

Brief history of Prescription Eye Protectors Standards development in Australia.

The first Australian 'Prescription Eye Protectors Standard' was written in 1995 and published in February 1997 as Section 7 of AS/NZs1336. This Standard referred expressly to the manufacture of 'low impact' appliances, due largely to the limited availability of lens materials at the time of writing the original draft. Despite its publication and the wide knowledge of its existence, many Optometrists and Dispensers decided to disregard this Standard. The recommendations regarding lens thickness and the required application of frame and lens markings were also almost totally ignored. It appeared that very few were concerned about verifying the performance of the products they supplied by impact testing complete appliances. During this period the OH&S consumer could have little confidence in the quality or performance capability of the items they purchased, a new more specific Standard needed to be developed.

In late 2003 a meeting of the SF6 Standards committee was held in Melbourne, the author attended as an invited 'Industry Specialist' guest. During this meeting a basic outline for the development of the new AS/NZs1337.6 Standard was formulated. A three man sub committee, including the author, was tasked with developing a workable draft for the new Standard. The first draft was delivered to Standards Australia to be massaged into a 'Standards acceptable' format in late November 2003. The modified draft was first released for public comment on 3rd June 2004. The public comments received showed numerous self interest submissions, many involving the use of the generic term Polycarbonate to describe the industry norm, medium impact material. The majority of other submissions were of a pecuniary basis, disputing the costs and complexity involved in producing a compliant product. Others disputed the need to submit frame and lens combinations to pre production and ongoing testing of the manufactured appliance. Following these submissions and an evaluation process, the draft was adjusted to reflect the concerns received. Additionally the lens thickness specification from the public comment draft was replaced with a section which requires the manufacturer to individually test the completed item to determine the acceptable minimum thickness for the lens materials they use.

The AS/NZs1337.6 Standard was published on the 17th of April 2007. This new Standard specifies the testing procedures, required documentation, minimum frame dimensions, impact requirements and frame and lens markings of the completed appliance. It also requires the manufacturer of the appliance to be able to 'verify' the compliance of the completed item. Below is a reproduction of the section of the Standard dealing with Frame and Lens markings as well as the notes on verification (**note 2**).

AS/NZs1337.6 Section 5 Marking

5.1 LENS MARKING

Prescription eye protective lenses produced in accordance with the requirements of this Standard shall be legibly and indelibly marked, preferably close to the edge of the lens, in the upper temporal portion, with the following information:

- (a) Manufacturers identifier = name, trade name or mark.
- (b) 'R' to identify the lenses as prescription eye protectors.
- (c) 'I' for MEDIUM IMPACT, as applicable.
- (d) Other markings required by AS/NZs1337, as applicable.



Markings as used by PSG

5.2 FRAME MARKING

Eye protective frames produced in accordance with the requirements of this Standard shall be legibly and indelibly marked with the following information:

- (a) Manufacturer or supplier identifier = name, trade name or mark.
- (b) The number of this Standard i.e. AS/NZs 1337.6

NOTES:

- 1 **Methods for marking lenses and frames include, but are not limited to etching, screen printing, scribing and use of permanent (tamper proof) adhesive labels.**
- 2 **Manufacturers making a statement of compliance with this Australian/New Zealand Standard on a product, packaging, or promotional material related to that product are advised to ensure that such compliance is capable of being verified.**
- 3 **The manufacturer, referred to is Clauses 5.1(a) and 5.2(a) is the assembler of the final product.**

The major certifying body in Australia (SAI Global) have stated that to satisfy this 'verification' requirement, as referred to in note 2, pre production testing of the frame and lens combinations and ongoing testing on a regular and random basis of run of lab production is required.

In section 6, the Standard specifies that the following lens information is to be included in the documentation which accompanies the appliance when given to the patient. An example of the documentation currently in use by the writer for appliances fitted with Polycarbonate lenses is shown below:

PRESCRIPTION EYE PROTECTORS AGAINST LOW AND MEDIUM IMPACT LENS DATA SHEET		
Proprietary Name: Polycarbonate	Generic Name: Polycarbonate	
Coating Designation: Double sided DIP Hard coat	Refractive Index: 1.59	
ABBE Number: 31	Specific Gravity: 1.2	
Low & Medium Impact Applications	Low	Medium
Minimum Thickness, Centre, mm	2.0	2.0
Minimum Thickness, Edge, mm	2.0	2.0
Lens Markings	EPR	EPRI
Max Eye Size, mm: 60.0	Applicable Prescription Range: +6 -6 /2 cyl	
Solvents or Chemicals that Adversely Affect the Lens Material Acetone, Benzene, Chloroform, Dimethylformamide, Dioxane, Ethylene chloride, Ethyl acetate, Glycerin, Methanol, Methylamine, Methylene chloride, Methyl ethyl ketone, Perchloroethylene, Styrene, Xylene, Tetrachloroethane, Trichloroethylene, Tricresyl phosphate, Carbon tetrachloride		
Other Factors Affecting Impact Resistance		
Restrictions on Use of Lens Material Not for use in areas where high levels of airborne solvents are encountered.		

If you as a practitioner manufacture Prescription Safety Glasses (PSGs) in house, and do not have in place an impact testing program, then it is unlikely that the product you produce can be verified as complying with AS/NZs1337.6. This product is therefore not a Prescription Safety Spectacle according to the Standard and should not be sold as Prescription Safety Glasses.

To ensure that the product you provide your patient is compliant, insist on the documentation and markings as required by the Standard are provided by the manufacturer. It is also good practice to use a manufacturer who has Product Liability Insurance to indemnify you and your practice in the unlikely case of product failure.

To my knowledge there are currently 3 manufacturers of compliant PSGs in Australia and New Zealand. These manufacturers are:

HOYA: Using frames by Cummings Optical fitted with HOYA Phoenix lenses. The lens range is very limited as is the frame range.

Rx Safety: Using frames by Cummings Optical and lenses by Carl Zeiss. Again very limited frame range, lens range is reasonable.

Prescription Safety Glasses Pty Ltd: Using frames by TITMUS, EYRES, UVEX, and PSG own range, lenses are by ESSILOR and include some Carl Zeiss and Younger products.

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