

2018.12.25 - HPOxygen Server 4.8.20

Here you can find information about what is new in HPOxygen Server version 4.8.20.

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Re-Designed Model Topology Editing Tool

The Model Topology Editing Tool has been re-designed. Now the tool allows removing extra edges and drawing in their place a new configuration - **all this within one operation**. This includes that:

- Now you can add new edges across the deleted edges.
- Now you can add vertexes out of an edge - at any place on the facet. Note that dangling vertexes and edges are highlighted with red and will be removed on model recalculation.
- The snapping to the end of edges is added, which means when you are adding vertexes and put mouse pointer close to the end of the edge, the system will snap the pointer to the end of the edge which makes adding vertexes more precise and comfortable.

Your browser does not support the HTML5 video element

Smart Recut - Improved Usage of Extra Facets

Previously, for the "13. SmartRecut (Brilliant, Oval)" algorithm the **Allow Girdle Extra Facets** option was trying to keep already existing extra facets of the semi-polished stone. This approach actually did not work for the stones on the early stages of polishing (rough stones) for which the extra facets were not created in spite of the selected "Allow Girdle Extra Facets" option. This prevented from getting solutions with the maximum mass caused by using the extra facets.

Now the **Allow Girdle Extra Facets** option has been re-designed to always create the extra facet when possible, including cases of the rough stones.

MyRound Appraiser - New MaxMass Profile

For the "MyRound | GIA Facetware + MyRound" appraiser, the new profile has been added: "MyRound_Max".

Sometimes the solutions produced using the "MyRound | GIA Facetware + MyRound" appraiser may be just a little below the mass border (like 1/2/3/4/5 carats, or 0.7, 0.9 carats). It is important to have the ability to overstep the border value. The new "MyRound_Max" profile for the "MyRound | GIA Facetware + MyRound" appraiser has been added. The parameter intervals of this profile have been extended which allows getting solutions overstepping the mass border value but still inside GIA EX boundaries.

GIA Facetware + MyRound

Profile: MyRound_Max (read only)

Cut	Symmetry	Parameter	Grade	Value	[FR	[GD	[VG	[EX	EX]	VG]	GD]	FR]
		Table			10	46,5	49,5	51,5	62,5	66,5	69,5	99
		CrownAngle			10	21,75	26,25	31,25	36,75	38,75	40,25	90
		PavilionAngle			10	38,7	39,7	40,5	41,9	42,5	43,1	90
		SweetLine			-9	-6	-3	-1,5	1,5	3	6	9
		StarLength			10	32,5	37,5	42,5	67,5	72,5	77,5	90
		LowerGirdleLength			50	57,5	62,5	67,5	87,5	92,5	97,5	99
		GirdleBezel			0	1,25	1,75	2,25	4,75	5,75	7,25	20
		GirdleValley			0	0	0	0,75	2,94	4,14	6,14	20
		CrownHeight			5	10,5	12	12,3	17	17,5	18,5	40
		TotalHeight			10	54	57	58	64,5	66	70	90
		Culet			0	0	0	0	1	1,5	2	20
		CrownPainting			-9	-6	-3,5	-3,2	4,2	5	7	20
		PavilionPainting			-9	-5	-3,5	-3,2	3,2	4	6	20
		SumPainting			-9	-6	-5	-4,2	6,2	8	10	20
		GirdleVerticality			-20	-1,5	-1	-1	0,5	1	1,5	20
		HeightGirdleExtraFacet			0	0	0	0	3	4	8	20
		GirdleCrownExtraFacets			0	0	0	0	0	2	4	20
		GirdlePavilionExtraFacets			0	0	0	0	3	4	6	20
		GirdleExtraFacets			0	0	0	0	2	4	8	20

Cut	Symmetry	Parameter	Grade	Value	EX]	VG]	GD]	FR]
		Diameter			0,7	1,4	2,8	20
		Table			1	1,7	3,4	20
		CrownAngle			1	1,8	3,6	20
		PavilionAngle			0,7	1,2	2,4	20
		StarLength			7,2	12	24	48
		LowerGirdleLength			4,8	8	16	32
		GirdleBezel			1	1,8	3,6	20
		GirdleBezelLocal			0,5	0,9	1,8	20
		StarAngle			2,9	5,6	11,2	22,4
		UpperGirdleAngle			4,8	8	16	32
		LowerGirdleAngle			1,4	2,6	5,2	10,4
		HalvesWidthLocal			6	10	15	20
		CrownHeight			1	1,8	3,6	20
		PavilionDepth			1	1,8	3,6	20
		GirdleValley			1	1,8	3,6	20
		GirdleValleyLocal			0,5	0,9	1,8	20
		GirdleBone			1,1	1,8	3,6	20
		GirdleBoneLocal			0,5	0,9	1,8	20
		GirdleSlopeDeviationMax			3	4	5	32
		2RRoundness22_5			1,1	1,5	2	20
		2RRoundness45			1,3	2	2,8	20
		2RRoundness90			1,3	2,4	3,6	20
		TableOffset			0,5	0,8	1,6	20
		CuletOffset			0,5	0,8	1,6	20
		TableCuletOffset			0,7	1,2	2,4	20
		TableEdge_TEV			2,2	3	4	20
		BezelWidth			2,2	3	4	20
		StarEdge			1,7	2,5	4	20
		CrownPainting			4,5	6	8	20
		PavilionPainting			4,5	6	8	20
		TableAngle			4,5	6	8	20
		OppositeAzimuth			2,75	4	6	20
		FacetTwistMax			2,2	3	4	20
		JunctionBezelTwistMax			1,2	2	3	20
		OppositeSlopeSumHalf			0,5	1	1,5	20
		StarFacetTwist			2	3	4	20
		JunctionBoneTwistMax			1,2	2	3	20
		MainCrownFacetsAzimuthSymm			3	4	6	20
		MainPavilionFacetsAzimuthSymm			2	4	6	20
		StarFacetsAzimuthSymm			3	4	6	20

You can find further details in the video below:

Settings - Lock to Scan

The new **Lock to scan** option has been implemented. The option locks the system to the **Scan & Build** mode and hides the Top Panel along with all the buttons.

[blocked URL](#)

To enable the option, go to **Settings > General Settings > General** section > **Display** tab > in the **Special Environment** group, select **Lock to scan**.

i

Application restart is required for the new setting to take effect.

