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Z259.11-17

Personal energy absorbers and lanyards

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Preface

This is the third edition of CSA Z259.11, *Personal energy absorbers and lanyards*. It supersedes the previous editions, published in 2005 under the title, *Energy absorbers and lanyards*, and in 1992 under the title, *Shock Absorbers for Personal Fall Arrest Systems*.

The purpose of this Standard is to specify requirements for the performance, design, testing, labeling, and marking of personal energy absorbers and lanyards. The major differences from the previous edition include

- a) updating of the reference publications;
- b) updating of the definitions;
- c) addition of Class Y lanyard;
- d) removal of the energy absorber classifications of E4 and E6;
- e) the addition of the concepts of a minimum performance factor, a maximum force of deceleration, and an average deceleration factor for energy absorbers;
- f) revisions to dynamic drop tests;
- g) change in the test mass for the energy absorber and lanyard drop test;
- h) addition of a static resistance test for the Class Y lanyard; and
- i) addition of new labelling requirements.

CSA Group gratefully acknowledges the financial and in-kind support from the Canadian government departments responsible for occupational health and safety for the development of this edition.

This Standard was prepared by the Subcommittee on Energy Absorbers and Lanyards under the Technical Committee on Fall Protection, 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.*
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 - a) *Standard designation (number);*
 - b) *relevant clause, table, and/or figure number;*
 - c) *wording of the proposed change;*
 - d) *rationale for the change.*

Z259.11-17

Personal energy absorbers and lanyards

1 Scope

1.1 General

This Standard specifies requirements for the performance, design, testing, marking, and instructions of personal energy absorbers and lanyards, including lineman's pole straps and integrally connected lanyards and energy absorbers.

1.2 Applications

Energy absorbers and lanyards are used as parts of complete fall arrest, travel restraint, fall restrict, or work positioning systems, as applicable. The scope of this Standard does not include information regarding the proper selection of components in order to assure the intended performance of these systems.

The dynamic drop tests described in this Standard are intended to demonstrate that products covered by this Standard have the necessary strength and durability to provide an acceptable level of service. These tests do not imply that all products covered by this Standard can be used for fall arrest.

The distinction between fall arrest, travel restraint, and work positioning applications should be made by the worker and the appropriate equipment should be selected.

1.3 Exclusions

This Standard is not intended for lanyards that are used exclusively as anchorage connectors or used for recreational activities such as climbing or mountaineering.

1.4 Tolerances

Unless otherwise stated within this Standard, all units have an acceptable tolerance range of $\pm 2\%$.

1.5 Units of measure

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

1.6 Terminology

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.

Notes to tables and figures are considered part of the table or figure and may be written as requirements.

Annexes are designated normative (mandatory) or informative (non-mandatory) to define their application.

2 Reference publications

This Standard refers to the following publications, and where such reference is made, it shall be to the edition listed below, including all amendments published thereto:

CSA Group

Z259 series of Standards

Z259.2.2-14

Self-retracting devices

CAN/CSA-Z259.2.3-16

Descent devices

Z259.2.4-15

Fall arresters and vertical rigid rails

Z259.2.5-17

Fall arresters and vertical lifelines

CAN/CSA-Z259.10-12

Full body harnesses

Z259.12-16

Connecting components for personal fall arrest systems (PFAS)

Z259.13-16

Manufactured horizontal lifeline systems

Z259.14-12

Fall restrict equipment for wood pole climbing

Z259.15-12

Anchorage connectors

Z259.16-15

Design of active fall-protection systems

Z259.17-16

Selection and use of active fall-protection equipment and systems

ASTM International

ASTM A413/A413M-07 (2012)

Standard Specification for Carbon Steel Chain

ASTM A492-95 (2013)

Standard Specification for Stainless Steel Rope Wire