

1 GENERAL

1.01 SUMMARY

- .1 Comply with requirements of this Section when performing following work:
 - .1 Removing ceiling tiles that are asbestos-containing material, if the tiles cover an area less than 7.5 square metres and are removed without being broken, cut, drilled, abraded, ground, sanded or vibrated.
 - .2 For asbestos abatement projects requiring greater precautions, refer to Section 02 82 00.02 - Asbestos Abatement - Intermediate Precautions or Section 02 82 00.03 - Asbestos Abatement - High Risk Precautions.

1.02 RELATED REQUIREMENTS

- .1 Section 01 14 25 Designated Substances.
- .2 Section 02 82 00.02 Asbestos Abatement - Intermediate Precautions.
- .3 Section 02 82 00.03 Asbestos Abatement - High Risk Precautions.

1.03 REFERENCE STANDARDS

Federal Legislation and Reference Standards

- .1 Department of Justice Canada (Jus)
 - .1 Canadian Environmental Protection Act, 1999 (CEPA).
- .2 Transport Canada (TC)
 - .1 Transportation of Dangerous Goods Act, 1992 (TDGA).
- .3 Government of Canada
 - .1 Canada Labour Code (R.S.C., 1985, c. L-2)
 - .2 Canada Occupational Health and Safety Regulations (SOR/86-304)
 - .3 Public Services and Procurement Canada Asbestos Management Directive
 - .4 Public Services and Procurement Canada Asbestos Management Standard
 - .5 National Joint Council Occupational Health and Safety Directive
 - .6 Technical guideline to asbestos exposure management programs

Provincial Legislation and Reference Standards

- .4 Government of Ontario
 - .1 Ontario Regulation 278/05, Designated Substance - Asbestos on Construction Projects and in Buildings and Repair Operations O.Reg. 278/05)
 - .2 Environmental Protection Act, R.S.O. 1990, c. E.19.3
 - .3 Ontario Regulation 347/90, General - Waste Management (O.Reg. 347/90)
 - .4 Transportation of Dangerous Goods Act, R.S.O. 1990, c. D.1
 - .5 Transportation of Dangerous Goods Regulations (SOR/2001-286)

1.04 DEFINITIONS

- .1 Amended Water: water with nonionic surfactant wetting agent added to reduce water tension to allow thorough wetting of fibres.
- .2 Asbestos-Containing Materials (ACMs): materials that contain 0.5 per cent or more asbestos by dry weight and are identified under Existing Conditions including fallen materials and settled dust.
- .3 Asbestos Work Area: area where work takes place which will, or may, disturb ACMs.
- .4 Authorized Visitors: Visitors provided authorization for site access by the Departmental Representative, and representatives of regulatory agencies.
- .5 Competent worker: in relation to specific work, means a worker who:
 - .1 Is qualified because of knowledge, training and experience to perform the work.
 - .2 Is familiar with the provincial and federal laws, and with the provisions of the regulations that apply to the work.
 - .3 Has knowledge of all potential or actual danger to health or safety in the work.
- .6 Friable material: means material that:
 - .1 When dry, can be crumbled, pulverized, or powdered by hand pressure, or
 - .2 is crumbled, pulverized, or powdered.
- .7 HEPA vacuum: High Efficiency Particulate Air filtered vacuum equipment with filter system capable of collecting and retaining fibres greater than 0.3 microns in any direction at 99.97% efficiency.
- .8 Non-Friable Material: material that when dry cannot be crumbled, pulverized, or powdered by hand pressure.
- .9 Occupied Area: any area of the building or work site that is outside Asbestos Work Area.
- .10 Polyethylene: polyethylene sheeting or rip-proof polyethylene sheeting with tape along edges, around penetrating objects, over cuts and tears, and elsewhere as required to provide protection and isolation.
- .11 Sprayer: garden reservoir type sprayer or airless spray equipment capable of producing mist or fine spray. Must have appropriate capacity for work.

1.05 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit proof satisfactory to the Departmental Representative that suitable arrangements have been made to dispose of asbestos-containing waste in accordance with requirements of authority having jurisdiction.
- .2 Submit Provincial and/or local requirements for Notice of Project Form.
- .3 Submit proof of Contractor's Asbestos Liability Insurance.

