

ABATEMENT TECHNOLOGIES

Dear Industrial Hygiene Professional:

As you know, one of the major uses of asbestos-containing materials prior to 1975 was for pipe and boiler insulation.

Although these products are effective insulators, they have now aged and deteriorated, creating a potential for employee exposure to friable asbestos. Professionals, like yourself, must now consider the expensive and potentially hazardous job of replacing these unsafe materials.

UTILITIES, REFINERIES, CHEMICAL COMPANIES, GOVERNMENT AGENCIES, MILITARY FACILITIES, HOSPITALS, SCHOOLS, CONSULTANTS, AND GENERAL INDUSTRY HAVE ALL CHOSEN SAFE-T-STRIP® HIGH CAPACITY GLOVE BAG SYSTEMS FOR REMOVAL OF FRIABLE ASBESTOS-CONTAINING MATERIALS FROM PIPES. WHY?

- SAVINGS OF 50% OR MORE

Recent user studies show that by using Safe-T-Strip you can typically cut your cost per linear foot of insulation removed by 25% to 50% compared to low capacity polyethylene glove bags and cut costs by over 50% compared to total work area enclosure methods. Safe-T-Strip is designed for high capacity use (up to 400 lb. of material) and can be safely moved along the pipe. As a result, one Safe-T-Strip bag has the same capacity as up to 10-12 single use polyethylene glove bags!

- LOWEST FIBER COUNTS

On the job sampling has consistently shown that ease of use, outstanding construction features and high-quality materials of Safe-T-Strip result in far lower fiber counts than those encountered with standard polyethylene glove bags. In addition, Safe-T-Strip is also far more resistant to tearing, punctures, and seam failure.

- WON'T DISRUPT THE WORKPLACE

Total work area enclosure usually requires that work activities cease in the areas surrounding the removal work. Safe-T-Strip encloses only the immediate work area and allows you to continue these activities virtually uninterrupted.

- WIDE RANGE OF USES

Competitive products are typically limited to use on straight, horizontal pipes of 10" diameter or less and cannot be used on tees or valves. With Safe-T-Strip you can safely handle virtually any size or configuration of pipe.

(over, please)

• EASE OF USE

Your workers or outside contractors are easily trained in the safe, efficient use of Safe-T-Strip. A 34-minute training video is available at our cost of \$50.00 to assist your training.

Why use more expensive and less safe methods for removal of asbestos-containing materials from pipes and boilers? Take these steps today ...

- (1) Look over the enclosed brochure to find out how your company can benefit from Safe-T-Strip, and
- (2) Call our customer service department at 404-934-5115 today or write for additional information. Ask for the name of the Safe-T-Strip distributor in your area. Please take advantage of our special Trial Order Offer.

Yours truly,



David M. Shagott
General Manager

P.S. Send in the enclosed reply card to order a training video or to have our representative contact you for a Safe-T-Strip demonstration.

HOW TO USE SAFE-T-STRIP SYSTEMS

Read complete instructions prior to use of system. Ensure all applicable government standards are met.



1 Assemble all required tools and equipment. Place all hand tools in bottom of bag and zip onto pipe. Fit nylon shoulder straps around glove bag shoulders and tighten to seal onto pipe. Insert nozzle of spray pump (prepared with water and surfactant) into bag through valve.



2 Place hands in gloves, retrieve tools from bottom of bag and place in tool pouch. Cut and remove insulation jacketing. Wet exposed insulation. Cut wire or bands. Remove insulation from pipe and arrange in bottom of bag to obtain maximum capacity.



3 Using the sprayer, effectively wash, tool pouch, tools, the bare pipe and upper portion of bag. Wet surface of exposed ends of the insulation and waste material in bottom of bag.

NOTE: When using vertical bags, loop nylon straps through grommet and cloth loop at bottom end of bag.

4 If bag is to be moved down pipe; loosen straps, slide bag along pipe and reseat straps on next section to be removed. Utilize double throw zipper to pass hangers or other obstructions. Repeat stripping operation. If bag is to be removed from pipe seal one, two or three channels of zip-lock from outside of bag.



