

Pigment Characterization

New fashion looks are presented in color shows of pigment manufacturers to cosmetic companies every year. Pigment manufacturers enhance their portfolio and offer alternative pigments to already selected pigments. Now the cosmetic company is faced with the task to objectively evaluate the technical, aesthetic and financial benefits of the presented pigments. Objective measurement of color and appearance attributes will help in the selection and approval process to determine cost efficient alternatives or launch a new look.

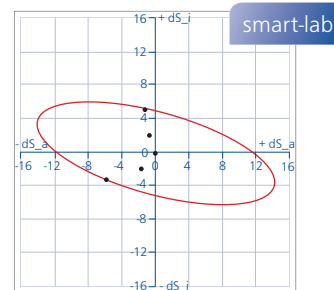
Build-up of a pigment database

Similar to computer color matching set-ups, a database has to be developed, which will contain all of the company's available pigment types. This database should contain search attributes, which will not only describe aesthetic, but also technical and financial features. In order to characterize the aesthetic attributes of a pigment type a standardized sample preparation method needs to be established. One possibility is to incorporate the pigment in a solution to create a drawdown. Similar to the application of nail polish a quick drying base can be used and applied on a high quality contrast chart (byko-chart) using a wire bar with appropriate wet film thickness (see nail polish).

Comparison of pigments with similar looks

Using BYK-Gardner smart-lab software in conjunction with a pigment database helps cosmetic companies in the evaluation process of new pigments. The new pigment is measured as standard and compared to similar pigments saved in the database.

Effect comparison:



Data interpretation

The difference graph above shows that the sparkle ability of the new pigment (center) is similar to the other four pigments, which were already part of the cosmetic company's pigment portfolio. They are all located within the defined tolerance area meaning no visual difference can be perceived.

By comparing color and effect data of new pigments to the existing product range a quick decision can be made whether the investment in this new pigment is worth it or not.

BYK-Gardner Solution



Solid Color & Gloss
spectro2guide



Multi-Angle Color & Effect
BYK-mac i

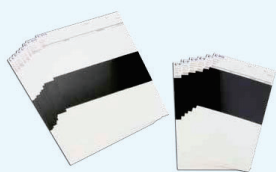


Gloss
micro-gloss



Visual evaluation of drawdowns: byko-spectra effect

In the end, the final judgment will always include a visual evaluation. The key to an objective visual check is standardized viewing conditions including lighting, observing angles and surroundings. The byko-spectra *effect* uses a daylight light source and allows visual color appraisal under six angles (-15°, 15°, 25°, 45°, 75°, 110°) and sparkle evaluation under three angles (15°, 45°, 75°). Depending on the lightness of the samples the sparkle illumination is dimmable to get the best visual impression.



Drawdown Test Charts
byko-charts



Applicators
Wire-wound rods



Objective Visual Evaluation of Effect Finishes
byko-spectra *effect*