

# SPECTRA-FIT

MULTI APPLICATION - SPECTROMETER

200 – 1100/2500 NM



*I AM WHAT I CAN:* **SPECTRA-FIT** the “THREE IN ONE” TOOL



## **SPECTROPHOTOMETER**

**Illumination:** Combined Tungsten –  
Deep Deuterium Lamp

**Wavelength range:** 200 – 1100 nm

**Optional:** 200 – 2500 nm

**Calibration:** With Spectralon

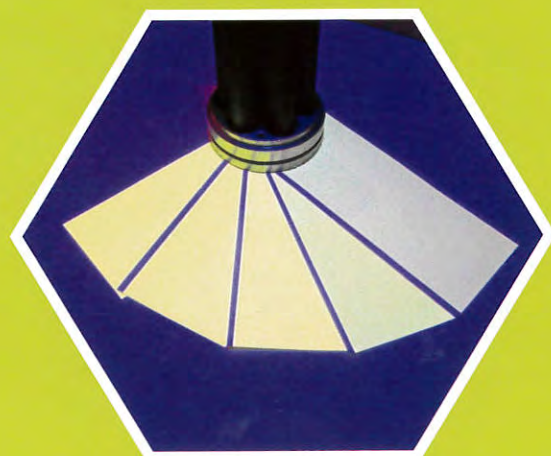


## **FLUORESCENCE-SPECTROMETER**

**Excitation:** LED 365 nm and filtered deuterium lamp 256 nm  
Peltier stabilized and power - controlled.  
Optional customized wavelengths are available.