5 To dispose of bag after completion of stripping, wash top section and tools thoroughly. Put all tools in one hand (glove). Pull hand out inverted, twist to create a separate pouch, double tape to seal. Cut between the tape and place in next glove bag or into a water bucket. Open pouch under water and clean tools and then allow to dry.



6 While glove bag is still on pipe but after tools have been removed slip a labelled waste disposal bag over the glove bag. Unfasten shoulder straps and zipper. Fold top of glove bag over and lower into the waste disposal bag. Seal disposal bag with tape or tie wrap.



WARRANTIES: Our commercial non consumer products are warranted to be free from defects. Our only obligation to the commercial user will be at our option, to replace any portion proving defective, to refund the purchase price thereof. The commercial user assumes all other risk, if any, such as the risk of any direct or consequential loss or damage arising out of the use of, or inability to use, this product. We make this warranty to the commercial user in lieu of the warranties of merchantability, fitness for particular purpose and all other warranties, expressed or implied. No deviation is authorized. Safe-T-Strip Glove Bags are sold only with warranties implied by law.

SAFE-T-STRIP®

Hazards of Asbestos Insulation

Government agencies and the private sector now recognize there are hazards connected to the inhalation of asbestos fibres. Persons exposed to asbestos have an increased risk of developing lung cancer, asbestosis and mesothelioma.

Although the use of friable asbestos containing materials has virtually been eliminated in new construction, many existing buildings, factories, power stations and petrochemical installations contain these materials. Asbestos was used for many of the following applications: sprayed fireproofing on columns, decks and beams, sprayed thermal and acoustic insulation and pipe and boiler insulation. Pipe and boiler insulation applied prior to 1975 frequently contained friable asbestos. This material is now of an age that it requires maintenance or replacement.

Health hazards to employees, stringent government regulations and the liability to employers have prompted many owners to remove asbestos containing pipe insulation from their buildings and installations.

The Safe-T-Strip system has been developed to provide an effective, economical solution for the removal of hazardous pipe insulation, during maintenance programs and removal projects, without significant disruption of the surrounding work area.

SAFE-T-STRIP® System

Versatility

The Safe-T-Strip system consists of glove bags and accessories, developed, manufactured and inspected to provide the highest standards available for the removal of hazardous pipe insulation.

The system was developed for insulation removal from horizontal and vertical piping as well as specialty areas such as valves and tee joints. All styles of Safe-T-Strip glove bags are manufactured in three sizes, 6" (15 cm), 10" (25 cm) and 14" (36 cm). Custom sizes are available on request. This range allows the maintenance worker or contractor to handle most piping systems. In unusual

cases the Safe-T-Strip expansion strip can be added to increase the sleeve size or two Safe-T-Strip bags can be zipped together. To facilitate maintenance requirements or removal of short lengths of pipe Safe-T-Strip's unique interior zip-lock channel system is available. This allows the removal of the bag from the pipe to another location with the contaminated material and tools in the lower portion of bag.

The versatility of the Safe-T-Strip system allows its use on any piping diameter, eliminating the need for disruptive full enclosure methods.

Dependability

Safe-T-Strip is manufactured entirely of heavy gauge PVC with a PVC impregnated zipper. All seams are welded, using ultrasonic techniques for maximum weld strength. Seams of different materials, whether welded, glued or stitched, can fail, resulting in contamination of the surrounding environment, defeating the purpose of the glove bag.

The pre-shaped shoulder design allows for an effective seal with the pipe when used with the Safe-T-Strip shoulder straps. Without this shoulder design, straps do not give an adequate seal.

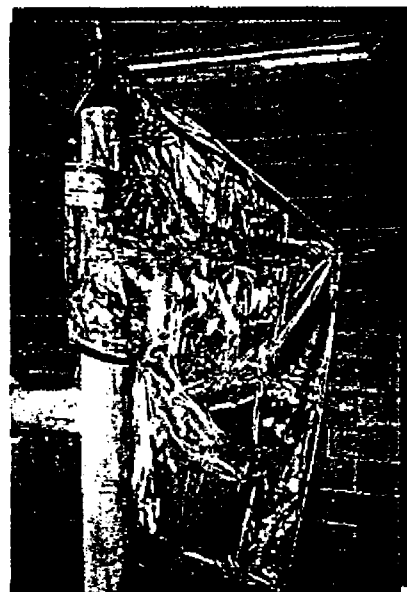
No holes need be cut into Safe-T-Strip during use as the elasticized valve can be used for the water sprayer nozzle and a HEPA nozzle if required.

