

STANDARDS ASSOCIATION OF AUSTRALIA

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AUSTRALIAN STANDARD SPECIFICATION
for
PROTECTIVE FILTERS AGAINST HARMFUL RADIATIONS
IN WELDING AND ALLIED OPERATIONS
A.S. No. B. 91—1951

AUSTRALIAN STANDARD SPECIFICATION
for
HELMETS, HANDSHIELDS, FACE MASKS AND GOGGLES
FOR PROTECTION AGAINST HARMFUL RADIATIONS IN
WELDING AND ALLIED OPERATIONS
A.S. No. B. 99—1951

AUSTRALIAN STANDARD CODE OF RECOMMENDED PRACTICE
for
THE PROTECTION OF EYES AGAINST HARMFUL
RADIATIONS IN WELDING AND ALLIED OPERATIONS
A.S. No. CZ. 2—1951

Price 5/-, post free

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PREFACE

This publication contains three closely associated standards, as follows:

A.S. No. B.91, Protective Filters against Harmful Radiation in Welding and Allied Operations (page 5).

A.S. No. B.99, Helmets, Handshields, Facemasks and Goggles for Protection against Harmful Radiations in Welding and Allied Operations (page 15).

A.S. No. CZ.2, Code of Recommended Practice for the Protection of Eyes against Harmful Radiations in Welding and Allied Operations (page 33).

The specification A.S. No. B.91 deals with the manufacture and testing of welding filters and cover glasses. It classifies filters in terms of shade numbers, giving the visible transmission, ultra-violet transmission and infra-red transmission for each shade number. The specification A.S. No. B.99 is intended to ensure satisfactory design and construction of goggles and other devices used to protect the eyes and person against radiation. The function of the code A.S. No. CZ.2 is to secure effective application of the devices covered in A.S. Nos. B.91 and B.99. The code is divided into two sections, the first dealing with the correct use of devices and the second with organisation of the eye-protection service.

These three standards have been developed essentially for the protection of persons engaged in welding and similar work. Furnacemen's goggles were also considered, but it proved impracticable to deal with them in this group and they are to receive separate treatment. The Association now has in hand a programme of work embracing the whole field of eye protection in industry, and at some future stage it may become desirable to embody these three standards in a wider code.

In the preparation of these standards close touch has been maintained with interested manufacturers and industrial associations, who have been given an opportunity of reviewing the various drafts and of putting their views before the Committee.

Careful consideration has been given to similar overseas specifications, particularly to British Standard 679, Protective Filters for Welding and other Industrial Purposes, to the American Standard Z2, Safety Code for the Protection of Heads, Eyes, and Respiratory Organs, and to the U.S. Federal Specifications GGG-G-511a, Welders' Eyecup Protective Goggles, and GGG-H-211, Helmets and Shields (Handshields), Welders. Grateful acknowledgment is made of the assistance received from these publications.

AUSTRALIAN STANDARD SPECIFICATION

FOR

PROTECTIVE FILTERS AGAINST HARMFUL RADIATIONS

IN WELDING AND ALLIED OPERATIONS

INTRODUCTION

Industrial operations such as welding require a filter with special properties to protect the eyes of the operator from the injurious effects of high-intensity radiation and at the same time to allow sufficient visibility for him to carry on his work.

The colour of the filter is of secondary importance but, apart from the filter having the highest transmission to visible light (Shade No. 1·3), the requirements of this specification are usually met only by a filter of somewhat greenish colour, although certain bluish filters can also be satisfactory. Filters which have the same properties as regards visible light, and therefore appear to be of the same colour and density to the eye, may have different properties as regards infra-red and ultra-violet radiation.

As colour is not a factor by which the protective value of a filter can be judged, it has been considered undesirable to standardise it. Therefore, in this specification, filters are divided into shade-numbers irrespective of colour, according to their power to absorb radiation. The radiations concerned fall into three classes according to their wavelength, viz.:

- Visible radiation,
- Ultra-violet radiation,
- Infra-red radiation.

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