

PROCEDURES FOR THE REMOVAL OF MECHANICAL INSULATION BY GLOVE BAG

The following procedures are to be adhered to by all persons required to complete any removal of mechanical pipewrap insulation performed by glove bag method.

NOTE: The following procedures shall be read in conjunction with all other requirements and procedures as set forth under Appendix K of the AMP document.

NOTE: The following procedures assume the quantity, access and overall configuration of the piping from which the insulation is being removed is suited to removal by glove bag method. If in the opinion of the Asbestos Programs Officer and/or Designated Inspection Agency such work can not be completed safely, complete the work from within a sealed Type 2 Enclosure or in the alternative, from within a Full Enclosure (Type 3) by an outside contractor experienced in such work.

1.0 EQUIPMENT

All tools, supplies and equipment necessary for the safe and effective completion of the work must be on-site before work proceeds.

1.1 Glove Bag

Single use prefabricated, 0.25 mm (10 mil) minimum thickness polyvinylchloride bag with integral 0.25 mm (10 mil) thick polyvinylchloride gloves and elasticized ports. Bag must be equipped with reversible double-pull, double throw, zipper to facilitate progressive movement along pipe and also be equipped with interior zip and nylon straps for sealing ends of bag around pipe. Acceptable product: Safe-T-Strip manufactured by Asbesguard Equipment Inc., in configurations suitable for work.

1.2 Vacuum

An asbestos-approved vacuum (HEPA filtered), equipped with miscellaneous brushes, fittings, etc.. Vacuum must not be opened, except by a fully protected worker while within a sealed Type 2 enclosure.

1.3 Respirators

The use of a negative pressure non-powered half-face respirator equipped with HEPA cartridge filters shall be mandatory for all worker required to enter or complete work within an established Asbestos Work Area.

1.4 Knife

Utility knife with fully retractable blade for use inside a glove bag and/or wire cut saw.

1.5 Other Equipment

- Plastic sheet (6 mil polyethylene) – to wrap damaged sections of piping or to serve as a drop sheet.
- Labelled asbestos waste bag (6 mil) – for all asbestos waste, disposable suits, plastic for disposal, etc..
- Pump sprayer with misting nozzle or alternative method to wet material before handling.
- Barrier tape and signage – to identify extent of work area.
- Misc. small tools – i.e. scrapers, wire brushes, utility knives, duct tape, etc..
- Cleaning supplies – i.e. scouring pads, sponges, rags, brushes, buckets, etc..
- Encapsulating sealer, for brush or airless spray application.

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2.0 SITE ACCESS & EGRESS

- 2.1 Before entering an established Asbestos Work Area, each worker shall first don an approved respirator (c/w new or tested filters), a set of disposable coveralls, hood and all other personal protective equipment deemed appropriate to the work at hand.
- 2.2 Before leaving an established Asbestos Work Area, each worker shall complete the following:
 - .1 Remove any disposable coveralls and place them within a labelled asbestos waste receptacle for final disposal. If coveralls are to be re-used, pre-clean them using a HEPA vacuum prior to their removal then neatly fold them, or hang them up, at a point immediately adjacent to the point of egress.
 - .2 Once a worker's coveralls have been removed, the worker should then step across the established barricade before removing his/her respirator.
 - .3 The worker should then proceed directly to the established wash station with respirator in hand.
- 2.3 Once at the wash station, the worker shall then proceed to wash-up ensuring his/her face, hands, and respirator are adequately cleaned using soap and warm water. Dispose of respirator cartridge filters in container provided unless tested on-site and approved for re-use.

3.0 PREPARATION

- 3.1 Before undertaking any asbestos-related work, a copy of a signed and approved "Asbestos Work Permit" must be obtained from the Asbestos Programs Officer.
- 3.2 Shutdown ventilation systems to and from the work area. Seal over all ventilation openings, diffusers, grilles, etc., with polyethylene and tape.
- 3.3 Wherever any non-asbestos dust settled on surfaces throughout the Asbestos Work Area is likely to be disturbed, pre-clean such surfaces using a HEPA vacuum or damp cloth prior to commencing any other work in the area.
- 3.4 Where practical, clear areas of movable furnishings and equipment. This should include anything which occupants may wish to use during the work period. Any furnishings or equipment not removed shall be adequately covered using polyethylene and tape.
- 3.5 Isolate the Asbestos Work Area from adjoining spaces through the placement of a taped barrier, sawhorse or by closing any doors, windows, etc. at the perimeter of each work area.
- 3.6 Locate any additional tools, supplies and equipment necessary for the safe and effective completion of the work to the designated Asbestos Work Area.
- 3.7 Post signs or barrier tape to indicate asbestos hazard and requirement for protective clothing for anyone entering the space.
- 3.8 Do not proceed with any asbestos disturbance until the Asbestos Programs Officer or Designated Inspection Agency has reviewed the area and his/her subsequent authorization to proceed is granted.