[blocked URL](#)

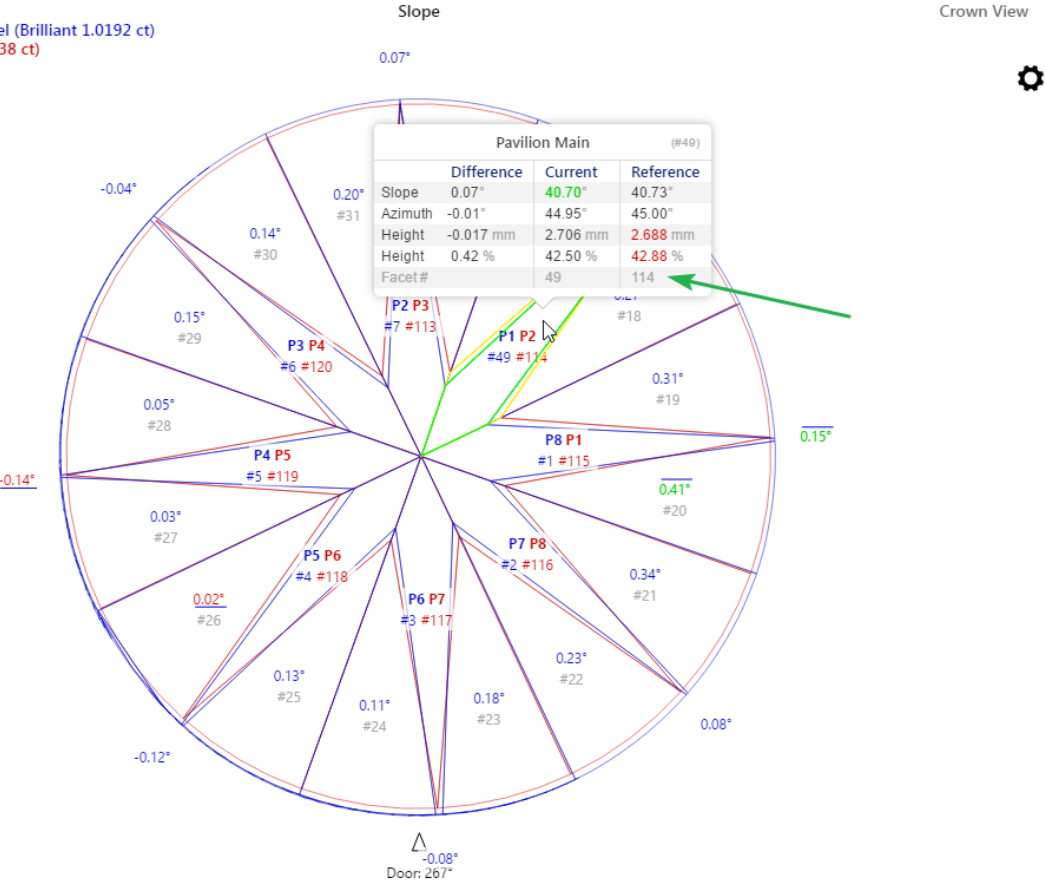
Comparative I3D Mini View - Facet Identification

Now in Comparative I3D Mini View, in "Comparative" mode, short names of the main facets and their numbers are displayed both for the current and for the reference models. They are colored correspondingly.

i

Facet numbers are displayed only when the **Facet Number** check box is selected.

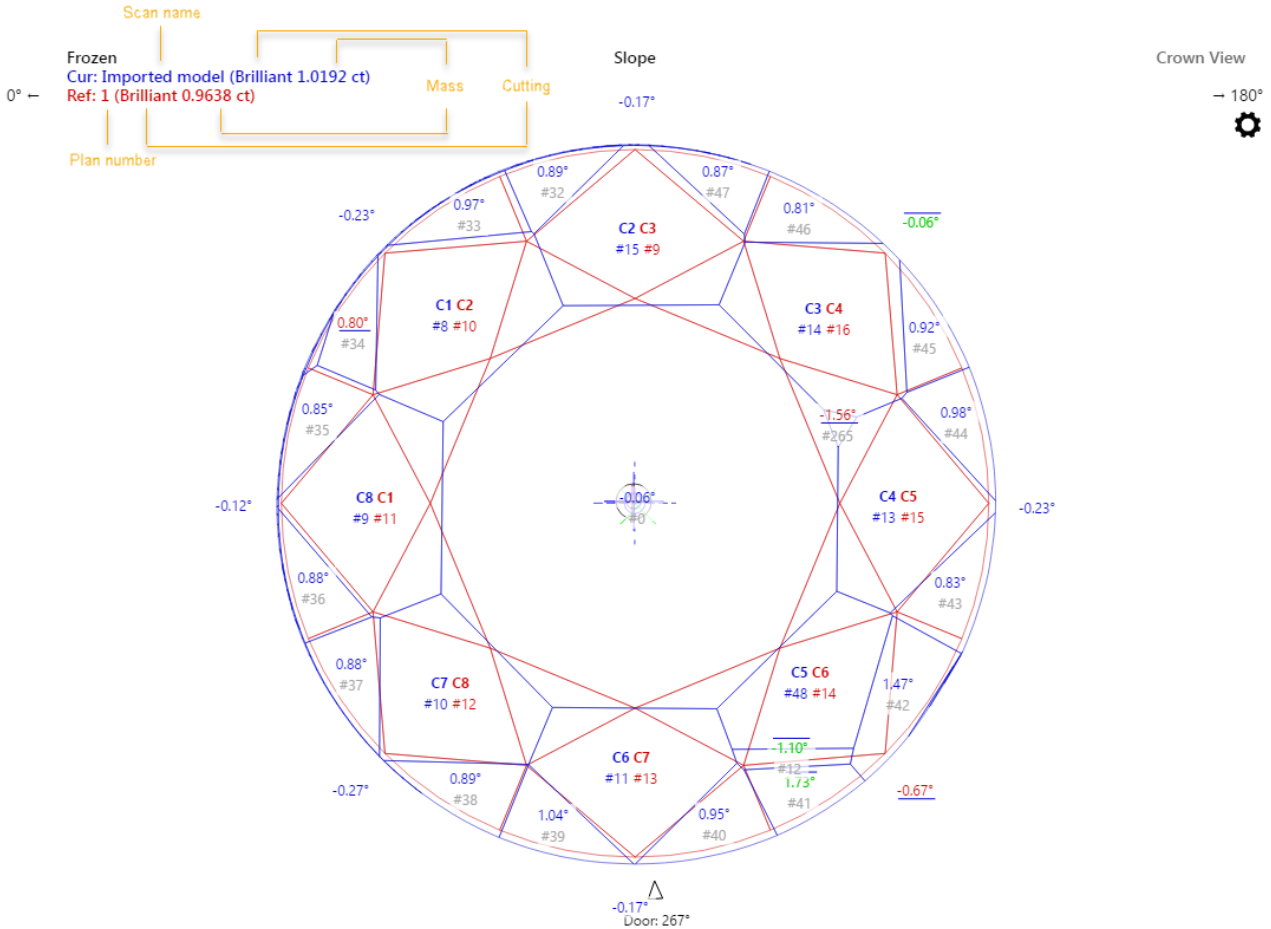
Frozen
Cur: Imported model (Brilliant 1.0192 ct)
Ref: 1 (Brilliant 0.9638 ct)



