Maximize Coating Quality. Minimize Costs.

Advanced Optical COATING INSPECTION Technology
For Color + Coating + Process Defects
The use of coated glass has significantly increased in many applications. For instance sun protection glass in buildings prevent excessive entry of direct sunlight and therefore excessive heating inside these buildings. Continuously issued regulations for energy savings render the use of coated glass inevitable.

In addition, special coatings make glass suitable for more purposes such as for automotive and solar glass. This is why continuous system availability, no waste of resources and optimum quality are defined as essential requirements for success in the production of coated glass.
Multi-dimensional inspection has been developed as an answer to the new requirements for coated glass inspection. Multi-dimensional inspection increases the quantity of quality data to be analyzed with a limited amount of electronic components. All coating or glass defects can now be easily recognized using different view channels working simultaneously with same cameras and/or illumination modules. The classification as well has been simplified. As a result, inspection capability, system flexibility, and cost of ownership have been strongly improved and give the right tool that the glass industry was looking for.

Multi-View technology combi-mode

- The ALL-IN-ONE camera system design
- Special high frequency switching LED illumination
- The combination of Multiple OPTICAL CHANNELS in one system
- Only available with ISRA Combi-Mode technology

Homogeneity and color angle shift

- Large Area Inspection - (LAI) by SUPER SAMPLING of high resolution images
- Color angle shift control of the full coating surface in narrow and wide angles of vision
- Large low contrast defect detection
- Homogeneity control of the full coating surface by super sampling
- Unique ISRA Multi-Angle view color technology
- Without multiple illuminations and complex positioning

Analysis and measurement tools

- Monitoring of production and material features such as homogeneity, thickness
- Color coded map to visualize measure values
- Visualization of quality data via trend reports
- First step for production control and analysis for quick actions on process improvement

Coating index

- Grading panels into quality grades
- Grading by
  - Defect count
  - Percentage of “good” and “bad” regions
- Grading by regions
The inspection system for the continuous inspection of coated glass at any processing stage allows for 100% in-line detection of coating, color, color differences, inhomogeneities, surface, edges and shape - all at the same time, even in mixed batches.

Employing high speed, high resolution cameras, the inspection system integrates easily into any process environment. Automated classification of defects functions not only as quality control but for process control providing real-time information.

Applications
In-line inspection for all coatings:
- Low-E
- Sun protection
- Mirror coating
- Antireflective coating (AR)
- Substrate coating (ITO, TCO, ZnO)
- Electrochromic
- Other

Inspection features
Simultaneous detection, classification and monitoring of all possible coating, color and glass defects such as:
- Smallest coating defects:
  - pinholes, voids, scratches, debris, splatter, burns, water traces, arcing ....
- Glass and process defects:
  - bubbles, stones, inclusions, marks, bottom scratches, edge defects
- Color and color angle shift monitoring
- Coating homogeneity
- Adaptable for all kinds of coating:
  - Low-E, sun protection, antireflective, electrochromic, mirror…)
- Intelligent classification
- Advanced feature set for defect detection
- Tool-set for statistics, process analysis and process optimization

High-performance statistics
Coating index
Quality grading
Classification
Thickness and homogeneity measurement
Expert Optical Inspection Solutions For Glass Coatings

Leading The Way To Highest Productivity

**Technical features**
- Multi-view, multi-mode illumination techniques
- Advanced LED technology
- Latest, fastest high-resolution camera and optical technology integrated
- Multiple simultaneous view-channels
- All-in-one: multi-tasking and easy to operate

**Advantages**
- Earliest possible detection of process irregularities for high quality throughput
- Recognition of all relevant defect types:
  - Coating defects
  - Color inhomogeneities
  - Color angle shift
  - Glass process defects
  - Shape and dimension
- Significant reduction in customer claims
- Improved quality while simultaneously ensuring consistently high standards
- 100% documented quality

The return on investment is reached in the shortest times. This is due to fast installation and commissioning and shortest ramp-up times.

Get YOUR key to the future – Ask for details.
For over two decades, ISRA VISION has been a leading manufacturer of highly accurate automated optical quality inspection systems.

More than 10,000 successful applications attest to our experience in the field of machine vision products – and our ability to innovate.

Today our products are installed and operating worldwide in such industries as solar glass, glass, plastics, foils, packaging, print and automation. It is our goal to set system standards for total process control in these industries.

Customers choose ISRA for the ability to develop products consistent with their requirements. More than 500 employees at locations worldwide are working to contribute to your success.

We are the innovators in optical inspection. Best practice. Best system. Best service.

We offer our experience and a highly qualified team of experts to design and implement solutions for advanced applications.

We ensure that our mission continues beyond our shipping dock. Just challenge our Customer Support Center.

We guarantee excellence to our customers – from consulting to service, from tailored solutions, to worldwide support. We can make your business more competitive.

Challenge us.
Inspect to control – with ISRA VISION

Optimize your ROI – with the technology leader ISRA
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