**Emission:** 380 nm – 1100 nm [ $\mu\text{W}/\text{cm}^2/\text{nm}$ ]

**Calibration:** With Spectralon



## **SPECTRO-RADIOMETER**

**Irradiance:** Calibration with a traceable certified tungsten lamp, (NIST), [ $\mu\text{W}/\text{cm}^2/\text{nm}$ ]

**Illuminance:** [lux / Lumen / Candela]

**Irradiance relative:** Calibration with a tungsten lamp 3000 °K

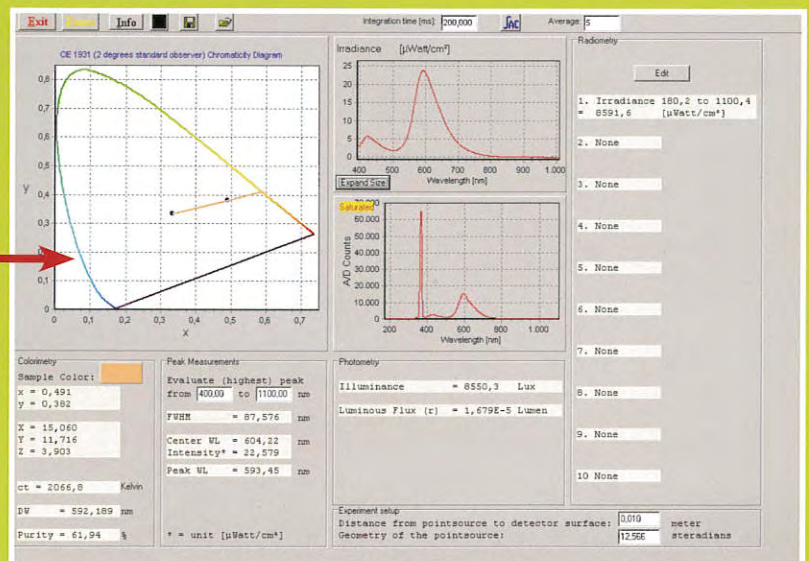
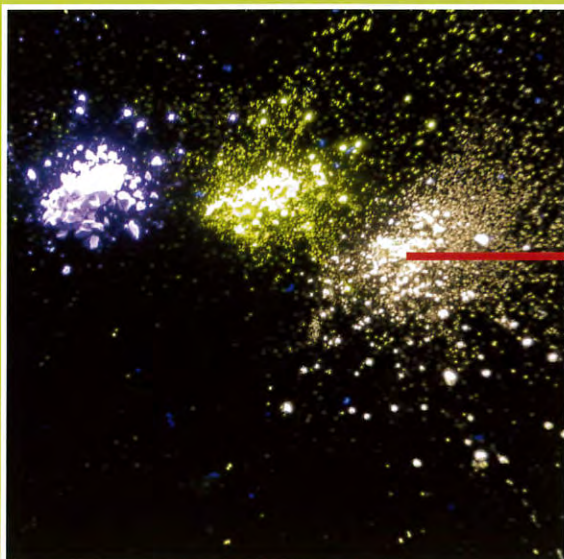
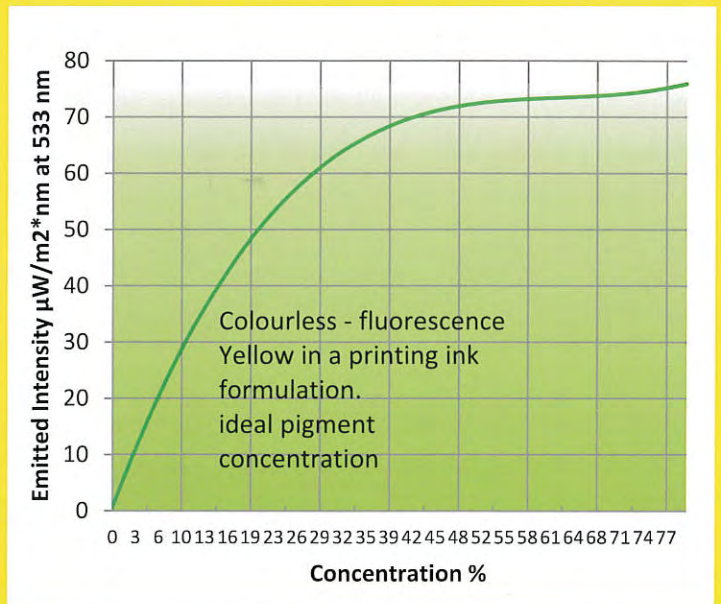
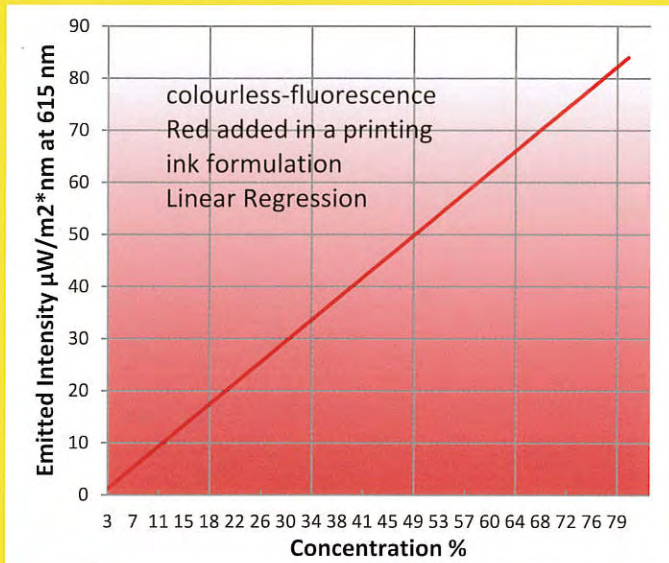
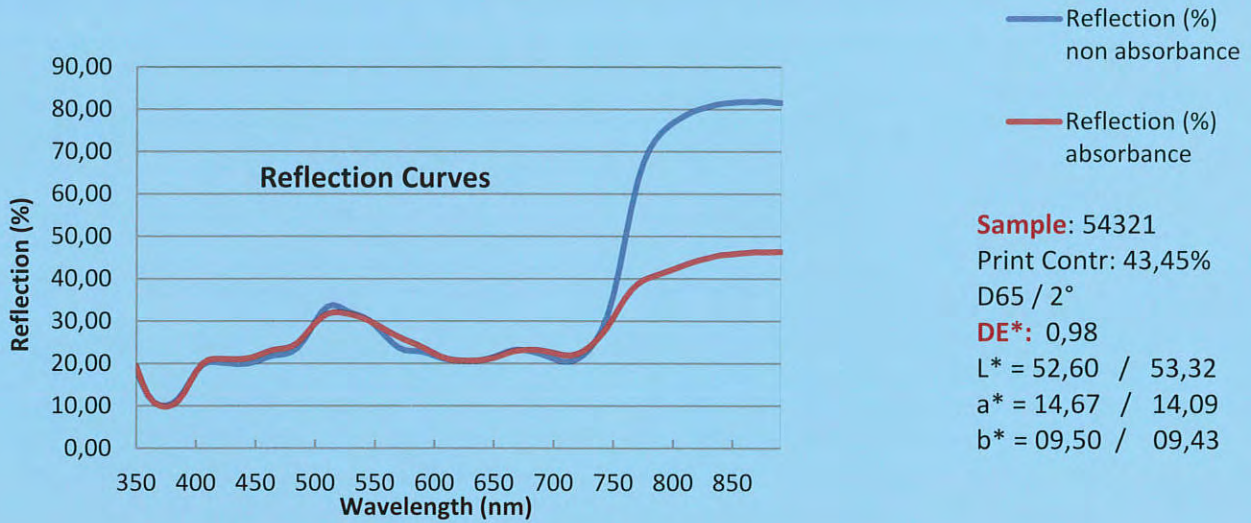
## I AM WHAT I CAN: **SPECTRA-FIT** the “THREE IN ONE” TOOL