Each Safe-T-Strip glove bag is individually inspected and date stamped to meet the stringent requirements of our quality control.

Economy

The ease of use of Safe-T-Strip make it the most economical glove bag available on the market. Safe-T-Strip can be easily and rapidly fastened on a pipe by a single worker. Bags which must be cut, stapled and taped usually require two workers. Safe-T-Strip can be quickly moved along a pipe by one worker until the bag is filled to capacity. The method of fastening on the pipe (shoulder strap and double throw zipper) and the strength of the product facilitate this movement. Safe-T-Strip is not limited to removing the initial 3 or 4 feet of pipe insulation per bag, but can contain a manageable capacity which may be as much as 39 feet of pipe insulation. (See average capacity chart.) The ease of use of Safe-T-Strip allows it to be used in remote locations.

In addition to the obvious savings on labour, the progressive movement of Safe-T-Strip along the pipe, accumulating in the bottom section a high capacity of waste material, yields supplementary savings on glove bags, disposal bags and accessory equipment.



VERTICAL-SAFE-T-STRIP

TEE-SAFE-T-STRIP

SAFE-T-STRIP®

TABLE OF AVERAGE CAPACITY

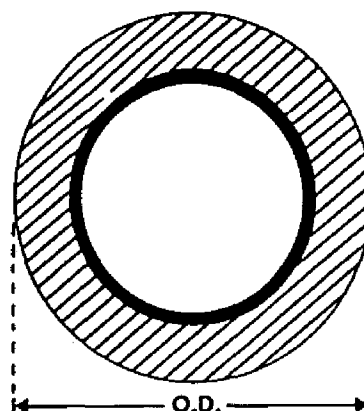
O/D of Insulation	Safe-T-Strip Size	Average Capacity Lin. Feet
2" Horizontal	6" Horizontal	39
2" Vertical	6" Vertical	24
4" Horizontal	6" Horizontal	34
4" Vertical	6" Vertical	17
6" Horizontal	6" Horizontal	29
6" Vertical	6" Vertical	15
8" Horizontal	10" Horizontal	18
8" Vertical	10" Vertical	11
10" Horizontal	10" Horizontal	16
10" Vertical	10" Vertical	9
12" Horizontal	14" Horizontal	14
12" Vertical	14" Vertical	7
14" Horizontal	14" Horizontal	12
14" Vertical	14" Vertical	7
16" Horizontal	*14" Horizontal	10
16" Vertical	*14" Vertical	7

*with extension added

Average capacity depends on these conditions:

1. Condition of insulation.
2. Operator or worker's ability to arrange insulation sections in bag.
3. Types of jacking - i.e., aluminum, canvas, etc.

Capacities based on non zip-lock bag on a continuous removal project. Actual results depend on conditions at the time of use.



O.D. = Actual O.D. of Pipe +
(2 x Insulation Thickness)

$$\pi = 3.14$$

$$\text{Circumference} = \text{O.D.} \times \pi$$

N.P.S.	O.D. of Pipe
1/2	.84
3/4	1.05
1	1.32
1 1/4	1.66
1 1/2	1.90
2	2.38
2 1/2	2.88
3	3.50
3 1/2	4.00
4	4.50
4 1/2	5.00
5	5.56
6	6.63
7	7.63
8	8.63
9	9.63
10	10.75
11	11.75
12	12.75
14	14.00

Examples:

Problem 1 - 3" x 1 1/2" Line insulated with asbestos insulation

- a) Actual O.D. of Pipe (See chart) = 3.50"
- b) Plus Insulation 2 x 1 1/2" = 3.00"
- c) Total O.D. of Insulation = 6.50"
- d) Circumference = 6.50" x 3.14 = 20.41"

Solution: A 6" Safe-T-Strip Bag has an outside circumference of 22" and would be the recommended bag to use.