- .4 Submit to the Departmental Representative necessary permits for transportation and disposal of asbestos-containing waste, and proof that asbestos-containing waste has been received and properly disposed.
- .5 Submit proof that all asbestos workers and/or supervisor have received appropriate training and education by a competent person in the hazards of asbestos exposure, good personal hygiene and work practices while working in Asbestos Work Areas, and the use, cleaning, and disposal of respirators and protective clothing.
- .6 Submit proof satisfactory to the Departmental Representative that the workers have appropriate respirator training and fit testing. Respirators must be personally issued.

1.06 QUALITY ASSURANCE

- .1 Regulatory Requirements: comply with Federal, Provincial, and local requirements pertaining to asbestos, provided that in case of conflict among these requirements or with these specifications, more stringent requirement applies. Comply with regulations in effect at time Work is performed.
- .2 Health and Safety:
 - .1 Safety Requirements: worker protection.
 - .1 Protective equipment and clothing to be worn by workers while in Asbestos Work Area include:
 - .1 Air purifying half-mask respirator with N-, R- or P-100 particulate filter, personally issued to worker and marked as to efficiency and purpose, suitable for protection against asbestos and acceptable to the Authority having jurisdiction. The respirator to be fitted so that there is an effective seal between the respirator and the worker's face, unless the respirator is equipped with a hood or helmet. The respirator to be cleaned, disinfected, and inspected after use on each shift. Damaged or deteriorated parts are to be replaced prior to being used by a worker; and, when not in use, to be stored in a convenient, clean and sanitary location. The employer to establish written procedures regarding the selection, use and care of respirators, and a copy of the procedures to be provided to and reviewed with each worker who is required to wear a respirator. A worker not to be assigned to an operation requiring the use of a respirator unless he or she is physically able to perform the operation while using the respirator.
 - .2 Disposable-type protective clothing that does not readily retain or permit penetration of asbestos fibres. Protective clothing to be provided by the employer and worn by every worker who enters the work area, and the protective clothing shall consist of a head covering and full body covering that fits snugly at the ankles, wrists and neck, in order to prevent asbestos fibres from reaching the garments and skin under the protective clothing to include suitable footwear, and to be repaired or replaced if torn.

- .2 Eating, drinking, chewing, and smoking are not permitted in the Asbestos Work Area.
- .3 Before leaving the Asbestos Work Area, the worker can decontaminate his or her protective clothing by using a vacuum equipped with a HEPA filter, or by damp wiping, before removing the protective clothing, or, if the protective clothing will not be reused, place it in a container for dust and waste. The container to be dust tight, suitable for asbestos waste, impervious to asbestos, identified as asbestos waste, cleaned with a damp cloth or a vacuum equipped with a HEPA filter immediately before removal from the work area, and removed from the work area frequently and at regular intervals.
- .4 Facilities for washing hands and face shall be provided within or close to the Asbestos Work Area.
- .5 Ensure workers wash hands and face when leaving Asbestos Work Area.
- .6 Ensure that no person required to enter an Asbestos Work Area has facial hair that affects seal between respirator and face.

1.07 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate non-hazardous, uncontaminated, and/or decontaminated waste materials for reuse and/or recycling, if applicable.
- .2 Remove from the site and dispose of packaging materials at appropriate recycling facilities.
- .3 Collect and separate for disposal non-hazardous, uncontaminated, and/or decontaminated building materials for recycling in accordance with a Waste Management Plan, if applicable.
- .4 Separate for reuse and/or recycling and place in designated containers non-hazardous, uncontaminated, and/or decontaminated steel, metal, plastic, and masonry (block or brick) waste in accordance with the Waste Management Plan, if applicable.
- .5 Place materials defined as hazardous or contaminated in the designated containers.
- .6 Handle and dispose of hazardous materials in accordance with the CEPA, TDGA, Regional and Municipal regulations.
- .7 Fold metal banding, flatten and place in designated area for recycling.
- .8 Disposal of asbestos waste generated by removal activities must comply with Federal, Provincial, and Municipal regulations. Dispose of asbestos waste in sealed double thickness 0.15mm bags or leak proof drums. Label containers with appropriate warning labels.
- .9 Provide manifests describing and listing waste created. Transport containers by approved means to licensed landfill for burial.

1.08 EXISTING CONDITIONS

- .1 Refer to the Specification Section 01 14 25 Designated Substances for details on asbestos-containing materials.

- .2 Notify the Departmental Representative of asbestos-containing material discovered during Work and not apparent from drawings, specifications, or report pertaining to Work. Do not disturb such material pending instructions from the Departmental Representative.

