

ColorLite sph9i-TC

Online-Spectrophotometer with Thermochromism Compensation

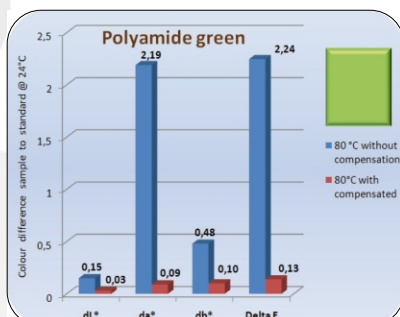


Spectral Colour Measurement

Online on injection moulded parts

- High resolution spectrophotometer
- 100% quality control
- Saves time and costs
- Reduces waste

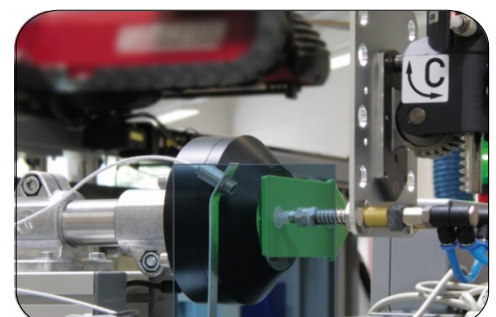
The sph9i-TC spectrophotometer from ColorLite enables producers of injection moulding parts to control their product colours direct in the production. This means the slightest (for the human eye non-visible) colour differences can be detected long before tolerance limits are reached. This greatly reduces a main reason for reclamation of plastic parts, saving time and money and improving product quality. This is only possible because the sph9i-TC compensates the colour difference between the warm surface and a cooled part, which is caused by thermochromism.



Colour difference with and without temperature compensation



ColorLite sph9i-TC main unit



Measure direct in the production

The temperature compensated online spectrophotometer is the result of a co-operation between ColorLite GmbH and SKZ (Das Kunststoff-Zentrum, Würzburg). Sponsored by the Federal Ministry for Economy and Technology based on a resolution of the German Bundestag

Features

- 100% high-resolution spectral colour measurement of moulded parts
- Immediate quality control in the production means minimal wastage
- Highly accurate fully automatic online-spectrophotometer
- 3.5 nm interval measurement means 115 values with 16-Bit resolution per scan
- Measurement geometry 45°/0° according to DIN5033
- Light source high powered white and blue LEDs with an optimal life span
- Integrated infra-red sample temperature measurement
- Connection to process control system via: PROFIBUS, Ethernet, USB, RS232

Applications

Online colour measurement of moulded plastic components for quality control applications.
Non-tactile measurement of samples of any geometry with an minimal surface area of 20 mm.

Technical Data

| | |
|-----------------------|---|
| Measurement Geometry: | 45°/0° according to DIN 5033 |
| Illuminants: | D65, D55, D50, A, C, F11 |
| Standard Observer: | 2° and 10° |
| Colour values: | XYZ, Yxy, ΔE CIE L*a*b*, L*C*h, ΔL , Δa , Δb ΔE_{CIE94} , ΔE_{CMC} , PASS/FAIL |
| Calibration | With white standard certified by the Federal Institute for Materials Research (Bundesanstalt for Materialforschung -BAM) |
| Spectral Resolution | Holografic grating-Spectrometer FWHM @ 500 nm < 10 nm Scanning in 3.5 nm steps, VIS Range 115 x 16-Bit values per scan |
| Light Source | white and blue LED's - extrem long lasting |
| Repeatability | < 0,05 ΔE CIELab on a white tile |
| Scanning Time | Complete measurement cycle with calculation and readout time: 1 sec |
| Communication | USB V2.0, RS232, CAN, Ethernet, PROFIBUS |
| Digital Input/Output | 4/4-digital channels - reading and writing status information for industrial process control systems |

Perfect solution complete with database software

For an easy evaluation, analysis and creation of reports of your colour data, the database quality control software **ColorDaTra-IPM** is available.