Problem 2 - 20" x 2 1/2" Line Insulated with Asbestos Insulation

- a) Actual O.D. of Pipe (See Chart) = 20"
- b) Plus Insulation 2 x 2 1/2" = 5"
- c) Total O.D. of Insulation = 25"
- d) Circumference = 25" x 3.14 = 78.5"

Solution: There are several options with Safe-T-Strip.

- a) 1 - 10" Safe-T-Strip (36" Circumference) + 1 - 14" Safe-T-Strip (49" Circumference) = Total Circumference 85".
- b) 2 - 14" Safe-T-Strip (49" Circumference) = 98" Total Circumference - Larger waste capacity than Solution 'A'
- c) 1 - 14" Bag (49" Circumference) + 1 - 26" Extension + 1 - 6" Extension = Total 81" Circumference

Safe-T-Strip Table:

Size	Circumference	Safe-T-Strip Circumference	Actual Safe-T-Strip O.D.
6"	18.84"	22"	7.0"
10"	31.4"	36"	11.4"
14"	43.96"	49"	15.5"

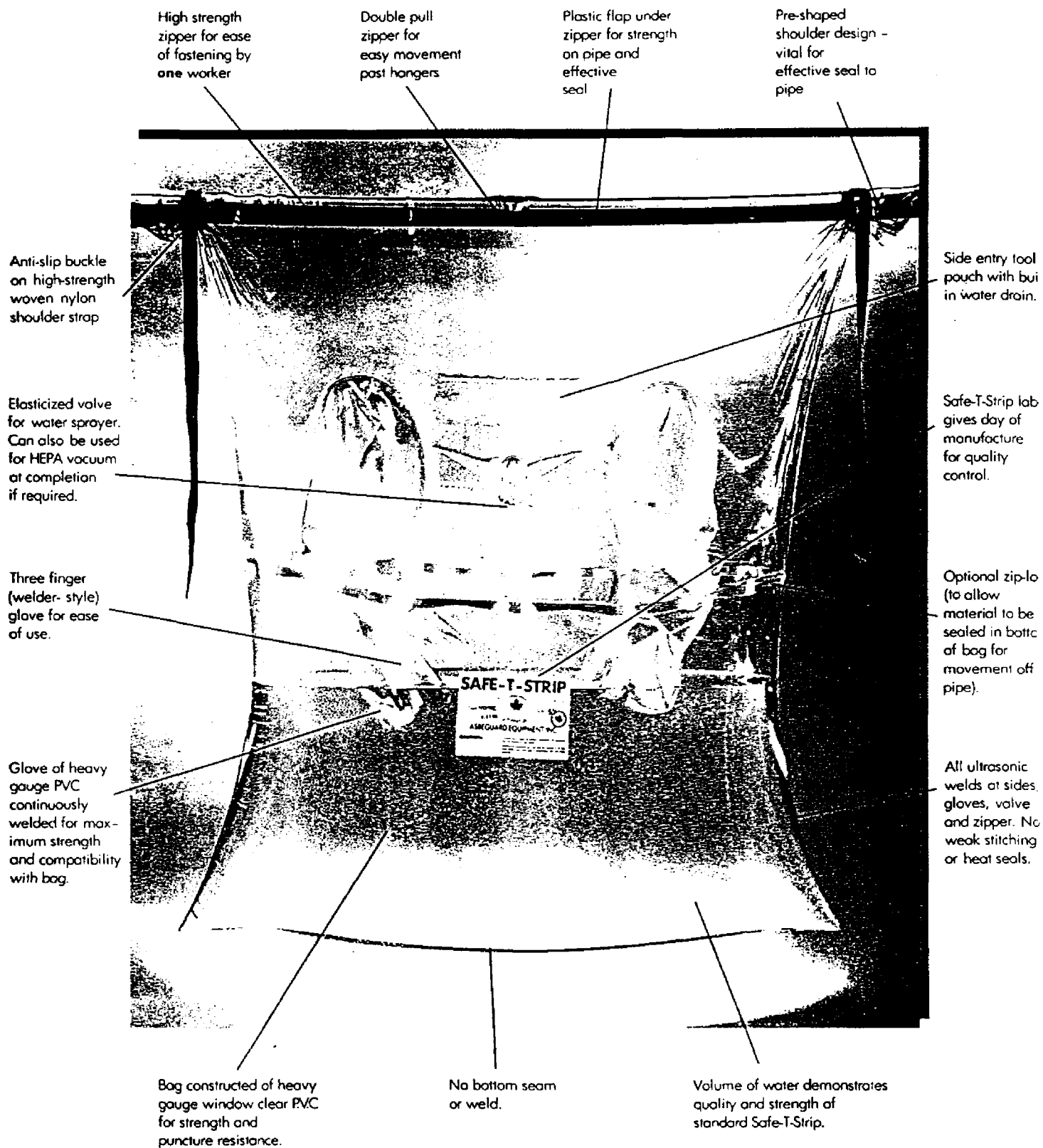
Marketed Exclusively
in the United States by:

