

# smart-chart 8.1.2

Released February 2022

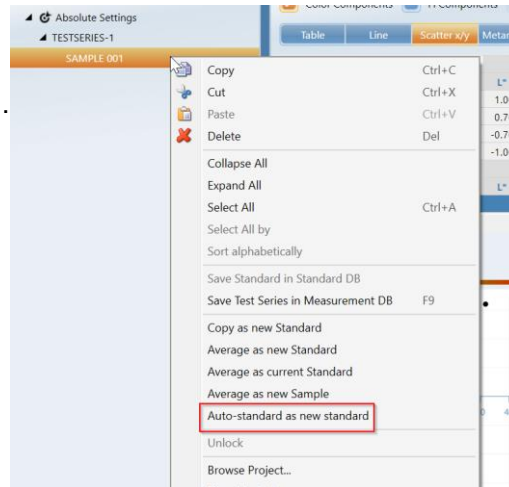
smart-chart 8.1.2 offers new functionality for enhanced applications in the world of color and appearance analysis.

- Search function for closest standard in smart-lab: spectro2guide and BYK-mac i
- New spectro2profiler algorithm “Leather-Like” Inverted for technical grains
- Trend comparison by check zone to compare individual vehicles

## Search function for closest standard for spectro2guide and BYK-mac i

Paint Makers often have a historical database of standards. When a new, unknown color needs to be manufactured, the task is to search within the existing database to find the closest standard. This standard is then used as a starting point to match the unknown color. smart-lab now includes in the context menu the function **Auto-standard as new standard**. The search is done in the standard management database (bykmaindb.sdf) and uses the same criteria as the auto standard function in the instrument:

- spectro2guide:  $\Delta E_{94}$
- BYK-maci: Combination of  $\Delta E_{Audi}$  and Sparkle & Graininess



As a result, the closest standards are shown and can be selected to be displayed in the smart-lab data table. To pick the best color, the name of the standard can be shown in a column of the table and the results can be sorted by decreasing  $\Delta E_{94}$  (or any other supported color equation).

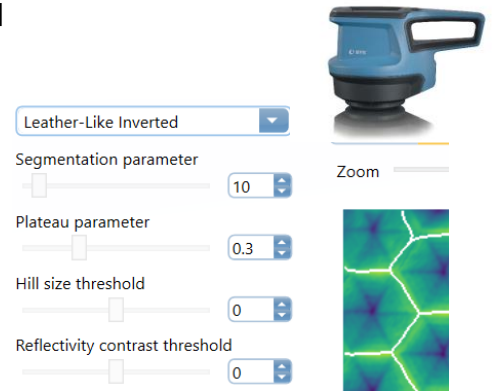
The 'Select Standard' dialog box shows a search for standards in the 'Standard Management' database. The results table below shows the closest standards for a sample.

Checkzone	Standard	Date	Status	D65/10 45°c:0°						
				dE94	dL*	da*	db*	dC*	dH*	dE94 FI
<b>Match to Standard</b>										
SAMPLE 001	Yellow A 001	08/03/22 08:37:02	●	0.11	-0.01	0.25	0.06	0.15	-0.21	0.00
SAMPLE 001	Yellow 009	08/03/22 08:37:02	●	0.38	-0.17	0.64	-0.22	0.01	-0.68	0.00
SAMPLE 001	Yellow 006	08/03/22 08:37:02	●	0.63	0.38	1.17	1.83	1.78	0.45	0.00

## New **spectro2profiler** algorithm Leather-Like Inverted

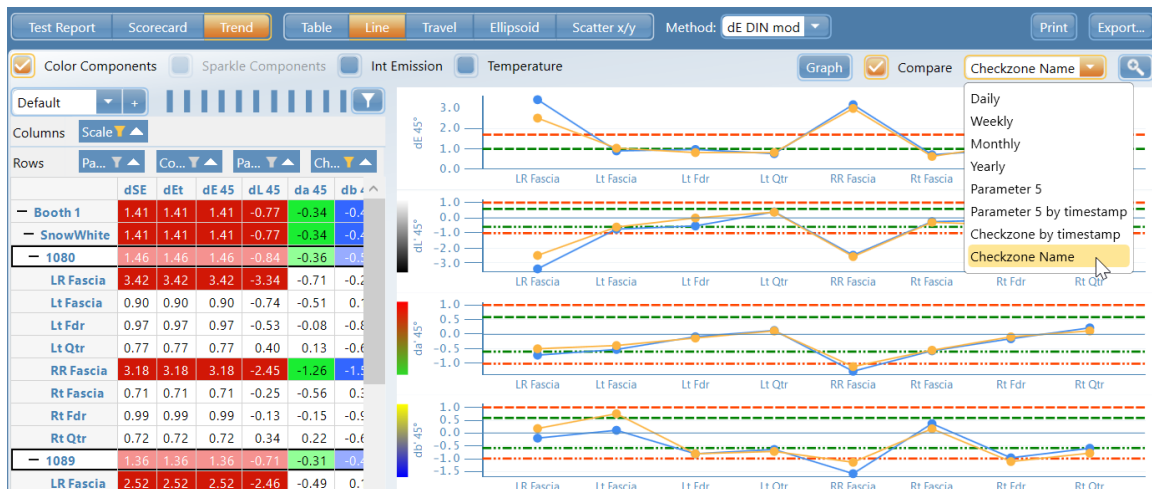
New looks for automotive interior are continuously developed to best represent a new trend (E-mobility, tech-look...) or fit to the image of a model. Therefore, the spectro2profiler's library of algorithms was expanded with the so-called "Leather-Like inverted". Especially, some of the technical grains exhibiting an "inverse" look whereas valleys are on top and the hills at the bottom of the texture. The 2D/3D settings are the same as for Leather-like algorithm:

- **Segmentation and Plateau Parameter** for watershed analysis to separate the texture into individual cells.
- **Hill Size Threshold** to define the height of the hill intersection for the hill size calculation.
- **Reflectivity Contrast Threshold** to define the height at which the hills are separated from the valleys to determine the reflectivity contrast.



## Trend comparison by check zone

So far Trend Comparison used on the x-axis the time stamp. Meaning, reports comparing several check zones or batch panels vs. car bodies by time (daily, weekly, monthly, yearly) were possible. Now one can also select "Check zone name" on the x-axis which allows e.g., comparing individual vehicles side by side.



**Additionally, the following improvements and bug fixes are implemented**

**BYK-mac i**

- dESuzuki: Adjustment of calculation and P/F limits
- Graininess graph is displayed for all color equations

**spectro2profiler**

- Transfer of parameters 4 & 5 name to instrument
- Implementation of dEscm & dE00PF
- Hill size calculation updated when settings are changed, or data is recalled from DB
- Asymmetrical tolerances are transferred to the instrument
- Communication issues during online measurement

**spectro2guide**

- Limits are shown correctly in print-out
- Communication issues during online measurement

**wave-scan 3**

- Transfer of parameters 4 & 5 name to instrument

**General smart-lab**

- Year is also shown in the date column of the data table

**New Firmware included with smart-chart 8.1.2**

To support the new smart-chart functions, also new firmware versions are needed.

**BYK-mac i: Version 9.78**

- dESuzuki: Adjustment of calculation and P/F limits

**spectro2profiler: 1.4.0.30123**

- New algorithm "Leather-Like inverted"