

# Osprey<sup>®</sup> HR by LiteSentry<sup>™</sup>

## High Resolution Distortion Measurement System

### APPLICATIONS

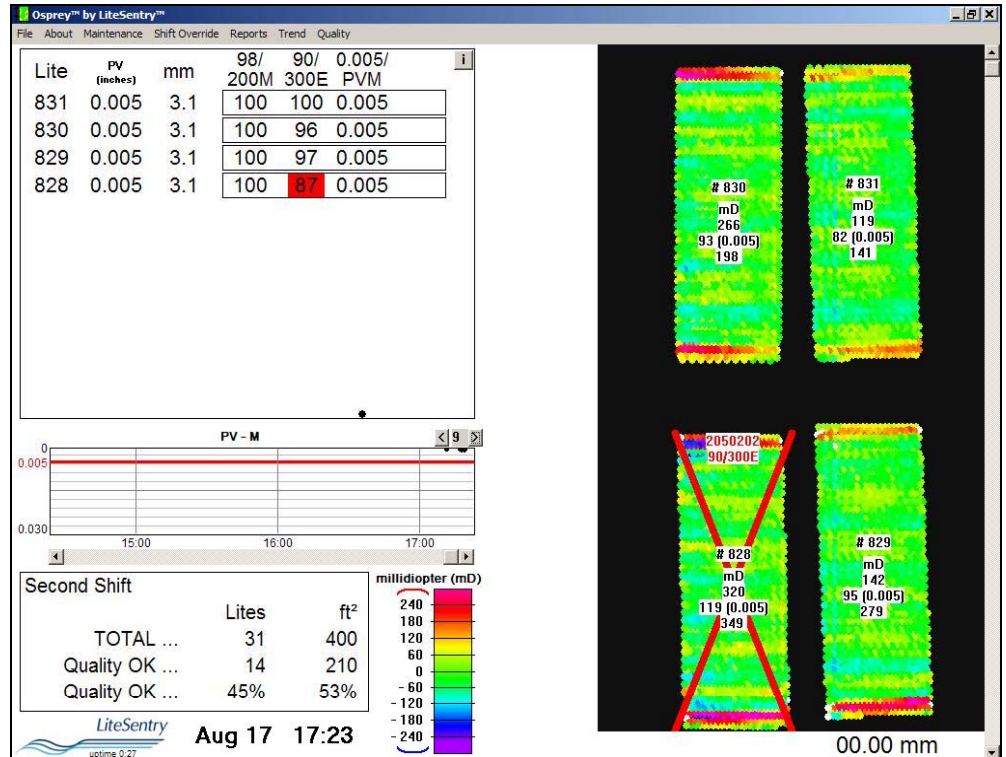
- Tempering
- Lamination
- Heat Treatment
- Solar