- Colour measurements of pigments, prints, textiles, paper, coatings, .....
- Quality testing of security documents, like passports, banknotes and others
- Determination of IR-absorbing / IR non-absorbing materials.
- Quality assurances of materials like printing inks, pigments, lacquers, polymers, semi-finished-products and others
- Thermochromic materials
- ...

- Quantitative fluorescence analyses of materials like pigments
- Optical brightener and paper (“UV – Dullness”)
- Determination of the ideal pigment concentration of fluor pigments in coatings, printing inks and others
- Quality assurances of materials like printing inks, pigments, lacquers, polymers, semi-finished-products and others
- Quantitative measuring of Bi-Fluorescence and analyses of mixtures
- Special fluorescence e.g. “Cryo – Fluorescence”
- ...

- Chemo and bioluminescence
- Description of the fluorescent colour using the CIE –  $L^*a^*b^*$  System
- Classification of LED´s
- Classification and quality testing of signal – colours
- Self-luminous light sources and other materials
- ...

# PRINT - CONTRAST OF INFRARD ABSORBING / NONE ABSORBING INKS



## SPECIFICATIONS:

Wavelength range:	200 -1100 nm optional 200 - 2500 nm
Resolution:	Slit width 50 $\mu$ m, resolution =2,4 nm about the whole range.
Spot size:	6 mm diameter standard - other sizes on request
Geometry (Colour measurement)	DIN 5033 45° / 0° other geometries on request
Wavelength accuracy	< 0,1 nm range 200 – 1100 nm
Excitation:	UV1: 365 nm (Diode – Peltier-stabilized power- controlled energy) UV2: 250-300 nm (filtered Deep-UV Deuterium)
Light source:	Combined Tungsten / Deep-UV Deuterium 365 nm Diode 10 nm FWHM (full width half maximum)
Measurement head:	special designed head for non-destructive reflection measurement
Repeatability:	Infrared Reflection < 1% Visible range < 0,15 $\Delta$ E* (20 measurements for non-thermochromics samples) Fluorescence excitation: 365 nm < 2% (5 hours at 20° C) on Spectralon
Data Interface:	USB2.0
Power supply:	AC 90 -230 V / 50 - 60 Hz
Environment:	Temperature 18 – 30° C Humidity: 40 – 70 %

