presets are displayed.

 This parameter is applicable to the following cuts: AnyCut (only when performing SmarRecut via Relative appraiser).

Sets limitation “not less than this value” for the angle between normals of any neighboring facets.

 If at least one of the neighboring facets is girdle or culet, the limitation is not applied. The girdle shape is controlled by the [Girdle Shape Tolerance](#) parameters. The culet is not taken into account.



#### Calculation

The parameter is set manually via preset.

#### Usage and Examples

Should be used to avoid transforming the neighboring facets into a single plane.

The current default values are:

Appraiser Editor														
MyAnyCutRelative														
Profile: <b>Default</b> (read only)														
<div> <div>Cut</div> <div>Symmetry</div> <div>Other</div> </div>														
Parameter	.AllNarrower	erticesNarrow	nglesNarrow	girdleNarrow	girdleWiden	nglesWiden	erticesWiden	.AllWidenec						
AdjacentFacetsAnglesEveryMin, °	1	-	0,7	-	1	-	0,7	-	0,7	-	0,5	-	0,7	-

#### Reporting

Reported in	Section	Values	Units	Bookmarks	Name in Reports
None	NA	Single value	°	NA	NA

#### Visualization in Appraisers

Value	Units	Bookmark	Tab	Parameter Name	Comment
Single value	°	NA	Cut	AdjacentFacetsAnglesEveryMin	Visible only when presets are displayed.

## Client Versions Integration - Multi-Diamond Algorithms Enabled

As part of the integration of the different Oxygen client versions, the algorithms producing multi-diamond solutions are enabled in the system and now available in the **Algorithm** list.

# Fixed Unknown Cut Grade Because of Girdle Value

The calculation error leading to a negative girdle and thus unknown cut grade has been fixed.

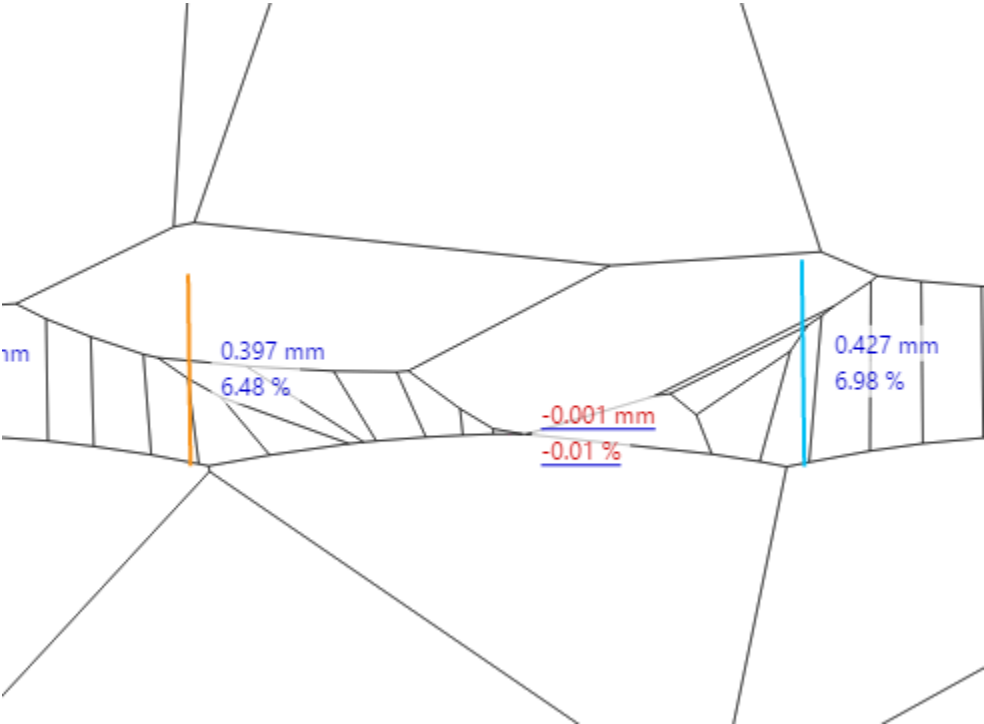
From: Utpal Mistry

Dear Sergey

Attached project shows negative girdle due to new GIA rule. which gives unknown cut grade.