Distributed by:

Abatement Technologies, Inc.

P.O. Box 930416 • Norcross, GA 30093
(404) 934-5115

(Safe-T-Strip® is a product of Asbequard Equipment Inc., Canada)



SAFE-T-STRIP®

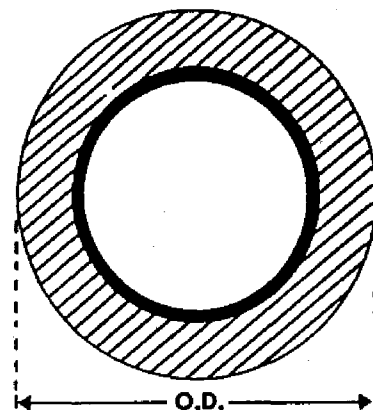
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16" Horizontal	*14" Horizontal	10
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*with extension added

Average capacity depends on these conditions:

1. Condition of insulation.
 2. Operator or worker's ability to arrange insulation sections in bag.
 3. Types of jacketing - i.e., aluminum, canvas, etc.
- Capacities based on non zip-lock bag on a continuous removal project. Actual results depend on conditions at the time of use.



O.D. = Actual O.D. of Pipe +
(2 x Insulation Thickness)

$\pi = 3.14$
Circumference = O.D. x π

N.P.S.	O.D. of Pipe
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3 1/2	4.00
4	4.50
4 1/2	5.00
5	5.56
6	6.63
7	7.63
8	8.63
9	9.63
10	10.75
11	11.75
12	12.75
14	14.00
16	16.00
18	18.00
20	20.00
24	24.00
30	30.00

Examples:

Problem 1 - 3" x 1 1/2" Line insulated with asbestos insulation

- a) Actual O.D. of Pipe (See chart) = 3.50"
- b) Plus Insulation 2 x 1 1/2" = 3.00"
- c) Total O.D. of Insulation = 6.50"
- d) Circumference = 6.50" x 3.14 = 20.41"

Solution: A 6" Safe-T-Strip Bag has an outside circumference of 22" and would be the recommended bag to use.

Problem 2 - 20" x 2 1/2" Line Insulated with Asbestos Insulation

- a) Actual O.D. of Pipe (See Chart) = 20"
- b) Plus Insulation 2 x 2 1/2" = 5"
- c) Total O.D. of Insulation = 25"
- d) Circumference = 25" x 3.14 = 78.5"

Solution: There are several options with Safe-T-Strip.

- a) 1 - 10" Safe-T-Strip (36" Circumference) + 1 - 14" Safe-T-Strip (49" Circumference) = Total Circumference 85".
- b) 2 - 14" Safe-T-Strip (49" Circumference) = 98" Total Circumference - Larger waste capacity than Solution 'A'
- c) 1 - 14" Bag (49" Circumference) + 1 - 26" Extension + 1 - 6" Extension = Total 81" Circumference

