

FINAL
(12 July 2000)

JOINT COAL BOARD HEALTH AND SAFETY TRUST
SAFETY/PROTECTIVE FOOTWEAR SPECIFICATION

INTRODUCTION

General

This Document has been prepared by the Joint Coal Board Health and Safety Trust in response to a request by the Joint Coal Board to develop an advisory specification for safety footwear intended for use in underground coal mining operations.

It is intended that this document should be referenced in the purchase or tender documents used for the supply of footwear for use in underground coal mining. It is not intended to be used alone, or to replace or supersede any purchase or tender documents normally used when purchasing footwear.

This Specification should be used in conjunction with the Joint Australian/New Zealand Standards AS/NZS 2210.2: 2000, AS/NZS 2210.3: 2000 and AS/NZS 2210.6: 2000 which are the adopted text versions of the International Standards ISO 8782-1:1998, ISO 8782-2:1998 and ISO 8782-5:1998 and AS/NZS 2210.1: 2000.

Objective

The objective of this document is to assist manufacturers, suppliers, purchasers and Occupational Health and Safety personnel by providing minimum performance requirements and guidance for the selection of footwear suitable for use in the environmental conditions encountered in underground coal mining operations.

NOTE: Although this document is primarily intended for underground coal mining activities it should not be solely limited to this form of mining.

Presentation

This document is presented in two Parts:

Part A – Footwear Specification and

Part B – Guidance on Footwear Selection, care and use.

PART A – FOOTWEAR SPECIFICATION

SECTION 1 SCOPE AND GENERAL

1.1 Scope This Part of the document, specifies the minimum performance requirements for footwear intended for use in underground coal mining operations.

1.2 Application This Part of the document is to be used in conjunction with AS/NZS 2210.2, AS/NZS 2210.3, AS/NZS 22210.6 and AS/NZS 2210.7 to define the minimum performance requirements for footwear used in underground coal mining operations.

1.3 Definitions For the purpose of this specification, the definitions in AS/NZS 2210.1, AS/NZS 2210.2 apply.

1.4 Referenced documents The following are referenced in this document:

AS/NZS 2210.1:2000 Occupational protective footwear
Part 1 Selection care and use.¹

AS/NZS 2210.2:2000 Occupational protective footwear
Part 2 Requirements and test methods

AS/NZS 2210.3:2000 Occupational protective footwear
Part 3 Specification for safety footwear

AS/NZS 2210.6:2000 Occupational protective footwear
Part 6 Additional requirements and test methods¹

AS/NZS 2210.7:2000 Occupational protective footwear
Part 7 Additional specification for safety footwear¹

AS/NZS 4360:1999 Risk management

MDG 1010 Department of Mineral Resources Publication Risk Management Handbook-
Assessment of Mines Equipment and operations

PrEn ISO 13287 Safety, Protective and Occupational Footwear for Professional Use – Test
method and specification for the determination of slip resistance¹

SATRA PMS 144.99 SATRA Footwear and flooring friction test

¹ In the course of development.

SECTION 2 DESIGN REQUIREMENTS

2.1 General

Footwear for underground coal mining shall comply with the appropriate requirements of AS/NZS 2210.3 and AS/NZS 2210.7 for waterproof safety footwear and the additional requirements of Table 2.1 of this document.

Table 2.1 Additional requirements for underground coal mining applications with appropriate symbols for marking

| Requirement | Subclause in AS/NZS 2210.2:2000 | Subclause in AS/NZS 2210.6:2000 | Classification | | Designation |
|---|---------------------------------|---------------------------------|----------------|----|-------------|
| | | | I | II | |
| Whole footwear | | | | | |
| Penetration resistance | 4.3.3 | | + | + | P |
| Electrical resistance: | | | | | |
| Conductive footwear | 4.3.4.1 | | + | + | C |
| Antistatic footwear | 4.3.4.2 | | + | + | A |
| Resistance to harsh environments: | | | | | |
| Heat insulation | 4.3.5.1 | | + | + | HI |
| Cold insulation | 4.3.5.2 | | + | + | CI |
| Cold insulation | 4.3.6 | | + | + | E |
| Energy absorption of seat region | | | | | |
| Upper | | | | | |
| Water penetration and water absorption | 4.4.5 | | + | | WRU |
| Outsole | | | | | |
| Cleated outsoles: | | | | | |
| Design | | 4.4.4.1 and 4.4.4.3 | + | + | |
| Cleated area | 4.8.1.1 | | + | + | |
| Thickness | 4.8.1.2 | | + | + | |
| Height | 4.8.1.3 | 4.4.4.2 | + | + | |
| Resistance to hot contact | 4.8.8 | | + | + | HRO |
| Resistance to water | | 4.2 | + | | WR |
| <p>Note The applicability of a requirement is indicated in this table as follows: + means the footwear shall comply with the requirement in the quoted subclause of AS/NZS 2210.2 and AS/NZS 2210.6.</p> | | | | | |