Comparative I3D Mini View - Displaying Model Mass in Correspondence with Plan List

In comparative I3D Mini View, for what was selected from the plan list as the current and reference models the following information is displayed:

- Scan name (for example, "Imported Model") or plan number (for example "1"), followed by (in brackets):
- Cutting name
- Model mass, ct



Δ Diameter minimum	Δ Diameter maximum	Δ Crown angle	Δ Pavilion angle	Δ Table	Δ Culet	Δ Spread
-0.071 mm	-0.112 mm	-0.24°	0.00°	2.32 %	-0.46 %	0.76 %

Δ Ratio (L/W)	Δ Crown height	Δ Pavilion height	Δ Total height	Δ Girdle height		
				Bezel	Bone	Valley
-0.006	-1.06 %	0.23 %	-0.63 %	0.28 %	-0.11 %	-0.17 %

Now for the scan, the displayed mass will be in correspondence with the mass displayed in the plan list. This may be:

- Model mass
- Corrected mass

Oxygen - [Demo1ct.oxg]
File Edit View Inclusion Window Settings Alignment Help

Scan Recut diamonds inclusions Photoreal developer DZ G1 G2 compass fancy

Allocation solutions

Plans & Scans

Compare Standard Report

Price Cutting Mass Ilc Yield Clarity Co Sym-O Gr Cut Sym Br

☒ Imported model 1.0192

☐ 1 5616\$ Brilliant 0.9638

Model color of 'Imported model':

Rename 'Imported model'...

Export model of 'Imported model'...

Processing 'Imported model'

☒ Set as Main Scan

Estimate color grade

View options

☒ Calculate Optical Symmetry

Calculate Brightness metric

Show Scan mass: ☐ Model ☒ Corrected

Show alternative shadow building results

Scan Info

Imported model Cutting: -- Corrected Mass: 1.0192 ct


Price: -- Clarity: --

Discount: -- DZ Color:

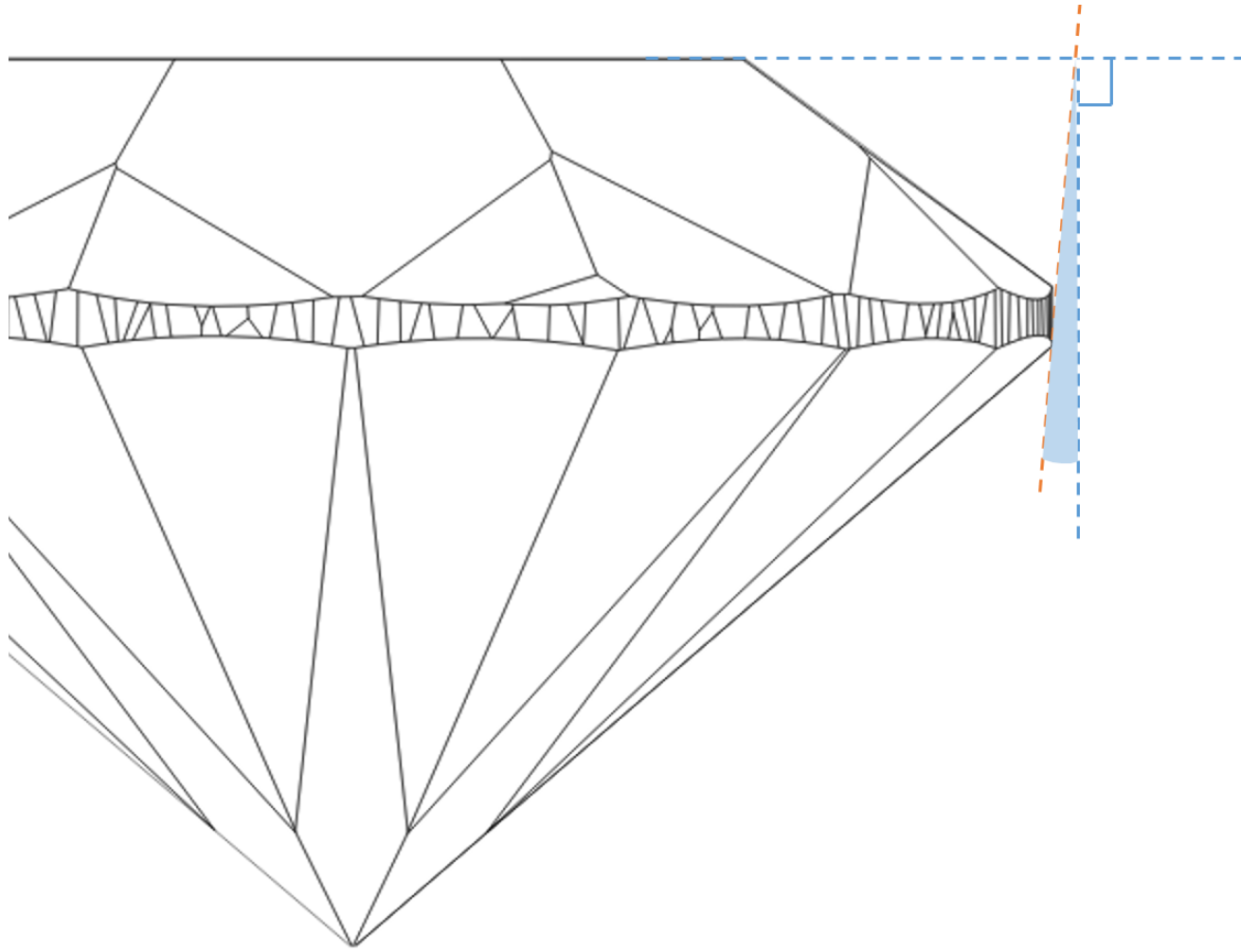
PPC: -- Grade: --

General - New Stone Parameters

The following new stone parameters have been added:

