evatec
process systems

“IN-SITU” CONTROL OF OPTICAL THIN FILMS

Advanced Process Control (APC) technologies in evaporation & sputter

ADVANCED PROCESS CONTROL - UV, VIS & IR OPTICS

"In-Situ" Advanced Process Control (APC) technologies on Evatec evaporation and sputter platforms enable new levels of throughput and yield in deposition of dielectrics, TCOs and metals.

APC TECHNOLOGIES FOR DIRECT MEASUREMENT OF SUBSTRATE PERFORMANCE

When optical films become more complex, repeatability specifications get narrower, and substrates more valuable, Evatec's APC technologies ensure rapid process development, easy switch between processes and higher production yields.

Evatec's "In-Situ" technologies enable direct measurement of thin film / substrate performance during the deposition cycle and subsequent process optimisation for perfect results time after time.

Choose from Broadband Optical Monitoring with "In-Situ Reoptimisation", Optical Pyrometry, Plasma Emission Monitoring and Film Stress Measurement, to control the deposition of dielectrics, TCOs, metals and compounds used in the deposition of high performance films for the UV, VIS and IR.

SEAMLESS PLATFORM & PROCESS CONTROL FOR OPTICS

Evatec's system and process control delivers full platform automation whilst "Optics Tool Box" enables seamless process development for optics all the way from thin film design to recipe generation and execution.

A CHOICE OF DEPOSITION TOOLS

MSP - Batch Sputter Tool
- Low temperature processes
- Substrate sizes up to 560x380mm
- Up to 2.2m^2 coating area
- Up to 6 sputter sources and 1 plasma source
- Edge repeatabilities < 0.2%

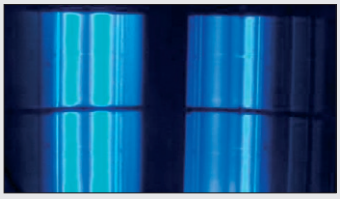
BAK - Enhanced Evaporation
- Evaporation and PIAD processes
- Platforms from 0.5 to 2.0m
- Enhanced quartz measurement technology
- "Cassette to Cassette" option to eliminate manual loading

CLUSTERLINE® RAD - Sputter Cluster
- Low temperature processes
- Cassette to cassette handling
- Up to 4 sputter sources plus plasma source
- Thin wafer handling including auto flip for double sided processes without vacuum break

CONTROL TECHNOLOGIES THAT ENHANCE YIELD AND REDUCE COSTS

OPTICS TOOLBOX

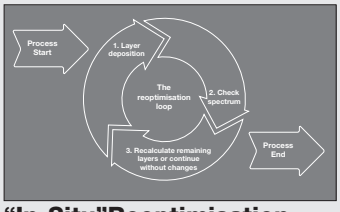
Optics Toolbox
- Efficient creation and optimisation of monitoring strategies and coating recipes
- Seamless integration with thin film design software



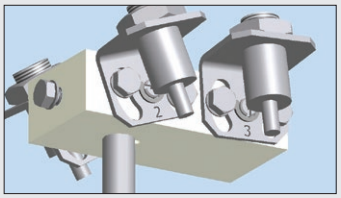
Plasma Emission Monitoring
- Closed loop control for precise film stoichiometry
- Optically stable, dense films at high deposition rates

GSM Optical Monitoring
- Broadband monitoring for layer termination
- Test glass or direct measurement at the substrate during deposition

Film Stress Measurement
- Prevent delamination and cracks
- Management of distortion in deposition on ultrathin substrates



"In-Situ"Reoptimisation
- Automatic tuning of your thin film recipe during deposition
- Narrower process tolerances
- Recover from unexpected production errors e.g. power outage



Optical Pyrometry
- Enhanced temperature distribution control for high temperature processes
- Management of temperature sensitive substrates

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