IEC 62951-7

Edition 1.0 2019-02

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Semiconductor devices – Flexible and stretchable semiconductor devices – Part 7: Test method for characterizing the barrier performance of thin film encapsulation for flexible organic semiconductors

Dispositifs à semiconducteurs – Dispositifs à semiconducteurs souples et extensibles – Partie 7: Méthode d'essai pour caractériser la performance des barrières en couches minces utilisées pour l'encapsulation des semiconducteurs organiques souples

IEC 62951-7:2019-02

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The text of this International Standard is based on the following documents:

FDIS	Report on voting
47/2533/FDIS	47/2542/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 62951 series, published under the general title *Semiconductor devices – Flexible and stretchable semiconductor devices*, 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 "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

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- withdrawn,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

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SEMICONDUCTOR DEVICES – FLEXIBLE AND STRETCHABLE SEMICONDUCTOR DEVICES –

Part 7: Test method for characterizing the barrier performance of thin film encapsulation for flexible organic semiconductor

1 Scope

This part of IEC 62951 specifies evaluation conditions and gives a method of measurement as well as a test set-up for the measurement of barrier performance for thin-film layer with ultra-low permeation rate under both flat and bending conditions. This document also includes the preparation of specimen, electrical contacts, sensor films and calculation procedures. For these purposes, this document provides terms, definitions, symbols, configurations, and test methods including test conditions such as temperature, relative humidity, testing time.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

3.1
water vapour transmission rate
WVTR
amount of water vapour transmitted through unit area of test specimen per unit time under specified conditions

Note 1 to entry: Its unit is generally g/m^2 day or g/(m^2·24 h) and it means how much water vapour permeates through a 1 m by 1 m square for 1 day.

[SOURCE: ISO 15106-1:2003, 3.1, modified – the note has been expanded.]

3.2
four-wire resistance measurement
electrical resistance measuring technique that uses separate pairs of current-carrying and voltage-sensing electrodes to make more accurate measurements than the simpler and more usual two-terminal sensing

3.3
organic thin film transistor
OTFT
thin film transistor fabricated by using an organic semiconducting material

Note 1 to entry: This note applies to the French language only.