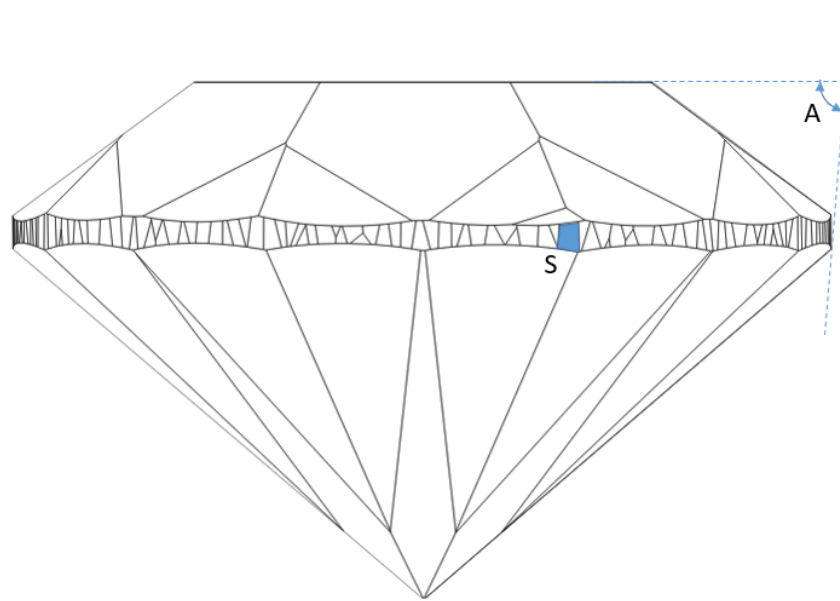
 This parameter is applicable to the Brilliant cut.

Girdle facets average slope deviation from vertical in degrees.



Calculation

The larger area the facet with the deviation from vertical has the more it affects visually the stone. That is why the areas of the Girdle facets are included into the calculation.



$$\text{GirdleVerticality} = \frac{\text{SUM}(S * (A - 90))}{\text{SUM}(S)}$$

In User Interface

Recut > Appraiser = "MyRound | GIA Facetware + MyRound" > **Show Editor** > the **Cut** tab.

Oxygen - [Demo1.ct.org]

File Edit View Inclusion Window Settings Help

Scan Facet Diamond Inspector Polygon Developer DZ color G1 G2 G3 G4 G5 G6 G7 G8 G9 G10 G11 G12 G13 G14 G15 G16 G17 G18 G19 G20 G21 G22 G23 G24 G25 G26 G27 G28 G29 G30 G31 G32 G33 G34 G35 G36 G37 G38 G39 G40 G41 G42 G43 G44 G45 G46 G47 G48 G49 G50 G51 G52 G53 G54 G55 G56 G57 G58 G59 G60 G61 G62 G63 G64 G65 G66 G67 G68 G69 G70 G71 G72 G73 G74 G75 G76 G77 G78 G79 G80 G81 G82 G83 G84 G85 G86 G87 G88 G89 G90 G91 G92 G93 G94 G95 G96 G97 G98 G99 G100

Allocation solutions

Plans & Scans

Compare Standard Report

Price Cutting Mass Misc Yield Unit: ct/mm Gr Cut Sym Br

Imported model 1.0192 100.00% UNK UNK UNK

Scan Info

Imported model Cutting: -- Model Mass: 1.0192 ct

Price: -- Clarity: --

Discount: -- DZ Color: --

PPC: -- Grade: --

Inclusions

Active Appraiser and Pricelist

Appraiser: MyRound | GIA Facetware + MyRound

Profile: MyRound_Profile1

Hide Editor

GIA Facetware + MyRound

Profile: MyRound_Profile1

Show Presets

Cut Symmetry

Parameter Grade Value [FR] [GD] [VG] [EX] [EX] [VG] [GD] [FR]

Table EX 55.598 10 46.5 40.5 31.5 62.5 66.5 69.5 99

CrownAngle EX 36.433 10 21.75 26.25 31.25 36.75 38.75 40.25 90

PavilionAngle EX 40.609 10 38.7 39.7 40.5 41.9 42.5 43.1 90

SweetLine EX 0.288 -9 -6 -3 -1.5 1.5 3 6 9

StarLength EX 32.5 37.5 42.5 57.5 72.5 77.5 90

LowerGirdleLength EX 79.147 50 57.5 62.5 72 87.5 92.5 97.5 99

GirdleBezel EX 3.909 0 1.25 1.75 2.25 2.75 5.75 7.25 20

GirdleValley EX 1.926 0 0 0 0.75 2.94 4.14 6.14 20

CrownHeight VG 16.441 5 10.5 12 12.3 13.5 17.5 18.5 40

TotalHeight VG 63.03 10 54 57 58 62.5 64 66 90

Culet VG 0.457 0 0 0 0 0.2 1.5 2 20

CrownPainting EX 0.636 -9 -6 -3 -2.5 2.5 5 7 20

PavilionPainting EX 0.0352 -9 -5 -3 -2.5 2.5 4 6 20

SumPainting EX 0.671 -9 -6 -5 -3.5 3 8 10 20

GirdleVerticality EX 0.116 -20 -1.5 -1 -0.5 0.5 1 1.5 20

HeightGirdleExtraFacet FR 9.724 0 0 0 0 5 6 7 20

GirdleCrownExtraFacets GD 3 0 0 0 0 0 2 1 20

GirdlePavilionExtraFacets EX 1 0 0 0 0 0 1 2 6 20

GirdleExtraFacets EX 1 0 0 0 0 0 2 4 8 20

View

Model

3D Mini View

Comparative 3D Mini View

Facetware

Standard Report

My Appraiser

Reports

Polish Report...

Custom Report...

Comparative Report...

Print Label


Export Report Data

Export Model...