### FEATURES

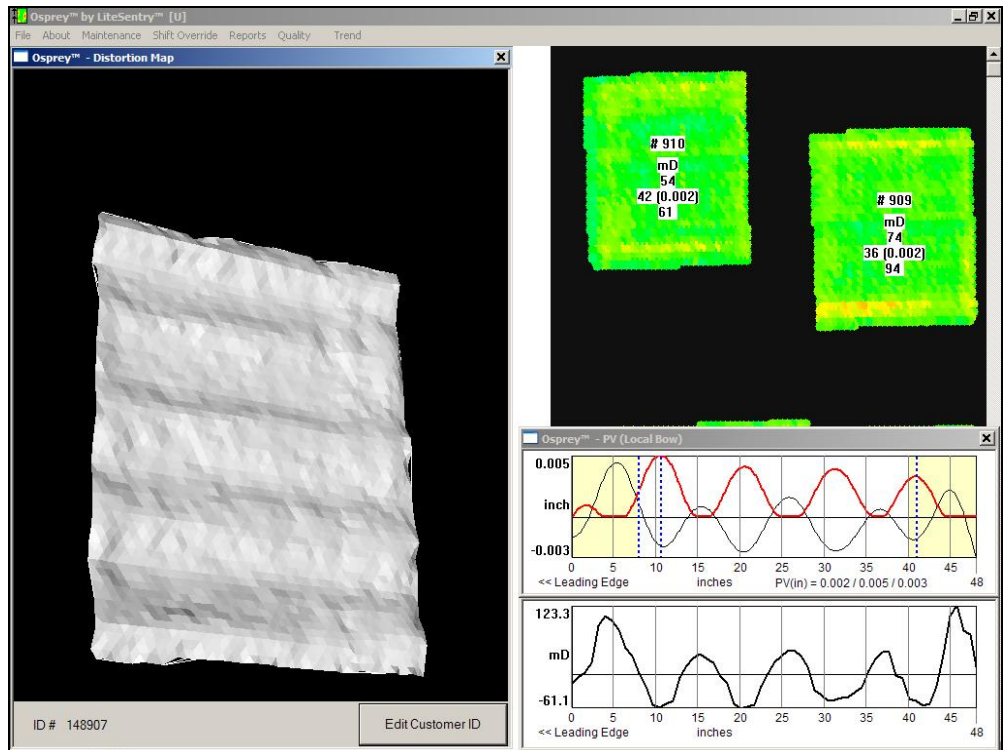
- Measures Optical Distortion in heat-treated glass.
- 100% inspection assures compliance to specifications.
- True optical measurement in lens power (diopters) as seen by the customer!
- Measures all types of optical distortion including roll wave, edge kink, local bow, pocket, side kink, hammer, bird's eye, picture framing, belly banding and others.
- Thickness and area of glass measured and recorded.
- Cumulative throughput and yield by shift is displayed.
- Rugged, production-ready measurement tool.
- Complies with ISO EN 12150-1 and ASTM C14 standards.
- Replaces off-line inspection.

### BENEFITS

- Correct distortion problems before adding value in IG or Lamination.
- Real-time inspection. Results displayed immediately. Allows for improved process control.
- Improves quality and reduces field returns.
- Increases throughput 10% to 33% with improved load utilization.
- Improves yield and decreases quench breakage.



Operator Interface



Pop-up Detail displays 3D Topography (L) and 2D Side Profile (R)

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## Specifications

# Osprey® HR by LiteSentry™ Distortion Measurement System High Resolution for Solar Applications

**Application:** Batch or continuous tempering lines, float lines.

**Substrate:** 2 to 6 mm thick glass; clear, hard or soft coat low E, tinted, or reflective

**Inspection area:** 500 to 3,210 mm (20 to 126 inches) conveyor widths

### Operator interface display

- ◆ Distortion in optical lens power in mD (millidiopters) and peak-to-valley (inch) or local bow (mm).
- ◆ Pop-up 3D visualization shows optical topography and 2D view of side profile.
- ◆ Color-coded distortion mapping.
- ◆ Statistical results for each glass sheet.
- ◆ Quality and throughput statistics by shift.
- ◆ Trend graph for performance over time.

### Outputs

- ◆ Local and remote displays provide immediate feedback to operators.
- ◆ Database of all results by piece. Open-source 'XML' output supports all databases.
- ◆ Report writer for data analysis. Sort by date, time, thickness, sheet area, and location on conveyor.
- ◆ Direct feedback to furnace may provide closed-loop adjustments.

### Optical system

- ◆ CCD camera G with microsecond frame capture
- ◆ Lighting and high resolution optics provide precise measurement of optical distortion for critical applications
- ◆ Measurement resolution: 0.002 diopter (2 mD) at 300 mm/second (700 ipm) substrate velocity.
- ◆ Measurement range: -550 to + 550 mD
- ◆ Measurement accuracy: bias  $\leq$  5 mD at -200 mD to +200 mD\*
- ◆ Measurement repeatability: +/- 20 mD over -200 mD to +200 mD range with confidence interval of 99.7%\*
- ◆ Thickness sensor accuracy: +/- 0.08 mm (+/- 0.003 inch)

\* Dynamic measurements with moving substrate. Reference Osprey Accuracy Test Report.

### Environmental

- ◆ NEMA 12 enclosure with integral air conditioner for severe industrial environment.
- ◆ 4-50 deg C (40-122 deg F).
- ◆ Vibration isolation.



Osprey® stands over output conveyor

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