

# INTERNATIONAL STANDARD

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## **Workmanship requirements for soldered electronic assemblies –**

### **Part 5: Rework, modification and repair of soldered electronic assemblies**



Commission Electrotechnique Internationale  
International Electrotechnical Commission  
Международная Электротехническая Комиссия

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**WORKMANSHIP REQUIREMENTS FOR  
SOLDERED ELECTRONIC ASSEMBLIES –****Part 5: Rework, modification and repair of  
soldered electronic assemblies**

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International Standard IEC 61192-5 has been prepared by IEC technical committee 91: Electronics assembly technology.

The text of this standard is based on the following documents:

FDIS	Report on voting
91/652/FDIS	91/686/RVD

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

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

A list of all parts in the IEC 61192 series, under the general title *Workmanship requirements for soldered electronic assemblies*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

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- withdrawn;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

A bilingual version of this publication may be issued at a later date.

## WORKMANSHIP REQUIREMENTS FOR SOLDERED ELECTRONIC ASSEMBLIES –

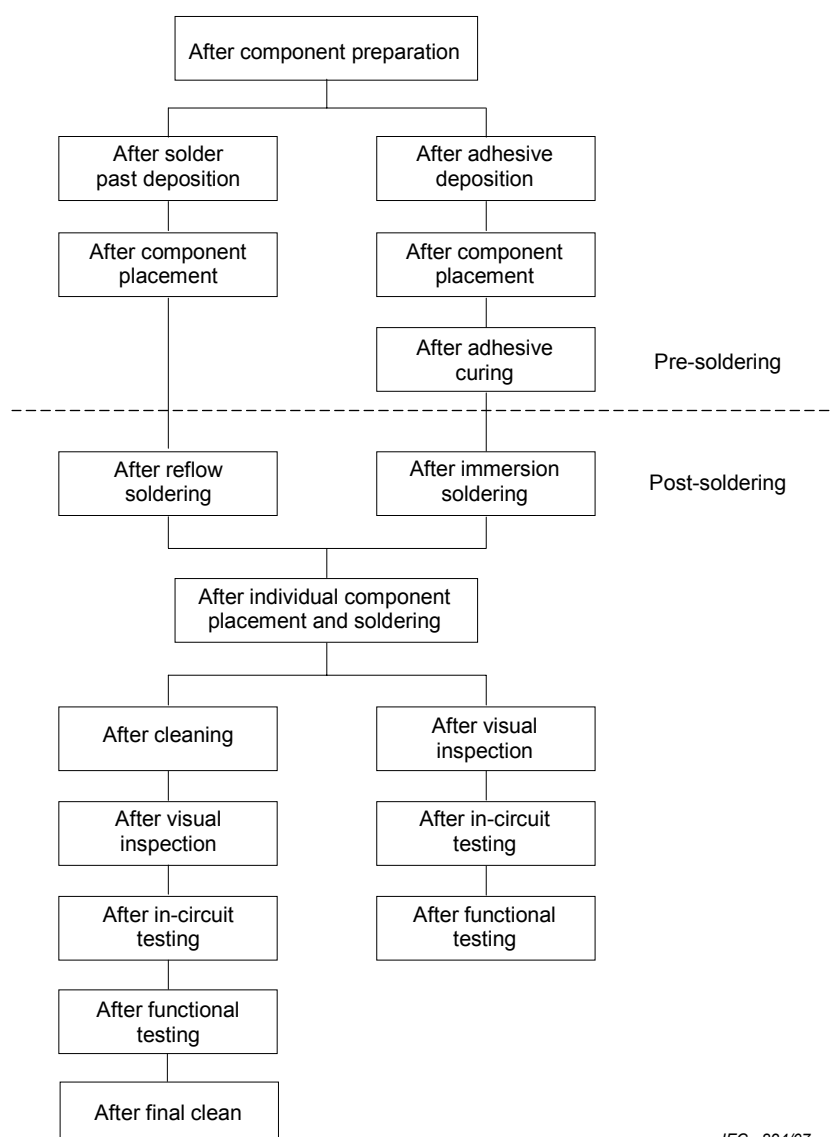
### Part 5: Rework, modification and repair of soldered electronic assemblies

#### 1 Scope

This part of IEC 61192 provides information and requirements that are applicable to modification, rework and repair procedures for soldered electronic assemblies. It is applicable to specific processes used to manufacture soldered electronic assemblies where components are attached to printed boards and to the relevant parts of resulting products. The standard is also applicable to activities that can form part of the work in assembling mixed technology products.

This part of IEC 61192 also contains guidance on design matters where they have relevance to rework.

NOTE Typical in-process surface-mount rework activities to which this standard applies are shown in Figure 1.



IEC 824/07

**Figure 1 – Typical in-process modification, rework or repair activities**

## 2 Normative references

The following referenced documents are indispensable for the application 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 60194, *Printed board design, manufacture and assembly – Terms and definitions*

IEC 61190-1-1, *Attachment materials for electronic assembly – Part 1-1: Requirements for soldering fluxes for high-quality interconnections in electronics assembly*

IEC 61190-1-2, *Attachment materials for electronic assembly – Part 1-2: Requirements for solder paste for high-quality interconnections in electronics assembly*

IEC 61190-1-3, *Attachment materials for electronics assembly – Part 1-3: Requirements for electronic grade solder alloys and fluxed and non-fluxed solid solders for electronic soldering applications*

IEC 61191-1:1998, *Printed board assemblies – Part 1: Generic specification – Requirements for soldered electrical and electronic assemblies using surface mount and related assembly technologies*

IEC 61191-2:1998, *Printed board assemblies – Part 2: Sectional specification – Requirements for surface mount soldered assemblies*

IEC 61191-3, *Printed board assemblies – Part 3: Sectional specification – Requirements for through-hole mount soldered assemblies*

IEC 61191-4, *Printed board assemblies – Part 4: Sectional specification – Requirements for terminal soldered assemblies*

IEC 61192-1, *Workmanship requirements for soldered electronic assemblies – Part 1: General*

IEC 61192-2, *Workmanship requirements for soldered electronic assemblies – Part 2: Surface-mount assemblies*

IEC 61192-3, *Workmanship requirements for soldered electronic assemblies – Part 3: Through-hole mount assemblies*

IEC 61192-4, *Workmanship requirements for soldered electronic assemblies – Part 4: Terminal assemblies*

IEC 61193-1, *Quality assessment systems – Part 1: Registration and analysis of defects on printed board assemblies*

IEC 61249 (all parts), *Materials for printed boards and other interconnecting structures*