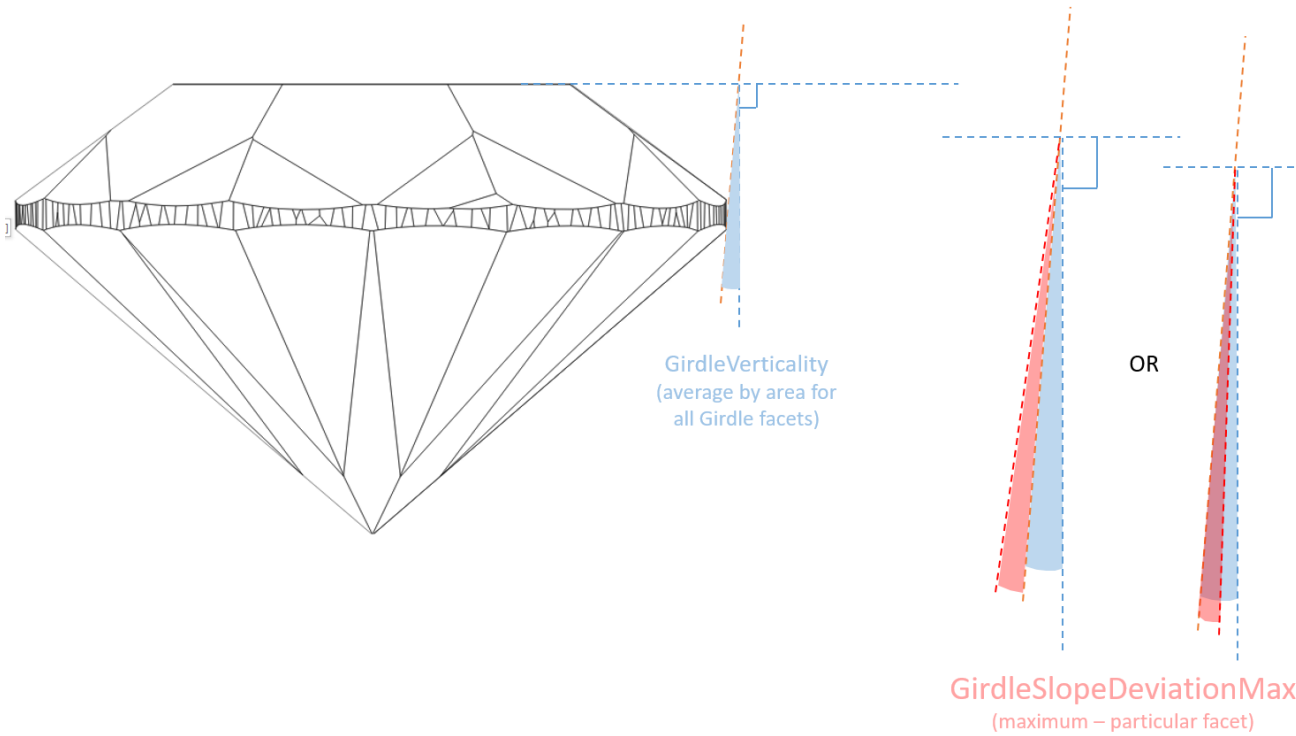
Model Building Info

Reporting

Reported in	Section	Values	Units	Bookmarks
All full reports	Main Parameters	Avg	°	GIRDLE_VERTICALITY

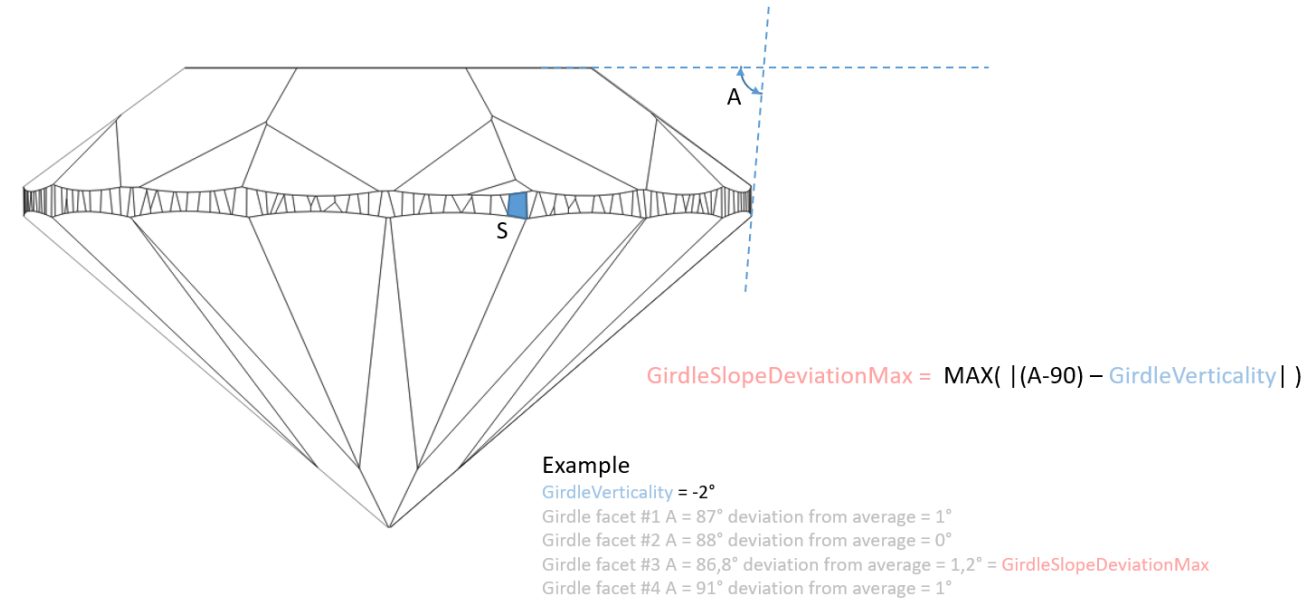
 This parameter is applicable to the Brilliant cut.

Maximum girdle facet slope deviation from **GirdleVerticality** in degrees.



Calculation

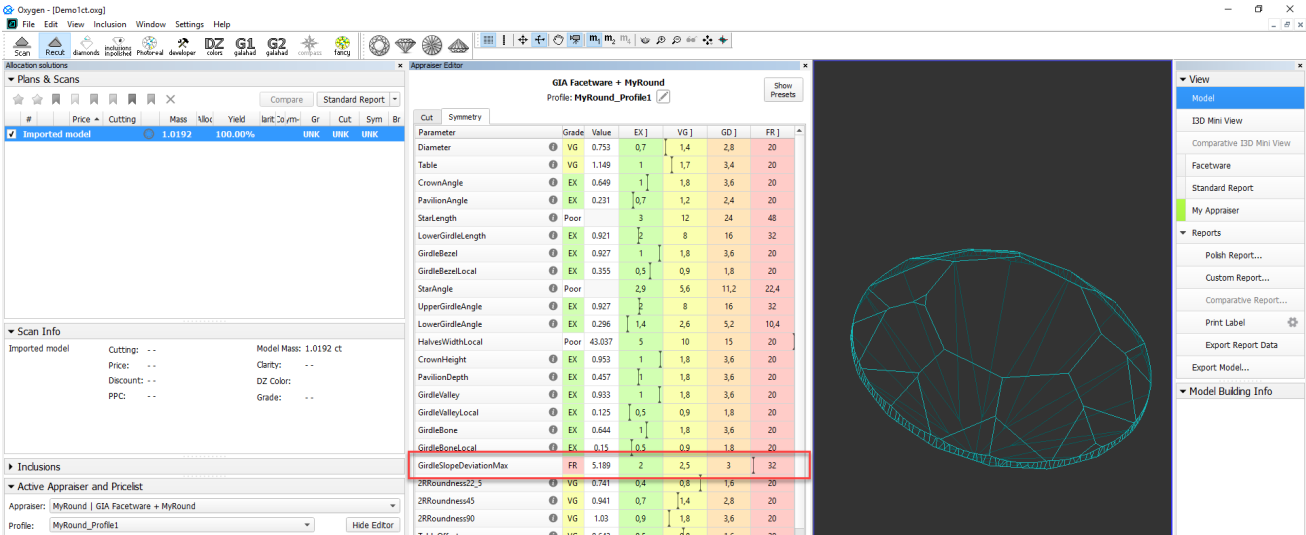
We take every Girdle facet, calculate its deviation from vertical (A-90), then compare it to average deviation from vertical (**GirdleVerticality**) for this stone, then from all found values we select the maximum. It is **GirdleSlopeDeviationMax**.



