



OCTOBER 6, 2020

CSA Group standards update M424 mobile equipment

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CSA Group

- Established in 1919
- Independent organization
- Leader in standards development, product testing and certification, consumer product testing
- 54 Areas of technology
- 3,000 Standards and codes
- Over 10,000 Expert committee
- Accredited by SCC in Canada and ANSI in USA
- Research

Enhance the lives of Canadians through the advancement of standards in the public and private sector



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Standards Development

Standards Development Process

- Set of steps and stages to support the development of a quality standard.
- Consensus principle.

Committee participation

- Volunteer members.
- Relevant stakeholder groups will be represented in the matrix.
- Committee size determined so all necessary interests are represented in a balanced fashion, yet effective functioning is possible.
- Supporting three key functions - Oversight/ Strategic leadership from sector stakeholders/Technical content development

Balanced Matrix

- Total membership maintained in terms of relevant stakeholder interest categories, not affiliations.
- Each category has a minimum and maximum number of voting members.
- Ensures all points of view are represented, and that the proportion is maintained.



Worker and Public Safety Program

Areas of Focus in OHS

- OHS Management System Standards
- Occupational Diving Standards
- OHS Nanotechnology
- Machinery and Equipment Safety
 - Forestry
 - Agriculture
 - Mining
 - Robotics
 - Workplace Electrical Safety
- Personal Protective Equipment Standards
- Elevation Hazards
- Worker Wellness

Areas of Focus in Public Safety

- Z1600 Emergency and Continuity Management Program
- Z830 Model Code for the Protection of Personal Information
- OHS Standards for Public Safety Personnel
- Transportation Safety
- Transportation of Dangerous Goods



Examples of Published WPS Research...



Research Report

Preventing Violence and Harassment in Canadian Workplaces



Research Report

In-Use Emissions Verification Testing for Diesel Engines in Underground Mining Operations



Research Report

Workplace Fatigue – Current Landscape and Future Considerations



Research Report

Remotely Piloted Aircraft Systems (RPAS) – Identifying Gaps for National Operator Standards in Canada



Research Report

A Canadian Roadmap for an Aging Society



Research Report

Study of Common Types of Mechanisms for Portable Ladder Incidents



Research Report

Workplace Policies on Substance Use: Implications for Canada



Other

Maximizing the Gains from Sharing: Best Practice Guide for Policy Makers and Other Stakeholders



CSA M424 Underground Mining Equipment Series of standards

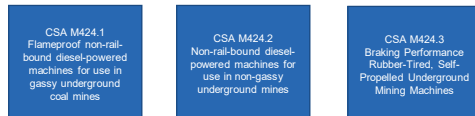
CSA OHS Mining Portfolio of Standards

- **CSA-M424.1-16** *Flameproof non-rail-bound diesel-powered machines for use in gassy underground coal mines*
- **CSA-M424.2-16** *Non-rail-bound diesel-powered machines for use in non-gassy underground mines*
- **M424.3-M90 (R2016)** *Braking performance rubber tired, self propelled underground mining machines*
- **M3450-03 (R2012)** *Earth-moving machinery - Braking systems of rubber-tyred machines - Systems and performance requirements and test procedures*
- **M421-16** *Use of electricity in mines*
- **M422-14 (R2019)** *Fire-performance and antistatic requirements for conveyor belting*
- **M423-M87 (R2016)** *Fire-resistant hydraulic fluids*
- **M427-M91 (R2016)** *Fire-performance and antistatic requirements for ventilation materials*
- **M430-90 (R2016)** *Roof and rock bolts, and accessories*
- **G4-15 (R2020)** *Steel wire rope for general purpose and for mine hoisting and mine haulage*



CSA M424 Underground Mining Equipment Series of standards

CURRENT STATE

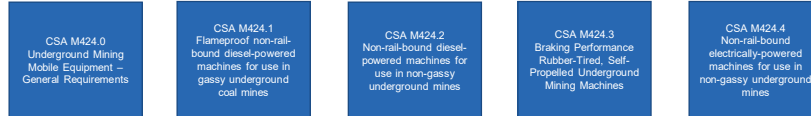


- New editions of CSA M424.1 and M424.2 published in April 2016.
- Need for reorganization of the existing Standards.
- Incorporation of emerging technologies - no regulations for use of hydrogen fuel cell power in underground vehicles.
- Review of International requirements (harmonization).