1.09 SCHEDULING

- .1 Hours of Work: perform work involving asbestos abatement activities outside of normal working hours. Include in Contract Sum additional costs due to this requirement.

1.10 PERSONNEL TRAINING

- .1 Before beginning Work, provide to the Departmental Representative satisfactory proof that every worker has had instruction and training in hazards of asbestos exposure, in personal hygiene and work practices, and in use, cleaning, and disposal of respirators and protective clothing.
- .2 Instruction and training related to respirators includes, following minimum requirements:
 - .1 Fitting of equipment.
 - .2 Inspection and maintenance of equipment.
 - .3 Disinfecting of equipment.
 - .4 Limitations of equipment.
- .3 Instruction and training must be provided by a competent, qualified person.

2 PRODUCTS

2.01 MATERIALS

- .1 Drop Sheets:
 - .1 Polyethylene: 0.15 mm thick.
 - .2 FR polyethylene: 0.15 mm thick woven fibre reinforced fabric bonded both sides with polyethylene.
- .2 Wetting Agent: 50% polyoxyethylene ester and 50% polyoxyethylene ether mixed with water in a concentration to provide thorough wetting of asbestos-containing material.
- .3 Waste Containers: contain waste in two separate containers.
 - .1 Inner container: 0.15 mm thick sealable polyethylene waste bag.
 - .2 Outer container: sealable metal or fibre type where there are sharp objects included in waste material; otherwise outer container may be sealable metal or fibre type or second 0.15 mm thick sealable polyethylene bag.
 - .3 Labelling requirements: affix pre-printed cautionary asbestos warning in both official languages that is visible when ready for removal to disposal site.
- .4 Slow - drying sealer: non-staining, clear, water - dispersible type that remains tacky on surface for at least 8 hours and designed for purpose of trapping residual asbestos fibres.

- .5 Tape: fibreglass-reinforced duct tape suitable for sealing polyethylene under both dry conditions and wet conditions using amended water.

3 EXECUTION

3.01 PROCEDURES

- .1 Do construction occupational health and safety in accordance with the applicable health and safety legislation.
- .2 Before beginning Work, isolate the Asbestos Work Area using, at a minimum, pre-printed cautionary asbestos warning signs in both official languages that are visible at access routes to Asbestos Work Area.
- .3 Remove visible dust from surfaces in the work area where dust is likely to be disturbed during course of work.
 - .1 Use HEPA vacuum or damp cloths where damp cleaning does not create a hazard and is otherwise appropriate.
 - .2 Do not use compressed air to clean up or remove dust from any surface.
- .4 Prevent spread of dust from Asbestos Work Area using measures appropriate to work to be done.
 - .1 Use FR polyethylene drop sheets over flooring such as carpeting that absorbs dust and over flooring in Asbestos Work Area where dust and contamination cannot otherwise be safely contained. Drop sheets are not to be reused.
- .5 Wet materials containing asbestos to be cut, ground, abraded, scraped, drilled, or otherwise disturbed unless wetting creates hazard or causes damage.
 - .1 Use garden reservoir type low - velocity fine - mist sprayer.
 - .2 Perform Work to reduce dust creation to lowest levels practicable.
 - .3 Work will be subject to visual inspection and/or air monitoring.
 - .4 Contamination of surrounding areas indicated by visual inspection and/or air monitoring will require complete enclosure and clean-up of affected areas.
- .6 Frequently and at regular intervals during the Work and immediately on completion of work:
 - .1 Dust and waste to be cleaned up and removed using a vacuum equipped with a HEPA filter, or by damp mopping or wet sweeping, and placed in a waste container, and
 - .2 Drop sheets to be wetted and placed in a waste container as soon as practicable.
- .7 Cleanup:
 - .1 Place asbestos-containing waste in sealed dust-tight waste bags. Treat drop sheets and disposable protective clothing as asbestos waste; wet and fold these items to contain dust, and then place in plastic bags.
 - .2 Clean exterior of each waste-filled bag using damp cloths or HEPA vacuum and place in second clean waste bag immediately prior to removal from the Asbestos Work Area.

- .3 Seal waste bags and remove from the Site. Dispose of in accordance with requirements of Authority having jurisdiction. Supervise dumping and ensure that dump operator is fully aware of the hazardous nature of material to be dumped and that the appropriate guidelines and regulations for asbestos disposal are followed.
- .4 Perform final thorough clean-up of the Work areas and adjacent areas affected by the Work using a HEPA vacuum.

END OF SECTION