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Australian Standard 2210-1978

SAFETY FOOTWEAR

[Title allocated by Defence Cataloguing Authority:
BOOTS AND SHOES (Safety footwear fitted with
protective steel toecaps) . . . NSC 8430, 8435]



STANDARDS ASSOCIATION OF AUSTRALIA

Incorporated by Royal Charter

THE FOLLOWING SCIENTIFIC, INDUSTRIAL AND GOVERNMENTAL organizations and departments were officially represented on the committee entrusted with the preparation of this standard:

Association of Employers of Waterside Labour
Bureau of Steel Manufacturers of Australia
Confederation of Australian Industry
Department of Defence
Departments of Labour and Industry
Department of Productivity
Electricity Supply Association of Australia
Footwear Manufacturers Federal Executive Council
Health Commission of N.S.W.
Melbourne and Metropolitan Board of Works
Metal Trades Industry Association of Australia
Metropolitan Water, Sewerage and Drainage Board, Sydney
National Safety Council of Australia
Railways of Australia Committee
Royal Australian Chemical Institute
Sydney Technical College

This standard, prepared by Committee SF/3, Protective Occupational Footwear, was approved on behalf of the Council of the Standards Association of Australia on 31 August 1978 and was published on 1 December 1978.

To keep abreast of progress in industry, Australian standards are regularly reviewed. Suggestions for improvements to published standards, addressed to the head office of the Association, are welcomed.

This standard was issued in draft form for public review as DR 77026 and DR 77027.

AUSTRALIAN STANDARD SPECIFICATION

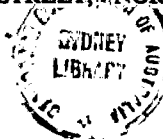
SAFETY FOOTWEAR

AS 2210 — 1978

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P R E F A C E

This standard was prepared by the Association's Committee on Protective Occupational Footwear, under the supervision of the Safety Standards Board. The standard is a revision of AS Z3—1968, Safety Boots and Shoes Fitted with Protective Steel Toe-caps and AS Z2—1968, Protective Steel Toe-caps used in Safety Boots and Shoes, both of which it accordingly supersedes.

Safety footwear as defined in this standard is confined to footwear incorporating a steel toecap.

Among the significant differences between this standard and AS Z3—1968 and AS Z2—1968 are the following:

- (a) Specifications for toecaps have been incorporated in this safety footwear standard.
- (b) The number of types of footwear has been rationalized to four.
- (c) Toecap heights and lengths have been varied to cater for the range of heights and lengths appropriate for the range of sizes of footwear.
- (d) Detailed material and constructional requirements for non-essential or non-safety components have been deleted.
- (e) Dimensions for toecap flanges have been specified.

Matters over which there was considerable committee debate and investigation during the preparation of this standard included—

- (i) provision of a new method of impact testing, and
- (ii) minimum lengths of steel toecaps for women's safety footwear.

In the case of impact testing, the committee examined details of draft test proposals currently being studied overseas e.g. BSI, SATRA, DIN. Changes which would be required by the implementing of these draft proposals would have very significant ramifications for both the type and design of protective toecap used and for the replacement of test apparatus. The committee was well aware of the significant costs/design changes which would be involved and eventually resolved to retain the existing testing techniques, until the overseas draft requirements had been developed further. In this regard, the International Organization for Standardization (ISO) committee has been encouraged to take the initiative in the development of an international standard. These developments will continue to be monitored by the committee, with a view to later amendment of the Australian standard.

The 'graded' system of toecap heights and lengths, especially those for women's safety footwear, is considered likely to facilitate a wider acceptance and usage of safety footwear. In the past, women for

reasons of fashion have rejected traditional safety footwear as cumbersome and ugly. The committee hopes that women's footwear made to this standard will gain wide acceptance. Experience gained from such acceptance will be of great value when the standard is next revised.

Some purchasers may require evidence from manufacturers or suppliers that their product complies with the provisions of this standard. The 'AS' certification trademark of the Association (see Note to marking clause) on safety footwear is an independent assurance of such compliance. Attention is drawn to the fact that the Standards Association intends to extend the 'AS' certification mark scheme to embrace this standard; meanwhile the scheme will continue to apply to products complying with AS Z2 and AS Z3 until 31 August 1979.

This standard may require reference to the following standards:

- | | |
|------------|---|
| AS 1239 | Schedule of Tool Steel Compositions |
| AS 1683.11 | Methods of Test for Rubber—Tension Testing of Vulcanized Rubber |
| AS 1817 | Method for Vickers Hardness Test
Part 1—Testing of Metals |
| AS 2193 | Methods for Calibration and Grading of Force-measuring Systems of Testing Machines |
| BS 903 | Methods of Testing Vulcanized Rubber
Part A19—Heat Resistance and Accelerated Air Ageing Tests. |
| BS 3424 | Methods of Test for Coated Fabrics |
| BS 1407 | High Carbon Bright Steel (Silver Steel) |
| BS 2050 | Electrical Resistance of Conducting and Antistatic Products Made from Flexible Polymeric Material |
| ASTM D3182 | Recommended Practice for Rubber — Materials, Equipment and Procedures for Mixing Standard Compounds and Preparing Standard Vulcanized Sheets. |

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STANDARDS ASSOCIATION OF AUSTRALIA

**Australian Standard Specification
for
SAFETY FOOTWEAR**

SECTION 1. SCOPE AND GENERAL

1.1 SCOPE. This specification applies to safety footwear fitted with protective steel toecaps for the protection of the wearer. It applies to heavy, medium and light duty safety footwear, constructed with uppers and soles of leather or equivalent synthetic material, and to waterproof safety footwear constructed of rubber or other polymeric materials.

This specification does not specify mandatory provisions of middle soles (for resistance to penetration of objects piercing the sole) or conductive soles, or specific levels of resistance to fuel. However, appropriate test methods are included in the appendices wherever such properties are specified by the purchaser and/or advertised by the manufacturer. (See Clauses 1.2 and 2.5.2.)

The specification does not specify requirements for the provision or testing of anti-slip characteristics.

NOTE: Overseas developments and research on anti-slip properties and testing are being continually monitored by the committee and the matter will be reviewed as soon as worthwhile developments are reported.

1.2 APPLICATION. Safety footwear shall comply with the general requirements of Section 2 of this specification and, in addition, with the specific requirements of the following Sections, as appropriate:

Section 3—Additional Requirements for Type 1 (Heavy Duty) Safety Footwear.

Section 4—Additional Requirements for Type 2 (Medium Duty) Safety Footwear.

Section 5—Additional Requirements for Type 3 (Light Duty — Women's) Safety Footwear.

Section 6—Additional Requirements for Type 4 (Waterproof) Safety Footwear.

Additional properties and characteristics of safety footwear specified by the purchaser and/or advertised by the manufacturer shall be assessed against the relevant Section and Appendix to this specification.