GirdleSlopeDeviationMax

In User Interface

Recut > Appraiser = "MyRound | GIA Facetware + MyRound" > Show Editor > the Symmetry tab.

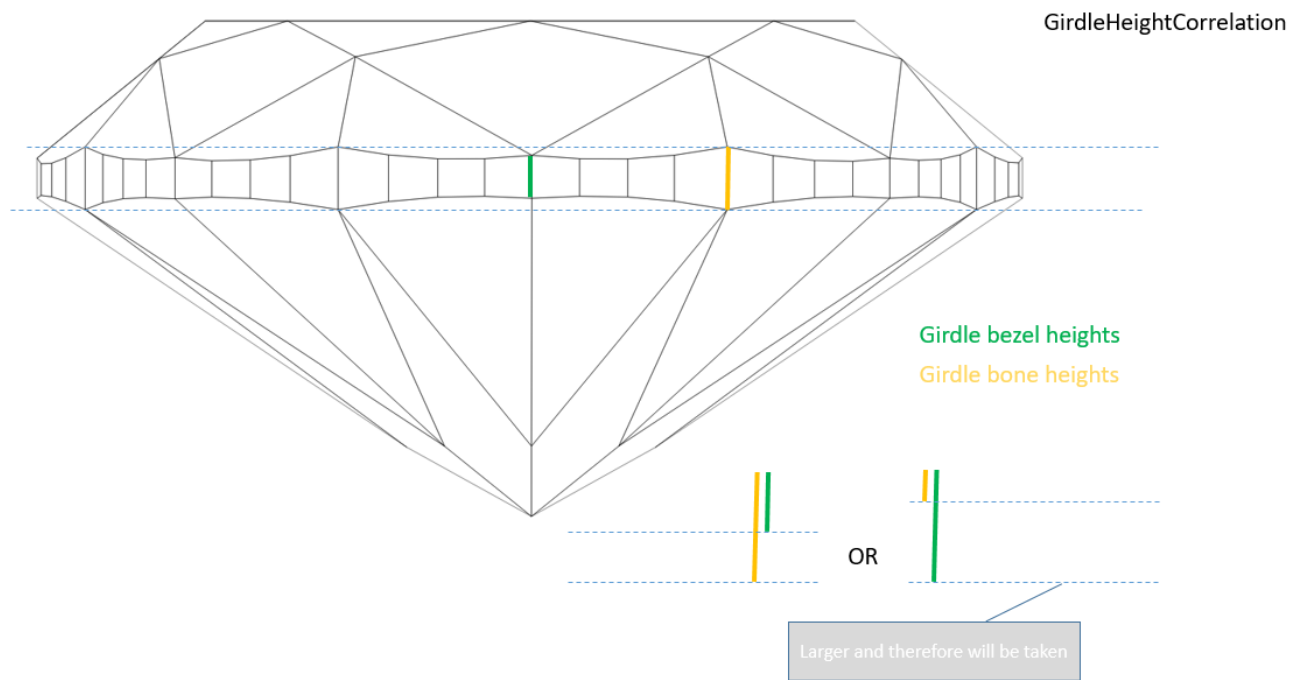


Reporting

Reported in	Section	Values	Units	Bookmarks
All full reports	Main Parameters	Avg	°	GIRDLE_SLOPE_DEVIATION_MAX

i This parameter is applicable to the Oval cut.

The maximum difference between the bezel and bone heights. The parameter shows how well a Girdle is leveled in the areas of bezel and bone: the less the value is, the greater the leveling.

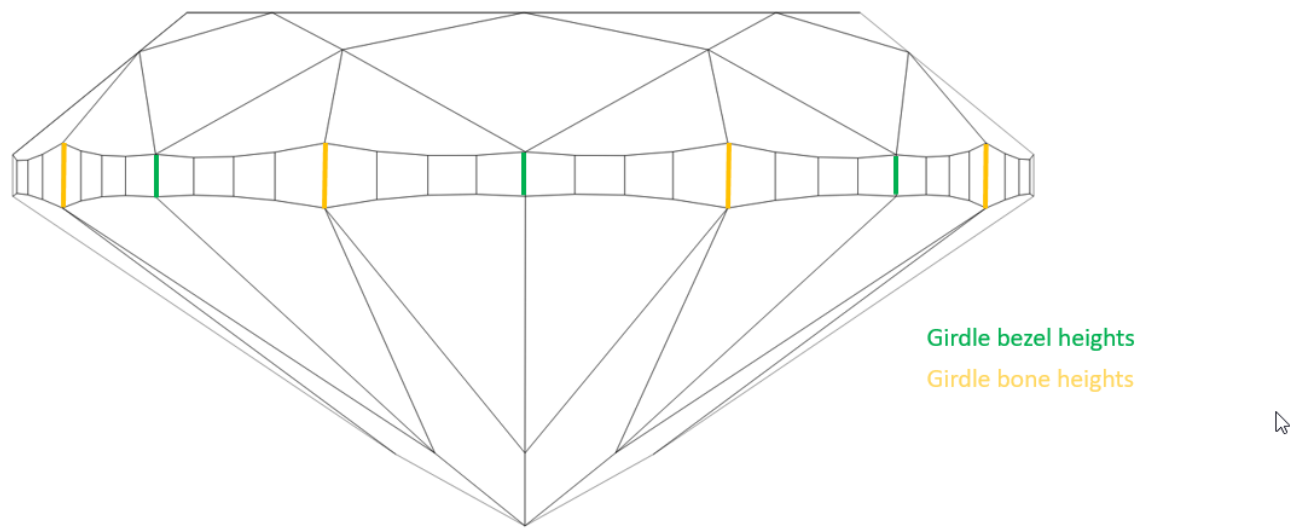


Calculation

So we measure the height of every Girdle bezel and take the maximum from obtained values, we measure the height of every Girdle bone and take the minimum from obtained values, then calculate the difference between this maximum and minimum. This is the first number. Then from Girdle bones, we take maximum, from Girdle bezels - minimum, then calculate the difference between this maximum and minimum. This is the second number. Then we take maximum from these two numbers. This is our parameter.



