

AS 3508.4—1992

Australian Standard[®]

Printed board assemblies

**Part 4: Acceptability of printed
boards and soldered joints—
Pictorial representation**

This Australian Standard was prepared by Committee TE/6, Printed Circuits. It was approved on behalf of the Council of Standards Australia on 15 February 1992 and published on 16 April 1992.

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Australian Electronics Industry Association
Australian Tin Information Centre
Civil Aviation Authority
Confederation of Australian Industry
Department of Defence
Department of Industry, Technology and Commerce
Institution of Radio and Electronics Engineers, Australia
Printed Circuit Board Manufacturers Association
Telecom Australia

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PREFACE

This Standard was prepared by the Standards Australia Committee on Printed Circuits to supersede AS 3508.4—1990, *Printed board assemblies, Part 4: Acceptability of printed boards and soldered joints—Pictorial representation*.

The Standard was prepared to provide in pictorial form examples of minimum acceptability standards of quality for soldered joints used in printed board assemblies (PBAs).

Most of the pictures included in this Standard are reproduced from the *Photographic guide to soldering quality* with the kind permission of the International Tin Research Institute.

This Standard has been adapted for general acceptance throughout the telecommunications and electronics industries as one part of a series of Standards on PBAs for general use in the manufacture, installation, modification or repair of electronic equipment. Some recommendations have been amended in the light of experience with the previous editions.

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FOREWORD

The extent to which use of printed board assemblies (PBAs) is made in modern equipment is ever increasing; their quality is therefore a prime factor in ensuring equipment reliability and performance. This Standard provides criteria for determining PBA acceptability by the manufacturer, purchaser or user by inspection techniques, using graphical representation or photographs as examples for guidance.

It is recommended that this Standard be used for comparison whenever a joint is questioned as it is considered to be superior to the transparencies which are commonly used in the training of inspectors.

This Standard should be used together with a defect classification list (DCL) appropriate to the component or part, and an acceptable quality level (AQL), where these are known, to determine the seriousness of the defect and the number of defects which are acceptable. These two subjects are discussed further in Appendix B and should be considered an integral part of any detailed specification prepared on acceptability. As an example, pin holes may not be cause for rejection unless present in numbers sufficient to reduce the cross-section of a conductor significantly. Similarly, solder spatters may constitute only a minor defect, unless they are considered capable of causing short-circuits or reducing the design clearance between conductors, in which case the defect must be considered a major defect and the assembly classified as unacceptable.

Purchasing guidelines relevant to visual inspection of printed board assemblies and subject to agreement between the purchaser and supplier are listed in Appendix A.

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