IEC TR 62899-304-2

Edition 1.0 2026-09

TECHNICAL REPORT

Printed electronics -
Part 304-2: Equipment - Sintering - Temperature measurement method for thermal treatment system

ICS 19.080; 37.100.10

ISBN 978-2-8327-1508-6

IEC TR 62899-304-2:2026-09(en)

CONTENTS

CONTENTS 1
FOREWORD 2
INTRODUCTION 4
1 Scope 5
2 Normative references 5
3 Terms and definitions 5
4 Issues of temperature measurement for thermal treatment 5
4.1 General 5
4.2 Equipment for thermal treatment 5
4.3 Inks 6
5 Examples of measurement 7
5.1 General 7
5.2 Thermocouples 7
5.3 Resistance temperature detectors 8
5.4 Temperature label 9
5.5 Laser 9
5.6 IR camera 10
5.7 Summary of the measurement methods 10
6 Items that are important for reproduction of the conductive layer 10
Bibliography 11

Figure 1 – Example of temperature distribution in the convection oven set at 100 °C (according to JIS C 60068-3-5 [5]) 6
Figure 2 – Example of temperature distribution in the cross-section of the tube furnace (1 in diameter) set at 900 °C [6] 6
Figure 3 – Relationship between sintering temperature and resistivity of each ink 7
Figure 4 – Example of ink printed directly on a thermocouple 8
Figure 5 – Example of fixing a temperature sensor with polyimide tape 8
Figure 6 – Example of fixing a temperature sensor with eyelet and bolt 8
Figure 7 – T-SMILS L15570 series manufactured by Hamamatsu Photonics K.K. 9

Table 1 – Measurement methods and their sources of error 10

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The text of this Technical Report is based on the following documents:

Draft	Report on voting
119/578/DTR	119/595/RVDTR

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 Report 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/publications.

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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

– reconfirmed,

– withdrawn, or

– revised.

INTRODUCTION

Printed electronics (PE) has made significant progress, and its market has expanded considerably. It has numerous applications, including electrical and electronic products, textiles, and healthcare. In particular, conductive ink has the widest range of applications.

The functionality of conductive ink depends on the quality of the conductive layer that is formed by thermal treatment after printing the desired pattern. The thermal treatment process greatly influences the properties of the conductive layer. For example, uneven heating can lead to problems such as uneven conductivity, substrate distortion, and peeling of the conductive layer from the substrate.

To guarantee and reproduce the desired performance of the conductive layer, a stable and evenly distributed thermal treatment process is indispensable. Therefore, close monitoring and management of the temperature during this process are crucial.

This study is expected to serve as a valuable resource for researchers and developers specializing in the thermal treatment process for PE products, highlighting potential issues related to temperature management. Ultimately, it is hoped that this research will provide new insights into improving the thermal treatment process and quality control, thereby contributing to the realization of high performance and reliable printed electronics products.

1 Scope

This part of IEC 62899 provides information on methods for determining the sample temperature during the thermal treatment process in the production of PE products.

This document also compares the characteristics of contact and non-contact temperature measurement methods.

2 Normative references

There are no normative references in this document.

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[14] ISO/IEC 17025, *Conformity assessment - General requirements for the competence of testing and calibration laboratories*

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