

PERSONAL PROTECTIVE EQUIPMENT

protective devices must be considered as optical instruments, and they should be carefully selected, fitted, and used

Contact lenses should never be considered as being a replacement for safe protective equipment for the eye. Workers have had their eyesight permanently impaired and have even been blinded by corrosive chemicals or small particles getting between their contact lenses and their eyes

The amount of money spent to acquire and fit eye protective devices is small when measured against the savings afforded by the protection given. For example, the purchase and fitting of a pair of impact-resistant spectacles may cost from 5 to 15 dollars, compensation costs for a lost eye may range from 1,600 to 10,000 dollars

If the eye protection program is supervised, directly or indirectly, by an industrial ophthalmologist, on either a full-time or consultation basis, there will be an additional return from proper utilization of the visual abilities of the work force

Unfortunately, there is no impartial testing laboratory set up to approve eye protec-

tive devices according to generally known and accepted minimum performance specifications. The American Standard Z21-1959 *Safety Code for the Protection of Heads, Eyes, and Respiratory Organs*, NBS Handbook H24, details such specifications

The Code classifies occupational eye hazards into eight categories (A through H) and establishes minimum performance standards for the devices needed to protect against the hazards in each category. Table 36-A summarizes these standards

Impact goggles

Two general types of goggles are commonly used to protect eyes against flying objects: spectacle goggles and cup goggles. Spectacle goggles, with or without side shields, are supported by a rigid nose bridge and temple bows, and protect mainly against objects flying toward the front (code styles 1 and 2). Cup goggles are supported by a headband and the cups which rest on the face bones surrounding the eye sockets. These goggles protect against objects flying toward the front and sides (code style 3). Some spectacle and cup goggles are shown in Fig 36-8

Factors which should be considered in the selection of impact goggles include the protective properties of the goggles, the comfort with which they can be worn, and the ease with which they can be maintained in good repair

For general protection and ease of maintenance, metal frame goggles with side shields and impact-resistant glass lenses are best. However, there may be considerable worker resistance to wearing this type of goggle. Newer styles with tinted plastic frames and shapes similar to regular eyewear are cosmetically more pleasing and are usually worn with less resistance. Plastic coverall types are preferred by many, because of their light weight and convenience. These coverall types generally have a shorter useful life than the sturdier frame and glass lens types (Fig 36-8e and -8f).

It is much better to settle for 90 per cent protection all the time rather than 100 per cent protection 60 per cent of the time

Plastic and glass Increasing use of plastic as eye protectors resulted in research to determine their characteristics in compar-

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Fig 36-7 Earmuffs being worn in conjunction with a respirator and tinted safety glasses.