## DELIVERIES:

- Measuring instrument **SPECTRA-FIT**
- Power cable
- Interface cable USB2.0
- Standard cuvette holder for 10x10 mm cuvettes
- Software “AVA FULL” (CD-ROM)
- Application software “Irradiance colour measurement / IR measurement” (CD-ROM)
  - Colour measurement including IR-Print Contrast
  - Fluorescence colour spectra and analysis by using  $X^*$ ,  $Y^*$ ,  $Z^*$  -  $L^*$ ,  $a^*$ ,  $b^*$  values
  - Irradiance
- Spectralon white standard
- Manual
- Transport case

## OPTIONS:

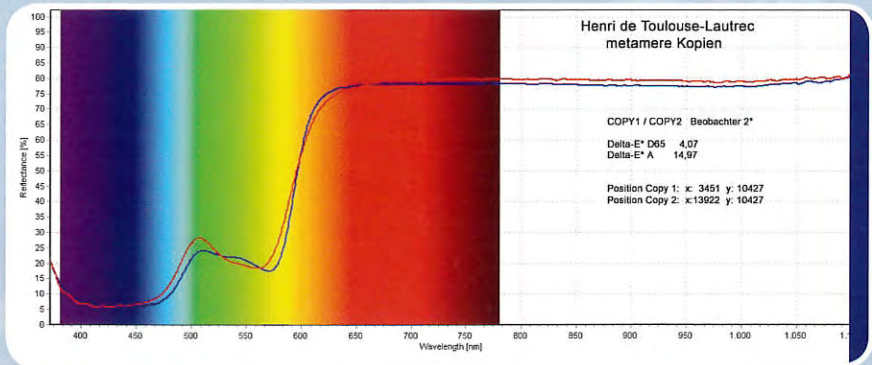
- Measuring head for transmission
- Adaptions for special customer requirements are possible
- Viewing of the measuring spot using a camera tool
- Flow cell
- Multi-angle reflection measurement head
- Other diodes for excitation are available

# OPTIONAL FEATURES

(LIST NOT EXHAUSTIVE)

## MEASURING HEAD MOUNTED ON AN XY – SCANNER

- Perfect reproducible positioning of the measuring head on pre-determined points.
- Comparison of print products, copies, plastic materials and others
- Automatized serial measurements. (e.g. Standard against samples)



## TRANSMISSION TABLE / ROTO-SCAN

- Determination transmittance properties of paper, foils, plastics and others
- UV Transmission of glasses, lacquers, solar modules, polaroid glasses and others
- customized solutions available

## FLOW-THROUGH CELLS

- Determination of singular fluorescent particles in different solutions
- customized solutions possible

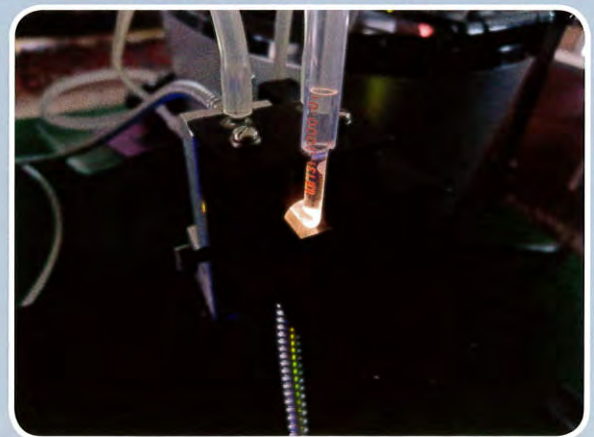
## AND:

DIFFERENT ANGLES IN ONE MEASURING HEAD

DIFFERENT LED'S FOR EXCITATION

NIR-EXTENSION 1000 – 2500 NM

ADDITIONAL CUSTOMIZED SOLUTIONS ARE POSSIBLE



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