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colour inside

Photovoltaic cells –
Part 2: Electroluminescence imaging of crystalline silicon solar cells

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PHOTOVOLTAIC CELLS –

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Draft	Report on voting
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Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this Technical Specification is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

A list of all parts in the IEC 63202 series, published under the general title *Photovoltaic cells*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

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- withdrawn,
- replaced by a revised edition, or
- amended.

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PHOTOVOLTAIC CELLS –

Part 2: Electroluminescence imaging of crystalline silicon solar cells

1 Scope

This part of IEC 63202 specifies methods to detect and examine defects on bare crystalline silicon (c-Si) solar cells by means of electroluminescence (EL) imaging with the cell being placed in forward bias. It firstly provides guidelines for methods to capture electroluminescence images of non-encapsulated c-Si solar cells. In addition, it provides a list of defects which can be detected by EL imaging and provides information on the different possible methods to detect and differentiate such defects. When EL imaging alone cannot provide conclusive information for the presence of a type of defect, suggestions are also made to utilize a combination of other methods.

Finally, this document provides some information on potential effects when using cells with specific EL features in module assembly. Although this document mainly addresses bare c-Si solar cells, it is generally applicable to all wafer solar cell technologies.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC TS 60904-13:2018, *Photovoltaic devices – Part 13: Electroluminescence of photovoltaic modules*

IEC TS 61836:2016, *Solar photovoltaic energy systems – Terms, definitions and symbols*

IEC TS 62446-3, *Photovoltaic (PV) systems – Requirements for testing, documentation and maintenance – Part 3: Photovoltaic modules and plants – Outdoor infrared thermography*