

High-visibility safety apparel



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Preface

This is the third edition of CSA Z96, *High-visibility safety apparel*. It supersedes the previous editions published in 2009 and 2002. This edition incorporates advice on selection, use, and care of high-visibility safety material taken from the CSA Z96.1 Guideline (see Annex [A](#)). It is designed to be in technical harmony with ANSI/ISEA 107 and ISO 20471.

The focus of this Standard is on the performance of retroreflective and background materials incorporated into garments intended to provide the wearer with increased conspicuity under both well-illuminated and low-light or dark work environmental conditions. It sets out levels of retroreflective performance (i.e., light reflected from vehicle headlights as viewed by the vehicle operator), the colours and luminosity of background materials, and the human body coverage of the high-visibility components. Three classes of garments have been defined based on body coverage of bright or fluorescent-coloured materials, and two levels of performance have been specified for retroreflective materials. In addition, special allowances have been made for garments that are primarily intended to provide flame protection.

Note: *The criteria on special allowances for flame-protective apparel have been moved from Clause [Z](#) in the previous edition to Clause [4.4](#) in this edition.*

This Standard recommends that a hazard assessment be carried out on each job to determine the risk to workers of being struck by moving vehicles and the environmental conditions under which work is performed. For this purpose, Annex [A](#) provides advice for the application of high-visibility safety apparel (HVSA) to specific risk categories and job types. This guidance material recognizes that the first line of defence against personal injury accidents is to control the design of the workplace and the exposure of workers to moving vehicles (e.g., through the use of physical barriers). Improved conspicuity of workers through the use of HVSA is a second line of defence, providing a greater cushion of warning to vehicle operators so that they might avoid endangering workers on foot.

As an aid to users of this Standard, examples of compliant apparel designs are shown in Annex [B](#). Purchasers of HVSA should seek proof that the materials used and the design of the garment meet the requirements of this Standard. As an aid to this process, examples of manufacturers' compliance self-declaration forms have been added in Annex [C](#).

This Standard was prepared by the Technical Committee on High Visibility Apparel, under the jurisdiction of the Strategic Steering Committee on Occupational Health and Safety, and has been formally approved by the Technical Committee.

Notes:

- 1) *Use of the singular does not exclude the plural (and vice versa) when the sense allows.*
- 2) *Although the intended primary application of this Standard is stated in its Scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.*
- 3) *This Standard was developed by consensus, which is defined by CSA Policy governing standardization — Code of good practice for standardization as “substantial agreement. Consensus implies much more than a simple majority, but not necessarily unanimity”. It is consistent with this definition that a member may be included in the Technical Committee list and yet not be in full agreement with all clauses of this Standard.*
- 4) *To submit a request for interpretation of this Standard, please send the following information to inquiries@csagroup.org and include “Request for interpretation” in the subject line:*
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 - b) *provide an explanation of circumstances surrounding the actual field condition; and*
 - c) *where possible, phrase the request in such a way that a specific “yes” or “no” answer will address the issue.*

Committee interpretations are processed in accordance with the CSA Directives and guidelines governing standardization and are available on the Current Standards Activities page at standardsactivities.csa.ca.

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- a) *Standard designation (number);*
 - b) *relevant clause, table, and/or figure number;*
 - c) *wording of the proposed change; and*
 - d) *rationale for the change.*

Z96-15

High-visibility safety apparel

1 Scope

1.1

This Standard specifies requirements for occupational apparel that is

- a) capable of signalling the user's presence visually; and
- b) intended to provide the user with conspicuity in hazardous situations under any light conditions and under illumination by vehicle headlights.

1.2

Performance requirements are included for colour, retroreflection, and minimum areas, as well as for the configuration of the materials. Performance requirements are also provided for the physical properties of background materials used in the construction of high-visibility safety apparel (referred to as "HVSA" in this Standard). Test methods are provided in the Standard to ensure that a minimum level of visibility is maintained when garments are subjected to ongoing care procedures.

1.3

This Standard provides performance requirements for conspicuous materials to be used in HVSA and specifies classes of garments, minimum areas, and placement of these materials.

Note: *Conspicuity is enhanced by high contrast between clothing and the work environment against which it is seen.*

1.4

This Standard specifies minimum amounts of retroreflective materials, together with colour and requirements for placement of materials, for apparel used to enhance the visibility and safety of workers.

Categories of high-visibility garments are identified and appropriate markings for apparel are recommended.

1.5

The values given in SI units are the units of record for the purposes of this Standard. Where values are given in parentheses, they are for information and comparison only.

1.6

In this Standard, "shall" is used to express a requirement, i.e., a provision that the user is obliged to satisfy in order to comply with the standard; "should" is used to express a recommendation or that which is advised but not required; and "may" is used to express an option or that which is permissible within the limits of the Standard.

Notes accompanying clauses do not include requirements or alternative requirements; the purpose of a note accompanying a clause is to separate from the text explanatory or informative material.