micro-wave-scan

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

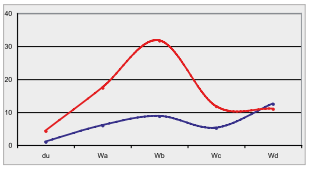
- Curvature > 300 mm
- Minimum sample size: 25 mm x 40 mm
- Selectable scan length 20, 10 or even 5 cm
- Measurement area: 4 mm x scan length
- DOI measurement possible without scanning the surface
- Good correlation to wave-scan DOI, the appearance standard in the automotive industry

Fits in the palm of your hand

- Small and light weight, easy to operate with one hand
- New scroll wheel to select functions and operate button to take readings
- Large, multilingual display: complete statistics and name input directly at the orange peel meter
- 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

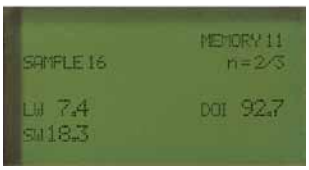
Objective and reliable appearance data

- Structure spectrum gives detailed information about various structure size
- 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



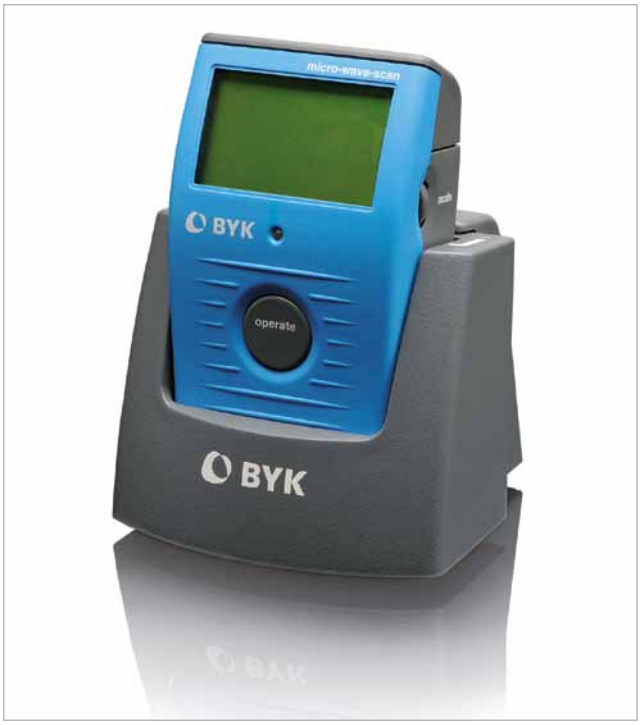
select mode ...

and measure



Always ready

The micro-wave-scan 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 orange peel meter can be operated with 2 standard AA alkaline or rechargeable batteries – good for 1000 readings.



Certified For Certification Services and Preventive Maintenance see pages 268 – 270.

Ordering Information

Cat. No.	Description
AW-4824	micro-wave-scan
SE-4824	Extended Warranty one year additional

Comes complete with:
Orange peel meter, Protective cap,
Reference tile with certificate,
Software auto-chart on CD,
Docking station and interface cable,
2 rechargeable Li-Ion battery packs,
Battery holder for AA batteries,
2 Batteries, Operating manual,
Carrying case and belt case
Training

Free 1x preventive maintenance service during warranty period

Hardware Requirements:
Operating system: Windows® 2000 or higher
Excel® version: 2002 or higher, incl. VBA
Memory: min. 256 MB RAM (recommended 512 MB)
Hard-disk space: min. 100 MB
Monitor resolution: XGA (1024 x 768) or higher
Disk drive: CD-ROM or DVD
Interface: serial or USB port

Technical Specifications

Application	
High Gloss Surfaces	du < 40, linear range
Structure Spectrum	du: < 0.1 mm Wa: 0.1 – 0.3 mm Wb: 0.3 – 1 mm Wc: 1 – 3 mm Wd: 3 – 10 mm
Scan length/ Measurement scales	20 cm: du, Wa...Wd, L, S, DOI 10 cm: du, Wa...Wd, L, S, DOI 5 cm: du, Wa...Wd, L, S, DOI 0 cm: du, Wa, Wb, DOI
Repeatability[1]	8% or > 0.8
Reproducibility[1]	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
Languages	English, French, German, Italian, Japanese, Portuguese, Spanish
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 AA batteries, approx. 1000 readings
Temperature Range	operation: +10°C – 40°C (+50°F – 104°F) storage: 0°C – 60°C (+32°F – 140°F)
Relative Humidity	up to 85% at 35°C (95°F)

[1] Standard deviation

Training for micro-wave-scan

BYK-Gardner offers you more than just an instrument. We assist you in operation of the micro-wave-scan system and understanding your appearance readings. As a result you will be able to use the orange peel meter 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:
  - Summary by lines 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
AW-4828	Docking Station
AW-4829	Reference Tile
AG-4401	USB-Adaptor
AW-4827	Battery Pack
AW-4809	auto-chart

Accessories

Incl. serial interface cable 9-pin Sub-D and recharger 100 – 240 V self adapting
To check performance of the orange peel meter, with certificate
For connection to USB-interface, incl. driver software
Rechargeable battery for automatic charge in docking station
Software for analysis and professional documentation in Excel®

Certified

For Certification Services and Preventive Maintenance see pages 268 – 270.