



Do you need a user friendly color and whiteness measuring instrument for your production control? Are you looking for a reliable instrument which despite its simplicity can be used for a wide range of materials and products?

**VIBROCHROM 400** was developed out of Lenzing AGs long time experience in measuring whiteness and color difference. Therefore operating has been reduced to basic steps, which are simple and easily understandable. In this way casual mistakes.

are avoided and the results are accurate and reliable, as required for production control in the everyday routines in the laboratory. **VIBROCHROM 400** is a flexible instrument for reliable and quick determination of whiteness, color difference and fluorescence, which can be used for staple fibers and filament yarns as well as for fabrics, paper, granules, paints and powder etc. The software offers flexible evaluation of your the results, with a wide range of formulas and parameters at your disposition.

### Scope:

User friendly, flexible instrument for the easy determination of color difference, whiteness, yellowness and fluorescence of different materials (fiber, filament yarn, granules, powder, etc.)

### Method:

**VIBROCHROM 400** is a tristimulus colorimeter with dual beam principle, which measures according to ISO 2469 and DIN 5033. The sample is illuminated by flashlights and the reflection is measured and evaluated.

### Results\*:

Are calculated by the computer and given as to the info box below.

### Illumination:

CIE standard source D65 flash light (without ultraviolet radiant energy). Optionally available: A second flash light emitting ultra violet light for determination of fluorescence

### Calibration:

With black (velvet coated cup) and white (Teflon or ceramic) working standards for 0 - 100 %. The calibration is referenced to absolute values based on BaSo<sub>4</sub> powder.

### Repeatability:

± 0.2 % with white standard

### Specimen dimensions:

Any width  
Max. depth: 130 mm  
Max. height: 115 mm  
Measuring aperture: 30 mm Ø

### Interface:

RS 232

### Power supply:

230/115 VAC ± 10%  
50/60 Hz, 50 W

### Dimensions:

Height: 460 mm  
Width: 320 mm  
Depth: 380 mm  
Weight: 25 kg

### Optionally available:

- TAPPI value
- OPC UA interface

### \*Results:

Indexes x, y, z

x red  
y green  
z blue

Remission under visual light

Rx Remission of red color range  
Ry Remission of green color range  
Rz Remission of blue color range

Remission under ultra violet light only (< 380 nm)

dfRx Remission of red color range  
dfRy Remission of green color range  
dfRz Remission of blue color range

Remission under visual and ultra violet light

fRx Remission of red color range  
fRy Remission of green color range  
fRz Remission of blue color range

Df, dfRz Fluorescence

(df=Berger<sub>WITH</sub> UV - Berger<sub>WITHOUT</sub>UV)

X, Y, Z standard color values acc. to CIE

Whiteness

According to different standards and formulas such as Berger, Ganz, Hunter, Hunter2, Stensby, Taube

Tappi (optional)

Diffuse brightness of pulp (d/0° at a wavelength of 457 nm)

G

Yellowness

AI

Dyeability index (according to Lenzing standard)

L\*, a\*, b\*, ΔE

definition of color according to CIELAB diagram; L: lightness; a: green-red axis; b: blue-yellow axis; ΔE: color difference

L\*, u\*, v\*

Definition of color according to CIELUV diagram

C, H

Chroma, Hue

x, y

$x = X/(X+Y+Z)$ ;  $y = Y/(X+Y+Z)$

fRz

Remission of blue color range

Technical data and pictures are subject to change.

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