For detailed information about Girdle bezel and Girdle bone, see corresponding sections in the [Girdle Thickness](#) article. The detailed description of how Girdle bezel and Girdle bone are defined and used in the system is presented in the [New measurements of Heights for Pavilion and Girdle](#) section of the OctoNus site page.



$$\text{MAX}(\text{MAX}(\text{Girdle bezel height}) - \text{MIN}(\text{Girdle bone height}), \text{MAX}(\text{Girdle bone height}) - \text{MIN}(\text{Girdle bezel height}))$$

In User Interface

Recut > Appraiser = "MyOvalOpt | MyOval" or "MyOvalPlus | MyOvalPerformanceWare" > **Show Editor** > the **Symmetry** tab.

MyOvalPerformanceWare
Profile: Default (read only)

Parameter	Grade	Value	EX	VG	GD	FR
GirdleShape_BothJavesSymmetry	EX	0.526	0.7	1.4	2.8	3.6
GirdleBreadth	EX	1.621	5	7.5	10	15
CrownAngle	EX	0.822	1	2	4	7.5
CrownHeight	EX	0.692	1.5	3	4.5	7.5
CrownHeightValley	EX	0.861	1.5	3	4.5	7.5
StarAngle	EX	0.249	2	3	4	7.5
StarHeight	EX	1.8	3	5	8	16
StarLength	EX	1.8	3	5	8	16
PavilionAngle	EX	0.0481	1	2	4	7
PavilionHeight	EX	0.204	1.5	3	4.5	7.5
PavilionHeightValley	EX	0.344	1.5	3	4.5	7.5
GirdleBezel	EX	0.896	2	3	4.5	7.5
GirdleBezelLocal	EX	0.327	1	1.5	2.2	3.7
GirdleValley	EX	1.186	2	3	4.5	7.5
GirdleValleyLocal	EX	0.355	1	1.5	2.2	3.7
GirdleBone	EX	0.224	2	3	4.5	7.5
GirdleBoneLocal	EX	0.0741	1	1.5	2.2	3.7
JunctionBaseTwistMax	EX	0	1	2	3	20
JunctionBoneTwistMax	EX	0	1	2	3	20
JunctionStarTwistMax	VG	22.441	15	25	35	45
CrownHeightCorrelation	EX	1.474	1.5	3	4.5	7.5
GirdleHeightCorrelation	VG	2.969	2	3	4.5	7.5
PavilionHeightCorrelation	EX	1.499	1.5	3	4.5	7.5
TableOffset	EX	0.154	0.5	1	2	4

Plans & Scans

Imported model

#	Price	Cutting	Mass	Alloc	Yield	Sort: Co Sym-O	Gr	Cut	Sym	Br
3	81578	Oval	1.6031	SR 71.73%	VS1 H +7.26	VG	VG			
5	81578	Oval	1.6029	SR 71.73%	VS1 H +7.29	VG	VG			
4	91208	Oval	1.5975	SR 71.28%	VS1 H +7.10	EX	EX			
10	91208	Oval	1.5964	SR 71.28%	VS1 H +7.32	EX	EX			
2	91208	Oval	1.5953	SR 71.28%	VS1 H +7.57	EX	EX			
7	91208	Oval	1.5943	SR 71.28%	VS1 H +7.57	EX	EX			
9	91208	Oval	1.5930	SR 71.28%	VS1 H +7.64	EX	EX			
6	91208	Oval	1.5885	SR 71.28%	VS1 H +7.40	EX	EX			
1	59308	Oval_WBT_C32_G...	1.5337	68.59%	VS1 H +7.55	EX	EX			
2	44766	Oval_WBT_C32_G...	1.4848	66.35%	VS1 H +8.14	EX	EX			

Diamond Info

8

Cutting: Oval

Model Mass: 1.5953 ct

Price: 9 120 \$

Clarity: VS1

Discount: -18.80 %

DZ Color: H

PPC: 5736 \$/ct

Grade: EX

Active Appraiser and Pricelist


Appraiser: MyOvalPlus | MyOvalPerformanceWare

Profile: Default

Pricelist: LEXUS_PRICE_99MARCH_2012

Reporting

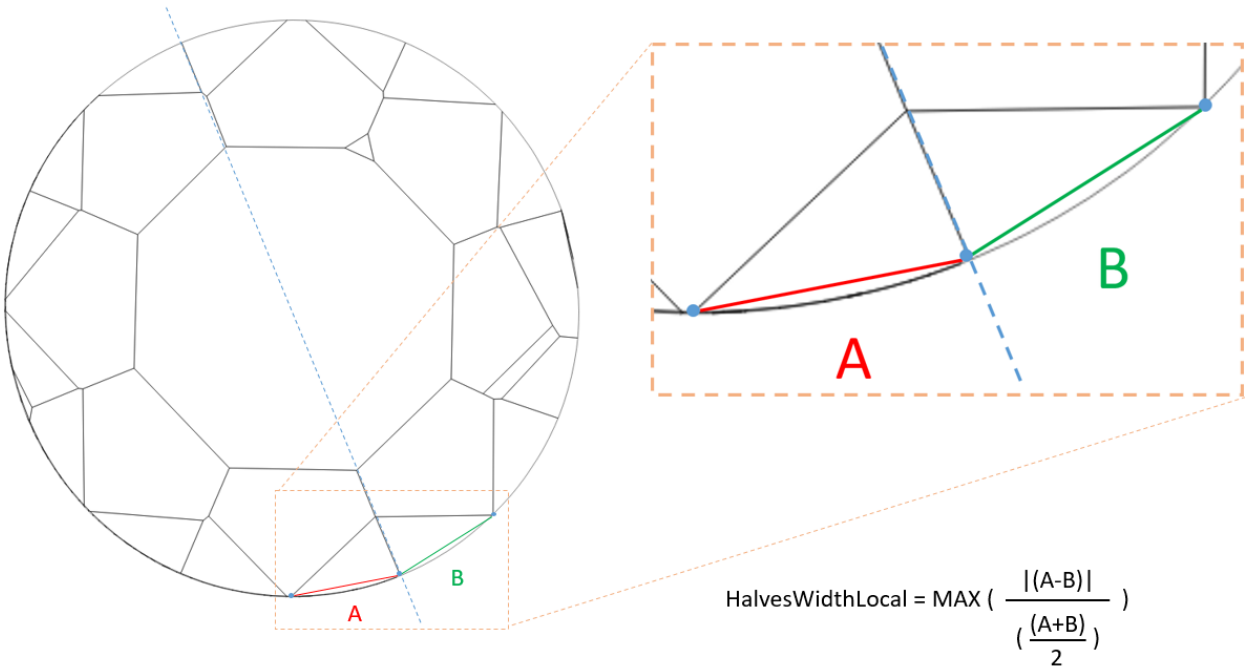
Reported in	Section	Values	Units	Bookmarks
Full Report for Rounded Fancies	Main Parameters	Avg	%(diameter)	GIRDLE_HEIGHT_CORRELATION

 This parameter is applicable to the Brilliant and Oval cut.

