



# Risk Management Manual Program

Complete Program Title: <b>Head Protection Program</b>	Risk Management Manual (RMM) Number: <b>313</b>
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<b>DISCLAIMER:</b> <i>If there is a discrepancy between this electronic program and the written copy held by the program owner, the written copy prevails.</i>	

## 1 Purpose

- 1.1 To reduce the potential for head injury and to ensure compliance with the Occupational Health and Safety Act and regulations and adherence to applicable codes and standards.
- 1.2 To provide guidance for the selection of suitable head protection.

## 2 Scope

- 2.1 All individuals (faculty, staff, students, visitors, and contractors) in danger of head injury while performing work at McMaster University, including those associated with research or study.

## 3 Related Documents

- 3.1 Occupational Health and Safety Act, R.S.O. 1990, and Construction Projects O Reg.213.
- 3.2 CSA Z94.1 - 15 Industrial Protective Headwear-Performance, Selection, Care and Use.
- 3.3 McMaster University Risk Management Manual #100 Workplace and Environmental Health and Safety Policy.

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- 3.4 McMaster University Risk Management Manual #101 McMaster University Risk Management System.
  - 3.5 McMaster University Risk Management Manual #300 Health and Safety Training Program.
  - 3.6 McMaster University Risk Management Manual #801 Field Trips, Student Placements and Research Activity Planning and Approval Program.
  - 3.7 McMaster University Risk Management Manual #324 Job Hazard Analysis Program.

#### 4 Definitions

- 4.1 **Class G Headwear (General Use)** – a class of headwear that is intended to provide the user with protection against impact and penetration. This headwear is nonconducting; it must pass a dielectric-strength test (less than 2,000 V). This class of headwear is intended to provide protection against electric shock following accidental contact between the headwear and live electrical apparatus.
- 4.2 **Class E Headwear (Electrical Trades)** – a class of headwear that is intended to provide the user with protection against impact and penetration. This headwear is nonconducting; it must pass the dielectric-strength test specified for Class E headwear (less than 20, 000 V)
- 4.3 **Class C Headwear (Conducting)** – a class of headwear that is intended to provide the user with protection against impact and penetration only.
- 4.4 **Headwear accessories** – chin straps, hearing protectors, winter liners and other accessories may affect the original degree of protection. (Consult the supplier about the suitability of such accessories).
- 4.5 **Industrial Protective Headwear** – a device to provide protection to the head against impact, penetration, or electrical shock, or any combination thereof, and that is held in place by a suitable suspension.
- 4.6 **Shell** – the material that provides the general outer form of the protective headwear and whose primary purpose is to distribute the impact load and to resist penetration.
- 4.7 **Suspension** – the part of the protective headwear that holds it in place on the head during normal use. It may be comprised of a head, crown straps and tabs.
- 4.8 **Supervisor** – person who has charge of a workplace or authority over a worker.
- 4.9 **Worker** – means any of the following, but does not include an inmate of a correctional institution or like institution or facility who participates inside the institution or facility in a work project or rehabilitation program:
  - 1. A person who performs work or supplies services for monetary compensation.
  - 2. A secondary school student who performs work or supplies services for no monetary compensation under a work experience program authorized by the school board that operates the school in which the student is enrolled.

3. A person who performs work or supplies services for no monetary compensation under a program approved by a college of applied arts and technology, university, or other post-secondary institution.
4. Such other persons as may be prescribed who perform work or supply services to an employer for no monetary compensation (“travailleur”).

#### 4.10 Acronyms:

**CJHSC** – Central Joint Health and Safety Committee

**CSA** – Canadian Standards Association

**EOHSS** – Environmental & Occupational Health Support Services

**FHSSO** – Faculty of Health Sciences Safety Office

**JHSC** – Joint Health and Safety Committee

**OHSA** – Occupational Health and Safety Act

**RMM** – Risk Management Manual

## 5 Responsibilities

### 5.1 Role of Senior Managers ( Deans, Chairs, Directors):

Senior Managers shall:

- provide the direction and resources necessary to support the Head Protection Program

### 5.2 Role of Supervisors (Academic and Administrative):

Supervisors shall:

- determine the need for head protection in tasks assigned to individuals under their supervision as per RMM# 324;
- determine the type of head protection that should be worn by individuals while performing a task under their supervision;
- supply or ensure that appropriate protective headwear is available for all who must be so equipped;
- ensure that proper head protection is being worn while hazardous tasks are being performed;
- provide training including instruction regarding inspection and maintenance of protective headwear; and
- post appropriate signage in areas where head protection is required.

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**5.3 Role of Individuals (Faculty, Staff, Students and Volunteers):**

Individuals shall:

- wear the head protection prescribed by the supervisor as being appropriate for the involved tasks; and
- follow the prescribed guidelines for the use and care of approved safety headwear.

**5.4 Environmental and Occupational Health Support Services and Faculty of Health Science Safety Office:**

EOHSS and FHSSO shall:

- monitor safety standards for head protection;
- provide advice to supervisors regarding the type of head protection when required; and
- update the Head Protection Program as required.

**5.5 Role of Contractors:**

Contractors shall:

- work in compliance with the OHS Act and McMaster University Safety Policy and Programs; and
- post designated construction sites as areas where head protection is required.