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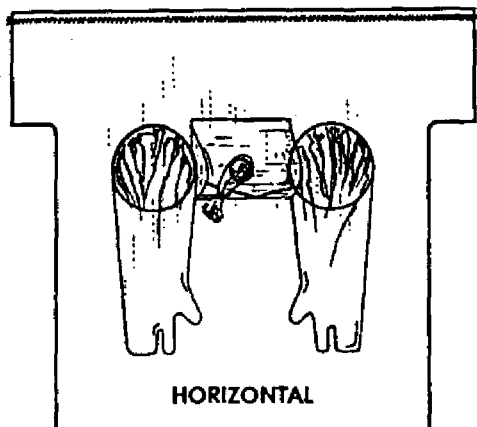
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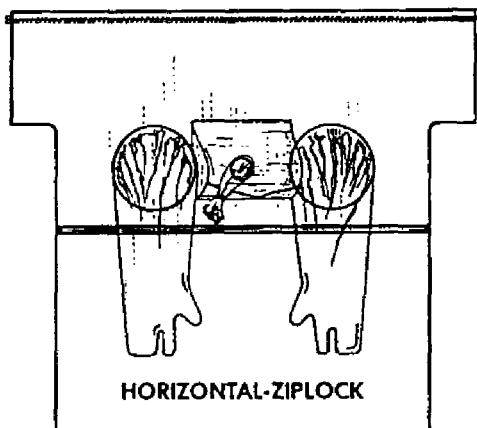
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SYSTEMS



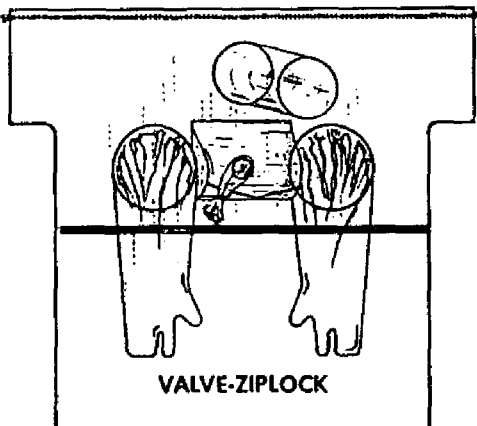
HORIZONTAL

6H - 6" Horizontal
10H - 10" Horizontal
14H - 14" Horizontal



HORIZONTAL-ZIPLOCK

6HZ - 6" Horizontal c/w ziplock
10HZ - 10" Horizontal c/w ziplock
14HZ - 14" Horizontal c/w ziplock



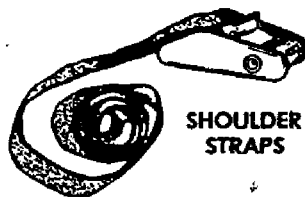
VALVE-ZIPLOCK

6VLZ - 6" Valve c/w ziplock
10VLZ - 10" Valve c/w ziplock
14VLZ - 14" Valve c/w ziplock



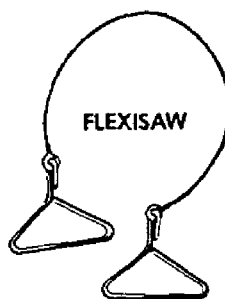
EXPANSION STRIP

0640EX - 6" X 40" Expansion Strip (Tee Bags only; 2 required)
0654EX - 6" X 54" Expansion Strip
1354EX - 13" X 54" Expansion Strip
2654EX - 26" X 54" Expansion Strip



