

### The Objective Eye for a Brilliant Finish

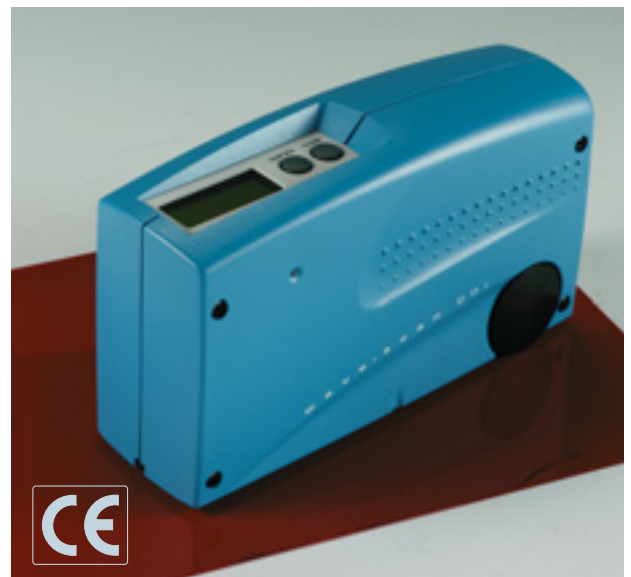
Surface appearances change with the size and distinctness of structures. Structures will be perceived as being very distinct, if e.g. an edge is reflected on the surface with high contrast and sharpness. The wave-scan DOI evaluates structure size as well as the brilliance of the surface.

### Total Appearance – Orange Peel and DOI ...

- High correlation to the visual by analyzing the structure size: Ultrashort to Ultralong wave
- DOI: Distinctness of Image – objective criteria for brilliance and gloss
- Classical Long Wave (LW) and Short Wave (SW)
- Independent of paint system and refractive index - no matter whether comparing 1 K, 2 K or powder coating
- Reproducible results on test panels and curved parts
- For solid and metallic coatings

### ... in one handy instrument

- Portable: easy to operate with one hand
- Highly reliable results due to self-calibration
- Operation according to your own sampling procedures
- Storage of 599 readings with clear object identification
- auto-chart software for professional analysis, documentation, and data management



### Ordering Information

Cat. No.	Description
E-4816	wave-scan DOI
EE-4816	Extended Warranty one year additional

#### Comes complete with:

wave-scan DOI  
 Reference tile with certificate  
 Protective holder  
 Interface cable  
 Software auto-chart on CD-ROM  
 Batteries  
 Operating manual  
 Carrying case  
 Training

#### Hardware requirements:

PC with Pentium, Windows® 95, NT 4.0 or later operating system, min. 64 MB RAM (recommended 128 MB), min. 50 MB hard-disk space, CD-ROM drive, free serial and parallel interface, Excel®, 97-Vers.8 or later for pre-prepared worksheets, including VBA - Visual Basic for Applications

### Technical Specifications

Measurement Range	DOI	0 to 100
	Long Wave	0 to 100
	Short Wave	0 to 100
Structure spectrum	du	< 0.1 mm
	Wa	0.1 to 0.3 mm
	Wb	0.3 to 1.0 mm
	Wc	1.0 to 3.0 mm
	Wd	3.0 to 10.0 mm
	We	10.0 to 30.0 mm
Repeatability <sup>1</sup>	4% or > 0.4	
Reproducibility <sup>1</sup>	6% or > 0.6	
Scan Length	50 / 100 / 200 mm	
Resolution	375 measurement points /cm	
Object Curvature	radius > 1m	
Measurement Time	4 seconds	
Light Source	Laser diode, LED	
Energy Output	< 1mW (Laser class 2)	
CCD-Sensor	640 x 480 Pixel	
Memory	599 readings (40 profiles)	
Interface	serial RS 232	
Dimensions	120 x 65 x 205 mm (4.7 x 2.6 x 8.1 in)	
Weight	1.2 kg (2.6 lbs)	
Batteries	4 x 1.5 Volt AA, app. 1000 measurements	
Operating Temperature	+10 °C to 40 °C (running)	
	(+50 °F to 104 °F)	
	0°C to 60°C (storage)	
	(32 °F to 140 °F)	
Relativ Humidity	up to 85% at 35°C (95 °F)	

<sup>1</sup>Standard deviation

## Training wave-scan DOI

BYK-Gardner offers you more than just an instrument. We assist you in operation of the wave-scan system and understanding your appearance readings. As a result you will be able to use the wave-scan DOI to save time and money and at the same time improve your quality. Therefore, the instrument comes with a one day training course including:

### 1. Orange Peel and DOI Theory

- Visual perception and instrumental measurement of Orange Peel and DOI
- Data interpretation: How can the structure spectrum be used to optimize process/material parameters

### 2. Operation and Software Training

- Set-up of an "organizer" to create a routine measurement procedure
- Programming of the instrument with "organizer" and measurement of several samples
- Direct data transfer to Excel® for documentation of individual readings
- Data transfer to auto-chart software and saving in a database for routine QC
- Data analysis using standard QC-reports:
  - Color comparison to show at one glance how various colors are running at different paint lines
  - Trend chart to show how specified zones perform over a defined time range
  - SPC-chart for daily process control of your critical colors and highrunners: xR-chart
  - Zone profile for trouble shooting using the structure spectrum



- Create your own reports in Excel®
  - Transfer data from the database to Excel®
  - Pivot function to define layout in Excel®

The training can be performed in one day or two half days. It is recommended to split the training into two half days:

Day 1: Theory and basic operation (set-up organizer, taking readings and saving data in a database)

Day 2: 3-4 weeks later to ensure readings were taken and saved in a database. Data analysis and standard QC reports can be explained using customer specific data.

## Ordering Information

Cat. No.	Description
E-4825	Crystal Clear Tape
E-4809	auto-chart
E-4401	USB-adaptor
E-4813	Interface Cable
E-4817	Reference Tile
E-4801	Protective Holder

## Accessories

For low gloss surfaces
Software for analysis and documentation
For connection to USB-interface, incl. driver software
PC-cable, 9-pin sub-D
To check performance of instrument with certificate
Replacement holder to store instrument and protect optics



For Recertification  
and Calibration  
Services  
see page 172