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4.0 EXECUTION

- 4.1 Provide polyethylene drop sheet under piping where damaged or unjacketed insulation is present.
- 4.2 Spray surface of damaged jacketing with mist of amended water then tape over area of damage to provide temporary repair.
- 4.3 Mist areas of insulation with no jacketing and wrap with polyethylene.
- 4.4 Clean surface of pipe or minor amounts of fallen insulation by HEPA vacuuming or by damp wiping.
- 4.5 Place tools necessary to remove insulation in tool pouch then zip bag onto pipe and seal ends of bag with cloth securing straps. For valve glove bags, seal valve cover with wire tie or equivalent.
- 4.6 Place hands into gloves and use necessary tools to remove insulation from pipe.
- 4.7 Arrange insulation in bag to obtain full capacity of bag.
- 4.8 Roll jacketing carefully to minimize the possibility of ripping or puncturing bags.
- 4.9 Insert nozzle of spray pump into bag through valve and wash down pipe and interior of bag thoroughly. Alternate use of each hand to aid washing process.
- 4.10 Wet surface of insulation in lower section of bag and any exposed end of insulation remaining on pipe.
- 4.11 If bag is to be removed from pipe for use at a new location, seal closure strips from inside of bag then insert nozzle of HEPA vacuum into valve opening and evacuate air from balance of bag. Re-install and seal in new location before re-opening closure strips. Repeat insulation removal operation.
- 4.12 If bag is to be moved along the same pipe, insert nozzle of HEPA vacuum into valve opening and evacuate air from bag prior to loosen holding straps then carefully move bag along length of pipe and re-seal to pipe. Using double-pull zipper to pass hangers. Repeat insulation removal operation.
- 4.13 Should the glove bag become ripped, cut or opened in any way, cease work and repair opening before continuing work. If the rip, cut or opening cannot be easily repaired, dispose of as contaminated waste and replace with new.
- 4.14 Spilled material must be cleaned up using a HEPA vacuum immediately upon discovery.
- 4.15 To remove bag after completion of insulation removal or as each bag is filled:
 - .1 Wash top section of glove bag and tools thoroughly.
 - .2 Place tools in one hand (glove), then pull out inverted, twist to create a separate pouch, tape inverted hand at two (2) separate locations 1" apart to seal pouch.
 - .3 Remove inverted glove and tools by cutting between the two (2) tape seals.
 - .4 Place inverted glove and tools into the next clean glove bag to be used or into a water bucket, open pouch underwater and clean tools and then allow to dry.

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- .5 Insert nozzle of HEPA vacuum into valve opening and evacuate air from bag. Remove nozzle from valve opening and seal over end of valve with tape.
 - .6 Pull a 6 mil polyethylene bag over glove bag before removing from pipe.
 - .7 Remove securing straps, unfasten zipper and place sealed glove bag into a sealed 6 mil polyethylene bag so as to create an asbestos waste container.
- 4.16 Ensure that newly exposed sections of pipe are free of residue before resuming removal work or leaving the area. If necessary, after removal of each section of asbestos, vacuum all surfaces of pipe, using HEPA filtered vacuum equipment or wet wipe with damp cloth.
 - 4.17 Before completion of shift, seal surfaces of exposed pipe with lock-down agent to seal any residual fibres.
 - 4.18 Cover exposed ends of remaining asbestos insulation with heavy coat of bridging encapsulant.
 - 4.19 Remove drop sheet and dispose of as contaminated waste.
 - 4.20 Proceed with the dismantlement of any barricades only after the results of any final air clearances are made available and the Asbestos Programs Officer or Designated Inspection Agency has reviewed the area and his/her subsequent authorization to proceed is granted.

**CHECKLIST FOR THE REMOVAL OF
MECHANICAL INSULATION
BY GLOVE BAG METHOD**

Checklist for Glove Bag Work

The following checklist should be used to ensure all requirements as set forth by the AMP document for Glove Bag removal work have been complied with before, during and following any asbestos disturbance.

- The required "Asbestos Work Permit" has been obtained from the Asbestos Programs Officer.
- Arrangements have been made with the Asbestos Programs Officer and/or Designated Inspection Agency to complete any required site inspections or air monitoring during the abatement process.
- All non-essential equipment and personnel have been removed from the established work area.
- The area affected by the work has been isolated from adjoining areas of the building and the required signage has been posted identifying the site as an "Asbestos Work Area".
- Adjoining surfaces and equipment have been covered with a polyethylene drop cloth.
- Personal protective equipment (i.e. disposable coveralls, respirators, etc.) has been provided to all workers.
- Required tools, equipment and waste receptacles have been located within the established work area.
- HVAC systems, vents and diffusers within the Asbestos Work Area have been shutdown or otherwise isolated.
- Suitable wash facilities have been located immediately adjacent to or near the established work area.
- Written authorization to proceed with the contaminated phase of the work has been received from the Asbestos Programs Officer and/or Designated Inspection Agency.
- Non-asbestos dust on surfaces likely to be disturbed has been pre-cleaned using a HEPA vacuum or damp cloth.
- Wet all asbestos-containing materials to be disturbed.
- Drop sheets that will be re-used have been cleaned or placed within a sealed and labelled polyethylene bag.
- The work area has been final cleaned to remove any visible trace of dust or debris.
- Continue to restrict access to the area and maintain barricades in place until the Asbestos Programs Officer or Designated Inspection Agency has reviewed the area and his/her subsequent authorization to proceed is granted.
- An "Asbestos Work Report" has been filed with the Asbestos Programs Officer detailing the extent of asbestos work completed and the location of any remaining asbestos-containing materials.