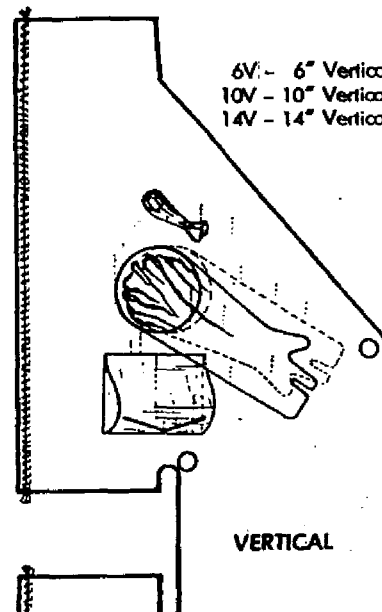
SHOULDER STRAPS

30SS - 30" Shoulder Straps
60SS - 60" Shoulder Straps



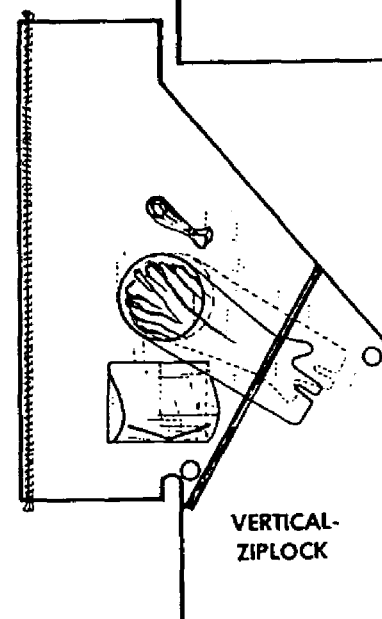
FLEXISAW

16FS - 16" Flexisaw
20FS - 20" Flexisaw
24FS - 24" Flexisaw



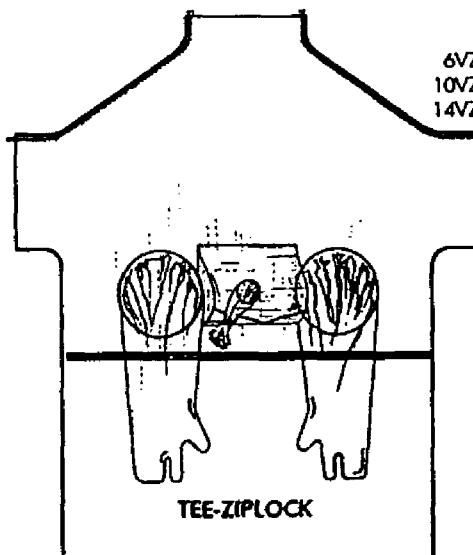
6V - 6" Vertical
10V - 10" Vertical
14V - 14" Vertical

VERTICAL



VERTICAL-ZIPLOCK

6VZ - 6" Vertical c/w ziplock
10VZ - 10" Vertical c/w ziplock
14VZ - 14" Vertical c/w ziplock



TEE-ZIPLOCK

6TZ - 6" Tee c/w ziplock
10TZ - 10" Tee c/w ziplock
14TZ - 14" Tee c/w ziplock

ASBESTOS-CONTAINING PIPE INSULATION REMOVAL MATERIAL PURCHASE SPECIFICATION

PVC Glove Bag: prefabricated, 0.25 mm (10 mil) minimum thickness, poly-vinyl-chloride bag with integral 0.25 mm (10 mil) thick poly-vinyl-chloride gloves and elasticized valve/port. Bag equipped with reversible double-pull double-throw zipper on top to facilitate installation on pipe and progressive movement along pipe and with straps for sealing ends of bag around pipe.

ASBESTOS-CONTAINING PIPE INSULATION REMOVAL GLOVE BAG SPECIFICATION

- | | |
|----------------------------------|---|
| 1. Scope of Work | <ul style="list-style-type: none">1.1 Remove entire asbestos containing pipe insulation as specified.1.2 Where exposed ends of pipe insulation remain, seal exposed end with an approved encapsulant, tape or other appropriate means.1.3 Seal all surfaces of piping, from which asbestos-containing pipe insulation has been removed, with an encapsulant suitable for system (type of pipe). |
| 2. Regulatory Agencies | <ul style="list-style-type: none">2.1 Comply with Federal, State or Provincial and Local requirements for asbestos abatement. In any case of conflict among these requirements or with this specification the more stringent requirements or specifications shall apply. |
| 3. Material and Equipment | <ul style="list-style-type: none">3.1 PVC Glove Bag: prefabricated, 0.25 mm (10 mil) minimum thickness, poly-vinyl-chloride bag with integral 0.25 mm (10 mil) thick poly-vinyl-chloride gloves and elasticized valve/port. Bag equipped with reversible double-pull double-throw zipper on top to facilitate installation on pipe and progressive movement along pipe. All glove bags, disposal bags, tape and any other disposable material shall be new, uncontaminated and in same condition as purchased from manufacturer. All equipment must be clean, uncontaminated and in good working order.3.2 Securing Device: reusable nylon straps at least 1" wide with metal tightening buckle for sealing ends of bags around pipe and/or insulation.3.3 Sprayers: garden reservoir type, low velocity, capable of producing mist or fine spray.3.4 Waste disposal bags: 0.15 mm (6 mil) minimum thickness polyethylene. Labelled as follows: "Contains Asbestos, Cancer Hazard, Avoid Breathing Dust", or equivalent wording.3.5 Tape: self-adhering with sufficient strength for sealing ends of exposed insulation. (3 inch fiberglass reinforced duct tape is recommended.)3.6 H.E.P.A. Vacuum: (High Efficiency Particulate Absolute) filtered vacuum equipment with a filter system capable of collecting and retaining asbestos fibres at 99.97% efficiency for fibres 0.3 microns or larger.3.7 Equipment: tools to safely carry out pipe insulation removal (i.e., retractable utility knife, flexisaw, snipes, rags, scrubbing pad, etc.)3.8 Encapsulant: water based latex sealer or latex paint.3.9 Amended Water: water containing a surfactant. |