The maximum difference between the lengths of Girdle chords of neighboring upper and lower facets.

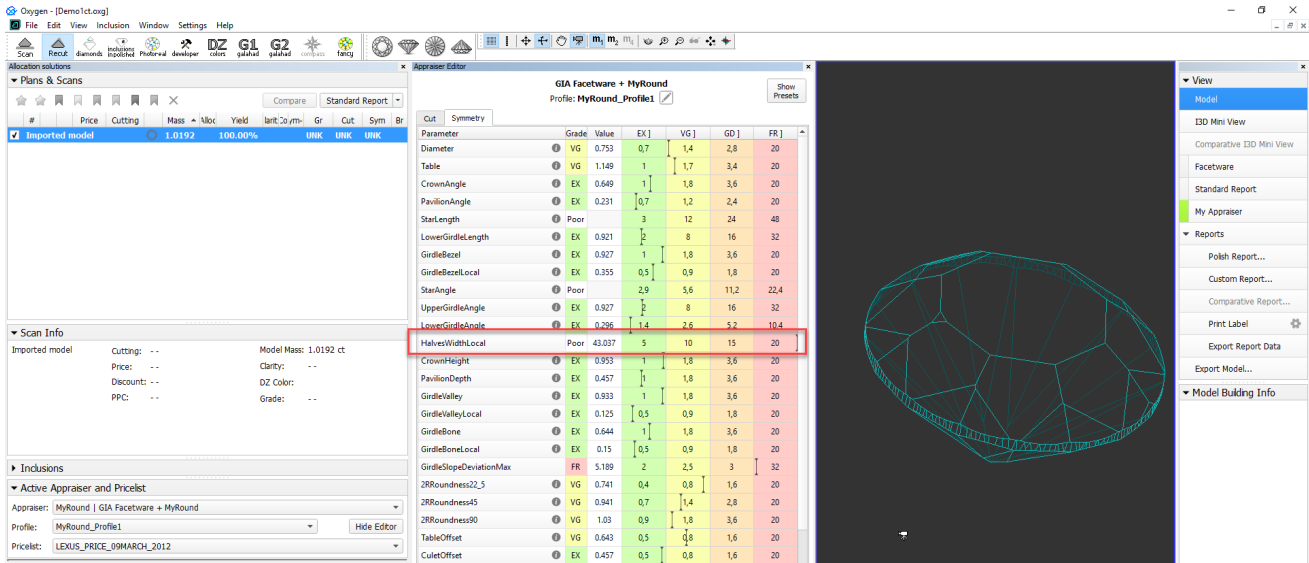
Calculation

For every pair of neighboring upper facets, we calculate the length of Girdle chords, then calculate the absolute difference between them and divide this difference by half sum of these chords. The same is done for lower facets. As we have this value for each pair of facets, we the take maximum of them.



In User Interface

Recut > Appraiser = "MyRound | GIA Facetware + MyRound" > Show Editor > the Symmetry tab.



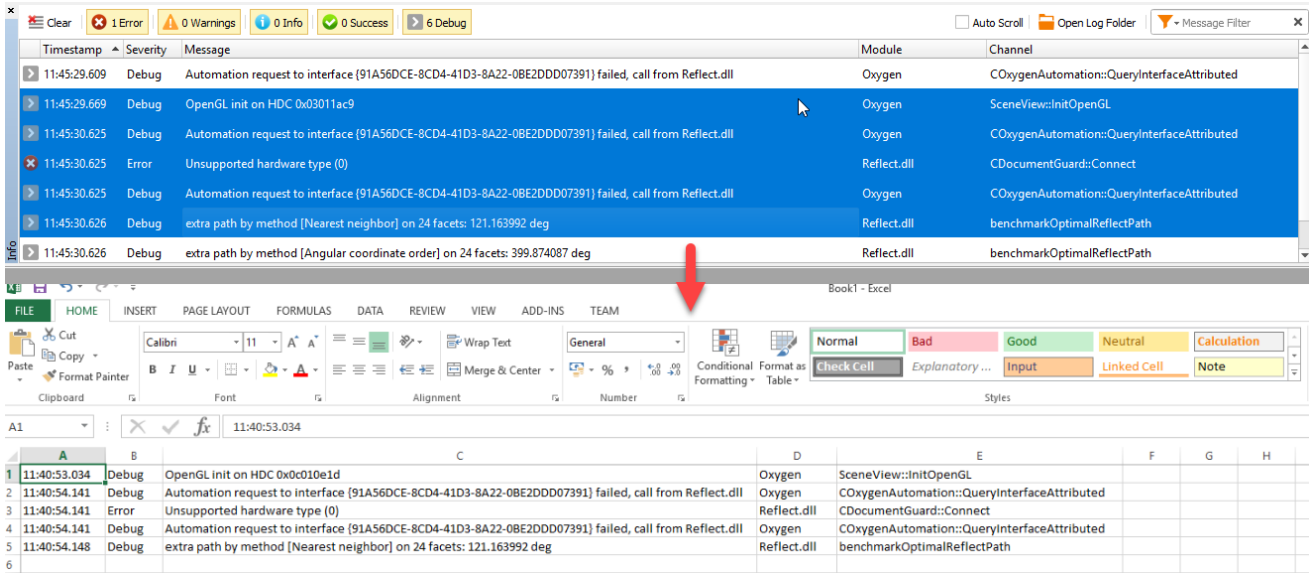
Reporting

Reported in	Section	Values	Units	Bookmarks
Currently NA	NA	NA	%	HALVES_WIDTH_LOCAL_DEVIATION

Logger Panel - Copying Presented Data

Now you can copy data presented in the Logger Panel (available on **View > Show logger (info) panel**) to the clipboard. The structure of data is kept so you can paste it immediately into Excel. Prior to copying, you can:

- Select all rows by CTRL-A
- Select a range of rows by SHIFT-click
- Select a range of rows by mouse over with the left mouse button held
- Add or exclude rows from selection by CTRL-click



Fixed Problems and Improvements

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

- For the model import, the recognition with the "Polished diamond" algorithm has been improved.
- For the **G1 Galahad**, the algorithm detecting the reference facet of the current step has been improved.
- The I3D Mini View:
 - The "FILE NOT FOUND" error has been fixed.
 - Girdle thickness visualization bugs have been fixed (this also fixes this problem for the I3D Report).
- For the Comparative I3D Mini View and Report, the algorithm for transferring facet types from the reference to the current model has been improved.
- Table identification for fancy cuttings is improved.
- Bug with the **Precision** panel title not updating on the cutting switch has been fixed.

7. Girdle Deviation from Model Building Info panel has been added to the export report data: MODEL_BUILDING_GIRDLE_ERR_VALUE_*