2.2 Slip resistance When tested in accordance with SATRA PMS 144 or Pr En ISO 13287 the footwear shall have a minimum coefficient of friction of 0.4.

2.3 Counters Footwear intended for underground coal mining shall be manufactured with counters that meet the requirements set out in Clauses 2.3.1, 2.3.2 and 2.3.3.

2.3.1 Length The length of the counter measured along the featherline shall be not less than 0.2 times and not more than 0.25 times length of the outsole (dimension "X-Y") as determined in Clause 5.3.2.1 of AS/NZS 2210.2

2.3.2 Height The height of the counter measured at the featherline shall be not less than 0.15 times the length of the outsole (dimension "X-Y") as determined in Clause 5.3.2.1 of AS/NZS 2210.2.

2.3.3 Thickness Where the footwear is of fully moulded construction the minimum thickness of the counter shall be 3.00 mm.

PART B – FOOTWEAR SELECTION

SECTION 1 SCOPE AND GENERAL

1.1 Scope This Part of the document provides guidance on the recommended practices for the selection of occupational protective footwear intended for use in underground coal mining activities.

1.2 Application This document is to be used in conjunction with AS/NZS 2210.1 to determine the appropriate level of foot protection for underground coal mining activities.

1.3 Risk assessment A risk assessment and task analysis should be conducted to determine the most appropriate style or styles of footwear for the intended application. AS/NZS 4360 and MDG 1010 provide guidance in these matters.

1.4 Special features Any special features identified by the risk assessment which are not covered AS/NZS 2210.1 should be assessed in accordance with an appropriate Standard to determine the suitability of the footwear. If doubt exists concerning the suitability of individual footwear, additional advice should be sought from the footwear manufacturer, supplier or an Occupational Hygienist.

SECTION 2 FOOT PROTECTION PROGRAM

2.1 General A suitable program covering the selection, care and use of footwear should be implemented at the workplace. AS/NZS 2210.1 provides guidance in this matter. Overall responsibility for the implementation and continuing operation of the program rests with management.

2.2 Educational material The footwear program should be supported with appropriate educational material. As a minimum this material should cover the following:

- ❖ Guidance to assist with selection of footwear most appropriate for the intended application.
- ❖ Guidance for the selecting the correct size and fit.
- ❖ Information dealing with the prevention and care of foot and skin disorders
- ❖ Guidance for the care and maintenance of the footwear
- ❖ An understanding of the limitations of the footwear provided.

SECTION 3 SELECTION OF FOOTWEAR

3.1 General The selection of appropriate footwear style or styles should be determined by a risk assessment and task analysis of the workplace. AS/NZS 4360 and MPG 1010 provide guidance on risk management. AS/NZS 2210.1 provides guidance for the selection of appropriate footwear.

3.2 Size Footwear should where practical be available in a full range of sizes and widths to cater for all types of feet.

NOTE: This may require the supply of footwear from more than one manufacturer.

3.3 Fitting Individual footwear should be selected in accordance with the guidance provided by a suitably trained person (shoe fitter) or in the absence of such a person, the educational material on footwear selection as provided as a part of the footwear program. Care should also be taken to ensure the footwear selected is close fitting around the ankle region to minimize instability and the risk of ankle sprains and strains.

3.4 Consultation When the problems of continuing foot injuries or health issues are identified, an Occupational Hygienist or other suitably qualified persons should be consulted to provide specific guidance on remedial measures to either eliminate or minimize the cause or causes of the identified problems.

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