4. Preparation

- 4.1 Instruct workers on necessary safety procedures and protective measures. Instruct in correct use of the glove bag and ensure their comprehension and ability to safely use same.
- 4.2 Instruct workers on necessary personal protective equipment as required by job specification or local, state or provincial and federal regulations.
- 4.3 Arrange all waste disposal as required by applicable regulatory body(ies).

5. Removal

- 5.1 Have each worker fit and check respirator and personal protective equipment as specified.
- 5.2 Place any tools necessary to remove insulation in bottom of bag. Zip the bag onto the pipe and seal all openings to the pipe with the nylon straps. For valve bags seal valve cover with tape or equivalent.
- 5.3 Insert nozzle of spray pump (pre-filled and primed with water and surfactant mixture) into bag through valve. Place hands in gloves and place necessary tools to remove insulation in tool pouch.
- 5.4 Cut or remove exterior insulation covering where applicable to expose asbestos pipe covering. Wet exposed pipe covering with sufficient mixture to suppress any dust. Remove insulation and arrange in bottom of bag to obtain maximum capacity of bag. Wash down exposed portion of pipe and top section of bag ensuring that any exposed end of asbestos insulation is thoroughly surface saturated as well as insulation in lower portion of bag. Use one hand and a cloth or sponge to aid in washing process.
- 5.5 If bag is to be removed from pipe for use on new section of pipe seal two or three channels of zip-lock from outside of bag. (Note: trying to close all four channels of zip-lock together is difficult.) Re-install in new location before opening zip-lock.
- 5.6 If bag is to be moved along pipe, move bag, re-seal to pipe with straps and using double-pull zipper to pass hangers. Repeat stripping operation.
- 5.7 To remove bag after completion of stripping, wash top section and tools thoroughly. Put all tools in one hand (glove), pull hand out inverted, twist to create a separate pouch, double tape to seal. Out between the tape and place in next glove bag or into a water bucket, open pouch under water and clean and then allow to dry.
- 5.8 While glove bag is still on pipe but after tools have been removed, an appropriately labelled waste disposal bag is slipped up and over the glove bag. The glove bag's straps and zippers are opened and the glove bag opening carefully folded over and lowered into the waste disposal bag. Disposal bag is then sealed with tape or tie strap (not wire), to minimize bags being punctured in transit to disposal site).
- 5.9 After removal of bag ensure pipe is clean of all residue. If necessary after removal of each section of asbestos, vacuum all surfaces of pipe, using H.E.P.A. Filtered Vacuum equipment. If H.E.P.A. Vacuum equipment is not available, use cloths, mops or sponges, dampened with water. Ensure that surfaces are kept free of wet sludge which after drying could release asbestos fibres into the atmosphere. Do not use vacuum equipment other than H.E.P.A. equipment with high efficiency filters.
- 5.10 Seal all surfaces of pipe with suitable sealer to seal any residual fibres. Cover exposed ends of remaining asbestos insulation with tape.
- 5.11 After removal of pipe covering vacuum all surfaces of work area including reusable tools and equipment used to perform the work.
- 5.12 Have each worker remove and dispose of personal clothing and respiratory equipment as specified.
- 5.13 Welds and folds of glove bags are to remain intact without modification to manufacturers design.
- 5.14 Glove bags, disposal bags, cloth rags and any porous materials are to be considered hazardous after use and handled according to disposal sub-section.

6. Disposal

- 6.1 Deliver and deposit waste in accordance with regulations set by applicable environmental regulatory authorities.