CSA M424 Underground Mining Equipment Series of standards

REVISED STRUCTURE



- CanMet Mining Leadership.
- Include technological advancements, current safety and new design requirements.
- Align with regional and international standards and current industry practices.
- Allow incorporation of new and cleaner technologies - benefits to worker health, GHG emissions reductions, production advantages.
- Accelerate a solution to the mining community and support legislation.
- Core safety requirements used in conjunction with M424.1, M424.2, M424.3 and M424.4 as applicable



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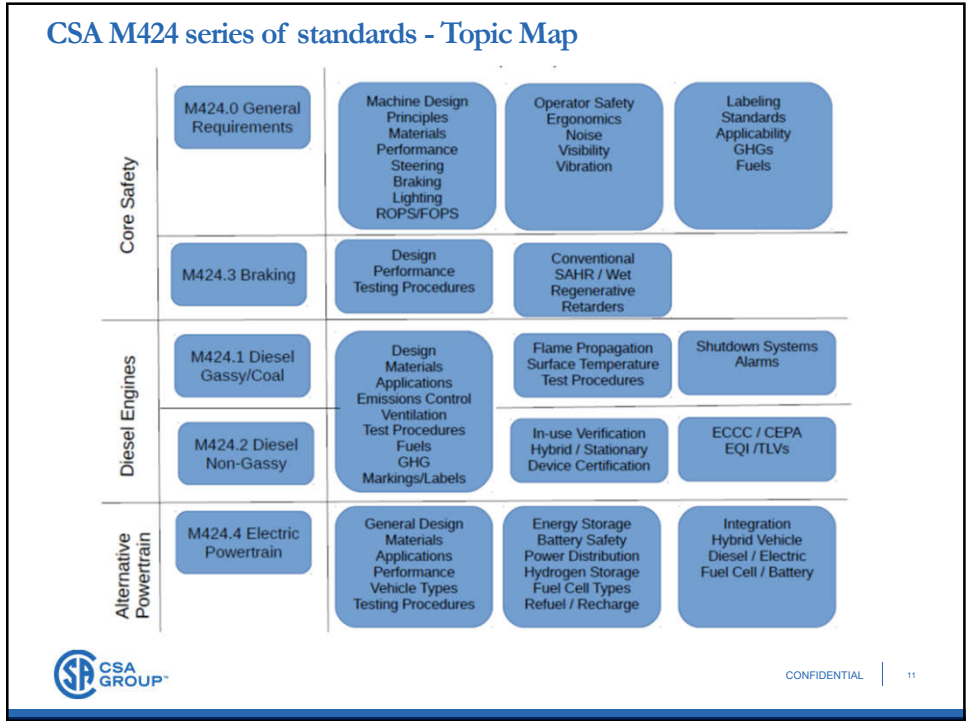
CSA M424 Committee structure

TECHNICAL COMMITTEE ON UNDERGROUND MINING MOBILE EQUIPMENT

- Responsible for developing and maintaining standards related to the design, safety, and performance testing of self-propelled non rail bound mobile machines for or modified for use in underground mining operations.
- Committee Matrix – General Interest, Producer Interest, Regulatory Authority, User Interest
- Membership updated to reflect the need of additional expertise
- Kick-off meeting February 2020
- Technical subcommittees
 - Technical Subcommittee on Underground Mining Mobile Equipment - General Requirements
 - Technical Subcommittee on Diesel-powered machines for use in underground mines
 - Technical Subcommittee on Electrically-powered machines for use in underground mines




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CSA M424 Series status and application

- Current status - technical content development
- Next step – Public review
<https://publicreview.csa.ca/>
- Referenced in regulations
- CanmetMINING engine approval program – M424.1 and M424.2



Thank you.

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