PVA TePla

VEreveal®

HYPERSPECTRAL VISION TECHNOLOGY

Comprehending the Invisible

Fast. Non-destructive. Comprehensive. VEreveal® is a unique combination of optical spectroscopy and imaging to objectively capture surface properties, contaminations and deviations in production. Available as VEreveal® MACRO for macro inspection, VEreveal® MICRO for micro inspection, or VEreveal® FUSION for both combined, the system features PVA's unique Hyperspectral Vision technology, tailored to your needs with the AI-equipped software VEsolve® PRO.

FEATURES AT A GLANCE

Fast inspection
Near real-time for acquisition and evaluation

Comprehensive analysis
Full surface (100%) product information

Replaces multiple methods
Eliminates the need for separate FT-IR, GD-OES, TEM/SEM, LIBS, X-ray, contact angle, or AFM measurements

Non-destructive measurement
Unique combination of optical spectroscopy and imaging

INSIGHTS FROM INSPECTION

VEreveal® boosts your product and sample knowledge by orders of a magnitude with spatially resolved recognition of:

Layer thickness
1 nm - 500 µm, depending on layer material

Sample properties
Chemical, electrical, optical

Quality criteria
Defects, contaminations, processing status, roughness of surfaces and interfaces

INSPECTED MATERIALS

VEreveal® is designed for simple and fast as well as continuous area measurement of surfaces and thin films on various substrates:

Substrates
Semiconductors (Si, SiC and others), metals, polymers, ceramics, glass, and many more

Layers
Oxides, nitrides, carbides, polymers and many more

SPECIFICATIONS

Cleanroom capability	ISO class 3
Measurement mode	Reflectance
Measurement time	< 10 s (typical)
Wavelength range	VNIR 400–1000 nm | SWIR 900–1700 nm
Spectral resolution	VNIR 1.34 nm | SWIR 3.5 nm
Spatial resolution (MACRO)	VNIR 300 µm | SWIR 470 µm
Spatial resolution (MICRO)	< 1 µm (depending on microscope lens)
Field of view (FOV)	Adapted to wafer size, further scan modes with high-resolution available
Lighting	VEluminise® – adjustable halogen broadband source
Sample size	max. 300 mm wafer
System dimensions (MACRO, MICRO)	1240 x 1546 x 1900 mm (L x W x H)
System dimensions (FUSION)	2480 x 1546 x 1900 mm (L x W x H)
System weight (MACRO, MICRO)	700 kg
System weight (FUSION)	1400 kg
Certification	CE, SEMI S2, S8, S14
Operating conditions	+5 ... +40 °C (non-condensing)
Connectivity	RJ45 (ethernet)
Control	VEsolve® PRO Software
Power requirements	230 V_{AC} (50–60 Hz), 450 W

WANT TO FIND OUT MORE?
CONTACT US FOR INFORMATION!

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Learn more