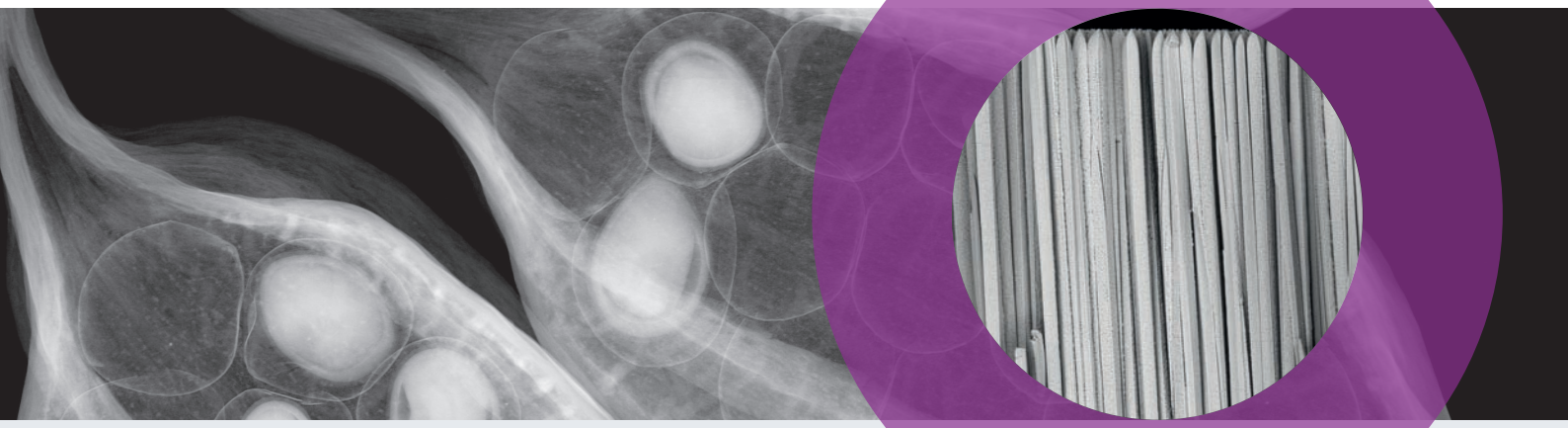
scintacor
THE CENTRE OF SCINTILLATION

# CsI X-ray Scintillators

## Ultra-high resolution and light yield for superior detection efficiency

Our microcolumnar thallium doped caesium iodide (CsI:Tl) is extensively used in the most demanding X-ray imaging applications for its superior performance compared 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 CsI 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

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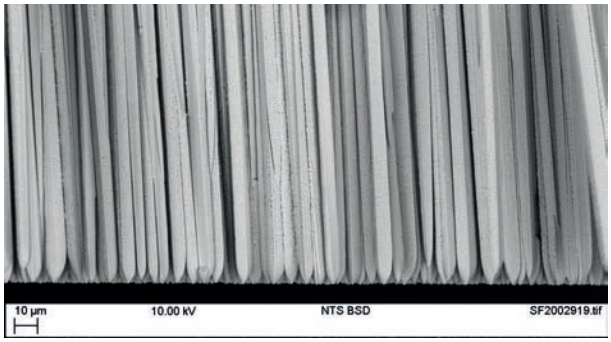



Scintacor's micro-columnar CsI as seen in a Scanning Electron Microscope

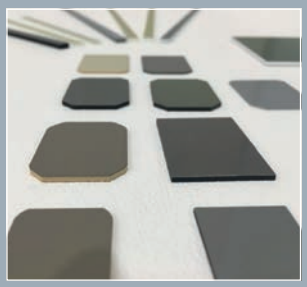
## typical layers

**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 microcolumnar 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

CsI:Tl has a needle like structure, which consists of an array of closed packed columns for ultra high resolution imaging.

## superior output quality

Due to the slightly hygroscopic nature of CsI 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 CsI 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

| | |
|---|---|
| **Scintillator Type** | CsI:(Tl) |
| **Scintillator Thickness** | up to 600 µm |
| **Substrate** | fibre optic plate (FOP), aluminium, polymers |
| **Relative Light Output** | up to 250% at 400 µm |
| **Resolution (%)** | up to 30% MTF at 10 lp/mm at 125 µm |
| **Active Area** | fully customisable with minimal border region |
| **Reflector/Absorber** | for enhanced light output / resolution to optimise your application |

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