

Australian Standard®

**Approval and test specification—
Hand-held portable electric tools**

This Australian Standard was prepared by Committee EL/2. It was approved on behalf of the Council of Standards Australia on 19 September 1989 and published on 11 December 1989.

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Australian Consumers Association
Australian Electrical and Electronic Manufacturers Association
Confederation of Australian Industry
Consumer Electronics Suppliers Association
Electrical Apparatus Approvals Authorities
Electrical Testing Laboratories
Electricity Supply Association of Australia
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This Standard was issued in draft form for comment as DR 88025.

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First published as AS C160—1959.
Revised and redesignated AS 3160—1974.
Second edition 1981.
Third edition 1987.
Fourth edition 1989.

PREFACE

This Standard was prepared by the Standards Australia Committee on Electrical Approvals Standards to supersede AS 3160—1987.

It is one of a series of Approval and Test Specifications issued by Standards Australia. These Specifications are accompanied by a general Specification AS 3100, containing definitions and general requirements for electrical materials and equipment. The purpose of these Specifications is to outline conditions which must be met to secure approval for the sale and use of electrical equipment in Australia. Only safety matters and related conditions are covered.

This edition was published to incorporate amendments No 1 and 2 to AS 3160—1987 and to effect changes to Clause 10A and to include in Appendix A additional load test requirements and additional marking requirements for individual tools based on the requirements of IEC 745 series of publications.

This specification supersedes AS 3160—1987 from date of publication with the exception of Clause 18.2 which comes into effect 12 months from the date of publication.

Standards Australia desires to call attention to the fact that this specification does not purport to include all the necessary provisions of a contract.

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STANDARDS AUSTRALIA

Australian Standard

Approval and test specification—Hand-held portable electric tools

This Specification shall be read in conjunction with AS 3100. (See Clause 3, below.)

1 SCOPE AND REFERENCED DOCUMENTS.

1.1 Scope. This specification applies to hand-held portable electric tools as defined in Clause 2.1, which are intended for electrical operation at low or medium voltage operating at not more than 60 Hz.

This specification does not deal with separate motors with or without capacitors, or with motor-operated tools covered by separate specifications, or with equipment intended for the control of electric motors other than equipment which is built into the tool.

NOTE: The following list is typical of hand-held portable electric tools to which the specification applies:

Blowers
Chain and circular saws
Cloth cutters, electric scissors
Drills
Hammers
Hedge clippers
Impact wrenches, nut runners
Mortisers
Polishers, buffers
Reciprocating saws, sabre saws, jig saws
Routers, planers, shapers
Sanding machines, grinders and abrasive cutters
Screwdrivers
Shears and nibblers

1.2 Referenced documents. The following documents are referred to in this Standard:

1.2.1 Standards.

| | |
|------|---|
| AS | |
| 1473 | Code of practice for the guarding and safe use of woodworking machinery |
| 1788 | Abrasive wheels |
| 1895 | Code of practice for guarding and safe use of portable electric tools for domestic use |
| 1939 | Classification of degrees of protection provided by enclosures for electrical equipment |

1.2.2 Approval and test specifications.

| | |
|--------|---|
| AS | |
| 3100 | Definitions and general requirements for electrical materials and equipment |
| 3108 | Isolating transformers and safety isolating transformers |
| 3109 | Appliance couplers for household and similar general purposes |
| 3109.1 | Part 1: General requirements |
| 3112 | Plugs and socket-outlets |
| 3121 | Insulating mouldings |
| 3145 | Radio interference suppression devices |
| 3191 | Electric flexible cords |

2 DEFINITIONS. For the purpose of this specification, the following definitions apply:

2.1 Hand-held portable electric tool—an electric hand tool incorporating an electric motor, vibrator, solenoid or the like, and which is intended to be supported or guided by the operator.

For the purpose of this specification, a hand-held electric tool is called a 'tool' except where such term is associated with an implement required to remove covers, brush caps and the like which guard live parts.

2.2 Portable electric drill—a hand-held portable electric tool which is intended primarily to cause the rotation of a chuck or a similar device capable of accommodating drills.

2.3 Rated input—denotes the input under conditions of normal load and at normal operating temperature assigned to the appliance by the maker.

2.4 Normal load—denotes the load to be applied to a tool so that the stress imposed corresponds to that occurring under normal conditions of use, any marking of short-time or intermittent operation being observed and unless otherwise specified, heating elements if any, being operated as in normal use.

The normal load is based on the rated voltage or on the upper limit of the rated voltage range.

NOTE 5 (1.2.2): The normal load is based on the rated voltage or on the upper limit of the rated voltage range.

3 COMPLIANCE WITH SPECIFICATIONS.

3.1 General requirements of AS 3100. This specification shall be read in conjunction with AS 3100, and the appropriate provisions of that specification shall apply to the construction of the appliance and the insulation and safeguarding of parts which normally carry current.

3.2 Specific requirements of this specification. A hand-held portable electric tool shall be deemed to comply with this specification only if it complies with all the appropriate provisions of this specification and passes the relevant tests specified herein.

3.3 Requirements of other specifications. Equipment and components incorporated in a hand-held portable electric tool, shall comply with the appropriate requirements of any Approval and Test Specification unless such requirements are varied herein.

4 MECHANICAL GUARDING. Moving parts of any tool shall, as far as is compatible with the normal use and working of the appliance, be so arranged or enclosed as to provide adequate protection against personal injury.

Protective enclosures, guards and the like shall have adequate mechanical strength. They shall not be removable without the use of a tool, unless their removal is necessary in normal use.