**5.6 Role of Joint Health and Safety Committees:**

JHSCs shall:

- review the effectiveness of the Head Protection Program in posted areas and within assigned work groups as part of the workplace inspection process.

**5.7 Role of Central Joint Health and Safety Committee:**

The CJHSC shall:

- review the Head Protection Program on a scheduled basis.

**6 Procedural Guidelines****6.1 Assigning Head Protection Requirements for Work Areas and Activities**

- 6.1.1 Supervisors will set the standards for head protection based on a risk assessment of the potential exposure to head injury associated with assigned tasks (See Appendix B and RMM# 324).

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6.1.2 EOHSS, FHSSO or JHSC should be consulted in all instances where a question arises as to the need for such protection.

## 6.2 Selecting Head Protection

6.2.1 The supervisor and the individual involved, along with EOHSS/FHSSO if needed, shall assess the type of head protection required. (See Appendix B).

6.2.2 Consider the following risks:

- Impact from flying objects (grinding operations, abrasive blasting etc.);
- Head contact with overhanging or overhead objects;
- Impact from falling objects;
- Head contact with live electrical circuits; and
- Hair entanglement with rotating equipment that requires the use of hair restraints.

6.2.3 McMaster University faculty, staff, students and visitors shall use only CSA approved head protection.

6.2.4 The department responsible for the individuals requiring such protection shall provide approved head protection.

## 6.3 Care and Use of Protective Headwear

6.3.1 The user before each use shall check the shell and suspension of protective headwear. If the shell or linings are found to have a crack, dent or penetration, or if the suspension has torn or broken threads, the protective headwear should either be discarded or the particular part replaced with an identical part from the same manufacturer.

6.3.2 Any protective headwear that has received any severe blow shall be taken out of service.

6.3.3 Protective headwear shall not be painted without prior consultation and consent from the manufacturer.

6.3.4 Protective headwear shall be cleaned on a regular basis, according to the manufacturer's instructions.

6.3.5 Chinstraps used with Class E protective headwear should not be drawn over the brim or peak because the strap if in contact with a live electrical conductor, may allow current to flow from the conductor to the user of the protective headwear.

6.3.6 Retention systems fitted to the protective headwear shall be fastened and under tension at all times to ensure the security of the system.

6.3.7 The addition of accessories to protective headwear may adversely affect the original degree of protection, and must be confirmed as being appropriate by the supplier of the protective headwear.

6.3.8 Winter liners used in Class G and Class E protective headwear shall be flame resistant.

6.3.9 To obtain optimum levels of protection against electrical shock, the protective headwear must be clean and dry. Protective headwear that is wet or contaminated with oil, grease or other conducting chemicals, or that is fitted with inappropriate accessories may suffer a significant reduction in its protection against electrical shock.

6.3.10 Inspect expiry date.

#### 6.4 Posting Head Protection Areas

6.4.1 Designated head protection areas e.g. Construction sites, work sites where explosive actuated tools are used, work sites with overhead conveyors etc. must be posted

### 7 Records

7.1 Supervisors shall maintain up to date records of all individuals covered under the head protection program.

## Appendix A

### OHSA, R.S.O. 1990, (Excerpt)

#### Sections:

25. (1) Duties of employers-An employer shall ensure that;

- a) the equipment, materials and protective devices as prescribed are provided;
- b) the equipment, materials and protective devices provided by the employer are maintained in good condition;
- c) the measures and procedures prescribed are carried out in the workplace;
- d) the equipment, materials and protective devices provided by the employer are use as prescribed and
- e) a building, structure, or any part thereof, or any other part of a workplace, whether temporary or permanent, is capable of supporting any loads that may be applied to it,
  - (i) as determined by the applicable design requirements established under the version of the *Building Code* that was in force at the time of its construction,
  - (ii) in accordance with such other requirements as may be prescribed, or

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- (iii) in accordance with good engineering practices, if subclauses (i) and (ii) do not apply.

**Requirements of O. Reg. 213, 1991, General Construction: (Excerpt)****Sections:**

- 21(1) A worker shall wear such protective clothing and use such personal protective equipment or devices as are necessary to protect the worker against the hazards to which the worker may be exposed.
- (2) A worker's employer shall require the worker to comply with subsection (1).
- (3) A worker required to wear protective clothing or use personal protective equipment or devices shall be adequately instructed and trained in the care and use of the clothing, equipment or device before wearing or using it.
- 22(1) Every worker shall wear protective headwear at all times when on a project.
- (2) Protective head wear shall be a safety hat that,
  - a) consists of a shell and suspension that is adequate to protect a person's head against impact and against flying or falling small objects, and;
  - b) has a shell that can withstand a dielectric strength test at 20,000 volts phase to ground.

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## Appendix B

<https://www.ccohs.ca/oshanswers/prevention/ppe/headwear.html>

Refers to CSA Standard Z94.1-15 "Industrial protective headwear - Performance, selection, care, and use" (Excerpt)

Classes of headwear can include:

**Type 1** - protection from impact and penetration at the crown (top) only

**Type 2** - protection from impact, penetration at the crown (top) and laterally (sides and back)

Each type is also available in the following classes:

- **Class E** (20 000 V electrical rating) - provides head protection against high voltage conductors
- **Class G** (2200 V electrical rating) - provides head protection against low voltage conductors (general trades)
- **Class C** (no electrical rating)