

Orange Peel and DOI measurement

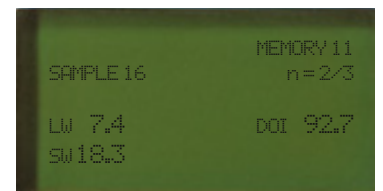
Now you can measure Orange Peel and DOI on small and curved surfaces: Automotive add-on parts - like bumpers, gas tank doors, mirror housings, door handles, decorative trim or motorcycle parts.

...for curved and small parts

- Minimum sample size: 25 mm x 40 mm
- Selectable scan length 20, 10 or even 5 cm
- Measurement area: 4 mm x scan length
- DOI measurement possible without scanning the surface
- Good correlation to wave-scan DOI, the appearance standard in the automotive industry

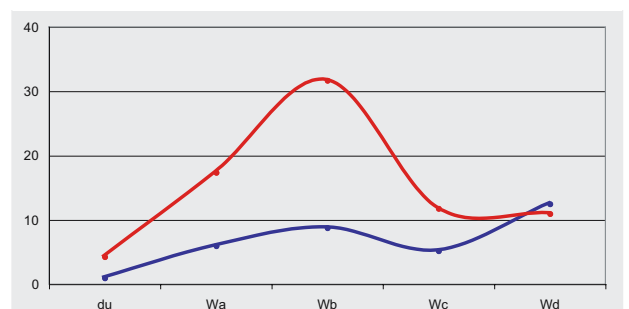
Fits in the palm of your hand

- Easy to operate with one hand
- New scroll wheel to select functions and operate button to take readings
- Large display: complete statistics and alphanumeric name input
- Storage of 2000 readings in selectable memories
- Docking station for recharging battery pack and data transfer to PC
- Rechargeable battery pack or standard mignon batteries can be used
- auto-chart software for professional analysis, documentation, and data management



Objective and reliable appearance data

- Structure spectrum gives detailed information about various structure sizes
- High correlation to the visual perception
- Cause of appearance changes can be analyzed
- DOI – Distinctness of Image: objective measurement independent of paint system and curvature



Always ready

The instrument is operated with a rechargeable battery pack (Li-Ion). The docking station automatically charges the battery pack and transfers the measured data to the PC.

Optionally, the instrument can be operated with 2 standard mignon alkaline or rechargeable batteries - good for 1000 readings.



For Recertification and Calibration Services see page 172

Ordering Information

Cat. No.	Description	Price
E-4824	micro-wave-scan	
EE-4824	Extended Warranty one year additional	

Comes complete with:

- Instrument, Protective cap,
- Reference tile with certificate,
- Software auto-chart on CD 1),
- Docking station and interface cable,
- 2 rechargeable Li-Ion battery packs,
- Battery holder for AA alkaline or rechargeable batteries,
- 2 Batteries, Operating manual,
- Carrying case and belt 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, du	LW, SW	Wa - Wd		
0 to 100	0 to 100	0 to 100		
Structure spectrum				
du	Wa	Wb	Wc	Wd
<0.1 mm	0.1 to 0.3 mm	0.3 to 1.0 mm	0.1 to 3.0 mm	3.0 to 10.0 mm
Scan length/Measurement scales				
20 cm	10 cm	5 cm	0 cm	
du, Wa...Wd, L,S, DOI	du, Wa...Wd, L,S, DOI	du, Wa...Wd, L,S, DOI	du, Wa, Wb, DOI	
Repeatability¹	8 % or > 0.8			
Reproducibility¹	12 % or > 1.2			
Object Curvature	radius > 300 mm			
Min. sample size	25 mm x 40 mm			
Measurement Area	4 mm x scan length			
Scan Length	5 / 10 / 20 cm			
Resolution	375 points/cm			
Memory	2000 readings			
Interface	serial RS 232			
Light Source	Laser diode, LED			
Laser Energy	< 1 mW (Laser class 2)			
Dimensions	70 x 120 x 40 mm (2.7 x 4.7 x 1.6 in)			
Weight	250 g (0.6 lbs)			
Power Supply	rechargeable battery pack or 2 Mignon AA Batteries (alkaline or rechargeable) approx. 1000 readings			
Temperature Range	operation: +10 °C to 40 °C, + 50 °F to 104 °F; storage: 0 °C to 60 °C, + 32°F to 140 °F			
Relativ Humidity	up to 85 % at 35 °C (95 °F)			

¹Standard deviation

Training micro-wave-scan

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 micro-wave-scan 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	Price
E-4828	Docking Station	
E-4829	Reference Tile	
E-4401	USB-Adaptor	
E-4827	Battery Pack	
E-4809	auto-chart	



Accessories

Incl. serial interface cable 9-pin Sub-D, and recharger 100 - 240 V self adapting

To check performance of the instrument, with certificate

For connection to USB-interface, incl. driver software

Rechargeable battery for automatic charge in docking station

Software for data analysis with database management and professional documentation in Excel®



*For Recertification
and Calibration
Services
see page 170*