Csl X-Ray Scintillators

Ultra-high resolution and light yield for superior detection efficiency

Our microcoluminar thallium doped caesium iodide (Csl:TI) is extensively used in the most demanding x-ray imaging applications for its superior performance compare to phosphor screens and single crystal scintillators.

typical applications
- Medical
- Dental
- In-line inspection
- In-line metrology
- Non-destructive testing (NDT)
- X-ray diffraction imaging (XRDI)

customised solutions
Resolution, sensitivity, size and shape are a few of the parameters that can be defined in the production of a customised Csl scintillator.
Substrate, coating thickness and reflector materials can be customised to target a specific performance.
Talk to our expert team to see how together we can deliver clever and custom scintillation components to meet our customer’s needs.

features
- Ultra-high resolution
- Class leading environmental protection
- Fast response for high frame rate applications
- Low patient x-ray dose in medical applications
- Radiation hard for demanding NDT applications
- Low afterglow for dynamic image capture
- Maximised image area
- Suitable for CMOS, CCD, SiPM and TFT
### Typical Layers

**Protective parylene layer(s):** Maintains the quality of the scintillator performance.

**Optional absorber / reflector layer:** In conjunction with the substrate of choice, is used to fine tune performance to customer’s needs.

**Caesium iodide coating:** Provides state-of-the-art scintillator with columnar structure.

**Substrate:** Application specific.

### Flexibility

**Size and Shape**
- Customised to your design.

**Coating Thickness**
- Tailored performance to meet your application needs.

**Quality Area**
- Up to 98% of the active area.

**Absorber/Reflector Layers**
- Range of optional layers for customised imaging results.

### Class Leading Performance

Csl:Ti has a needle like structure, which consists of an array of closed packed columns.

### Superior Output Quality

Due to the slightly hygroscopic nature of Csl our coatings are protected against moisture ingress. This protection also provides a superior and robust finish to eliminate damage from transit and handling, maintaining image quality right to the edge of the scintillator, or sensor, area.

### Flexibility

Our Csl coatings can be applied to your exact size and shape requirements, on a wide range of substrates for both small and large volume production runs.

### Specification

<table>
<thead>
<tr>
<th>Specification</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Scintillator Type</td>
<td>Csl:Ti</td>
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<tr>
<td>Scintillator Thickness</td>
<td>Up to 600um</td>
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<tr>
<td>Substrate</td>
<td>Fibre optic plate (FOP), aluminium, polymers or other materials</td>
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<tr>
<td>Relative Light Output</td>
<td>Up to 150% Lanex Regular</td>
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<tr>
<td>Resolution (%)</td>
<td>Up to 40% at 10 lp/mm</td>
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<tr>
<td>Active Area</td>
<td>Fully customisable with minimal border region</td>
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