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Attached:



GIA FacetsView									
Choose polish quality:		Choose rounding rules for calculations:		FWG		Limitations		Export to PDF Word	
<input checked="" type="radio"/> EX		<input checked="" type="radio"/> GIA Rounding Rules (recommended)							
		<input type="radio"/> Math Rounding Rules							
Parameters	Min	Measured value	Dev	Avg	Found value	Estimated Cut Grade	Estimated Symmetry Grade	Estimated Polish Grade	
Shape	-	-	-	Brilliant	-	-	-	-	-
Estimated Weight (ct)	-	-	-	1.0027	-	-	-	-	-
Diameter (mm)	6.06	6.14	0.08	6.10	-	-	-	-	-
Table Size (%)	56.8	57.6	0.8	57.2	57	-	EX	-	-
Crown Angle (°)	37.90	38.30	0.40	38.10	38.0	-	EX	-	-
Pavilion Angle (°)	40.90	40.30	-0.60	41.10	41.2	PG	EX	-	-
Star Length (%)	46.4	54.4	8.0	50.2	50	-	EX	-	-
Lower Half (%)	72.8	76.2	3.4	74.7	75	-	EX	-	-
Girdle Bezel Thickness (%)	5.95	7.09	1.13	6.60	6.5	-	PG	-	-
Star Angle (°)	23.1	23.7	0.6	24.1	24.1	-	EX	-	-
Upper Angle (°)	44.2	47.9	3.7	45.6	45.6	-	EX	-	-
Girdle Girth (mm)	40.6	40.6	0.0	40.6	40.6	-	EX	-	-
Girdle Table Thickness (%) *	-	-	-	-0.00	-0.00	-	-	-	-
Girdle Table Width (mm) *	-	-	-	0.00	0.00	-	-	-	-
Girdle Size (%) *	-	-	-	0.43	0.00	-	-	-	-
Crown Height (%)	56.74	57.72	0.98	56.90	57.0	-	PG	-	-
Pavilion Depth (%)	40.46	40.68	0.02	40.49	40.5	-	EX	-	-
Table Depth (%)	-	-	-	66.99	67.0	-	-	-	-
Table Offset (%)	-	-	-	0.813	-	-	PG	-	-
Girdle Offset (%)	-	-	-	1.899	-	-	EX	-	-
Table Cutlet (%)	-	-	-	1.952	-	-	EX	-	-
Crown Flaring (°)	-4.94	1.77	6.71	-0.75	-0.7	EX	-	-	-
Pavilion Flaring (°)	-0.62	4.01	7.64	0.42	0.4	EX	-	-	-
Star Flaring (°)	-	-	-	-0.33	-0.3	EX	-	-	-
Junction Bezel Tilt (°)	-0.59	0.76	-	-	-	-	-	-	-
Heave Tilt (°)	0.08	2.81	-	-	-	-	-	-	-
Junction Bezel Twist (°)	-0.46	1.86	-	-	-	-	-	-	-
Alignment ALN (°)	-	-	-	1.86	1.7	-	PG	-	-
Bezel Roundness by Octahedron	for window size 30°				0.91	-	EX	-	-
	for window size 30°				1.20	-	EX	EX	-
	for window size 45°				1.20	-	PG	-	-
	for window size 90°				1.20	-	PG	-	-
Model Table Edge (%)	21.11	23.08	1.98	21.83	-	-	-	-	-
Table Edge 180 (°)	23.1	23.1	0.0	23.1	23.9	-	EX	-	-
Table Edge Junction (%)	-0.36	0.83	0.78	-0.12	-	-	-	-	-
Table angle (°)	133.2	133.7	0.6	133.0	-	-	-	-	-
Bezel width (%)	27.27	30.24	2.97	28.65	-	-	-	-	-
Estimated Intermediate GIA Cut Grades:									
Estimated Final GIA Cut Grades:									
						Unknown	EX	EX	EX
						Unknown	Unknown	Unknown	Unknown

For the presented example and similar cases, the girdle height now will be "0".



# Fixed Problems and Improvements

The following fixes for the known problems and improvements have been implemented:

- For the SmartRecut algorithm:
  - the bugs for specific examples have been fixed
  - minor improvements have been made
- For the "MyRound | GIA Facetware + MyRound" appraiser, "MyRound\_H&A" profile, the presets have been improved to provide the better spectrum of solutions
- In the Scene, the model basis was broken in some cases after using I3D Mini View - the error leading to this wrong behavior has been fixed