

Diesel-powered machines for use in non-gassy underground mines



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CSA M424.2:22
March 2022

Title: *Diesel-powered machines for use in non-gassy underground mines*

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CSA M424.2:22

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Published in March 2022 by CSA Group
A not-for-profit private sector organization
178 Rexdale Boulevard, Toronto, Ontario, Canada M9W 1R3

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ICS 73.100.01
ISBN 978-1-4883-4124-3

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Preface

This is the third edition of CSA M424.2, *Diesel-powered machines for use in non-gassy underground mines*. It supersedes the previous editions published in 1990 and 2016.

Changes to this edition include:

- a) the Scope has been expanded to include larger and more varied types of diesel-powered machines;
- b) non-engine related general machine safety requirements have been transferred to CSA M424.0;
- c) engine emissions testing pass/fail criteria have been lowered to reflect modern technologies;
- d) EQI concept for ventilation rate determination has been removed;
- e) ventilation rate determination for retrofit emission control devices has been enabled; and
- f) various Clauses throughout the Standard have either been updated or renumbered to comply with current administrative requirements.

CSA group acknowledges that the development of this Standard was made possible, in part, by the financial support of CanmetMINING, Lands and Minerals Sector, Department of Natural Resources Canada.

This Standard was developed by CSA Group with funding support provided by the Canadian Association of Administrators of Labour Law — Occupational Safety and Health (CAALL-OSH), including provincial and territorial governments, as well as the Government of Canada. CSA Group is solely responsible for the content of this Standard, and CSA Group and the funding bodies disclaim any liability in connection with the use of the information contained herein.

This Standard was prepared by the Subcommittee on Diesel-Powered Machines for Use in Underground Mines, under the jurisdiction of the Technical Committee on Underground Mining Mobile Equipment and the Strategic Steering Committee on Occupational Health and Safety, and has been formally approved by the Technical Committee.

This Standard has been developed in compliance with Standards Council of Canada requirements for National Standards of Canada. It has been published as a National Standard of Canada by CSA Group.

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:*
 - a) *define the problem, making reference to the specific clause, and, where appropriate, include an illustrative sketch;*
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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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 - c) *wording of the proposed change; and*
 - d) *rationale for the change.*

CSA M424.2:22

Diesel-powered machines for use in non-gassy underground mines

1 Scope

1.1 Inclusions

This Standard describes the technical requirements and procedures necessary for the design, performance, and testing of new or unused diesel engines for use in non-gassy underground mines.

Note: See CSA M424.1 for additional explosion-proof construction and performance requirements for diesel-powered machines for use in gassy underground coal mines.

1.2 Exclusions

Machine design and performance requirements are not included in the Scope of this Standard.

Braking system performance requirements and proof tests are not included in the Scope of this Standard.

Notes:

- 1) See CSA M424.0 and CSA M424.4 for general underground mining vehicle performance requirements.
- 2) See CSA M424.3 for brake construction, stopping performance, and test requirements.

1.3 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 (nonmandatory) 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

C22.1:21

Canadian electrical code, Part I (25th edition), Safety Standard for Electrical Installations