

EFFICIENT VENTILATION

MANUFACTURING

We design and manufacture ventilation products, employing the latest production technology to the benefit of customers worldwide.

CONSULTATION

We can work with your company to reduce ventilation energy costs by 50% or more. Installation, maintenance and or training services

PRODUCTS

Positive & Negative Pressure
Oval Shaped Ducting
Air Flow Controls

Rocvent Inc. is an innovative, low cost producer of complete ventilation systems serving the mining and tunneling market for the past 23 years. With our recent plant expansion we are in a position to continue to increase our market share. We have recently been awarded major long term contracts as the sole supplier of ventilation products to some of Canada's largest mining companies. We are a growing force in the ventilation supply sector with a solid reputation for quality and innovation.



ROCVENT INC
MINE & TUNNEL VENTILATION

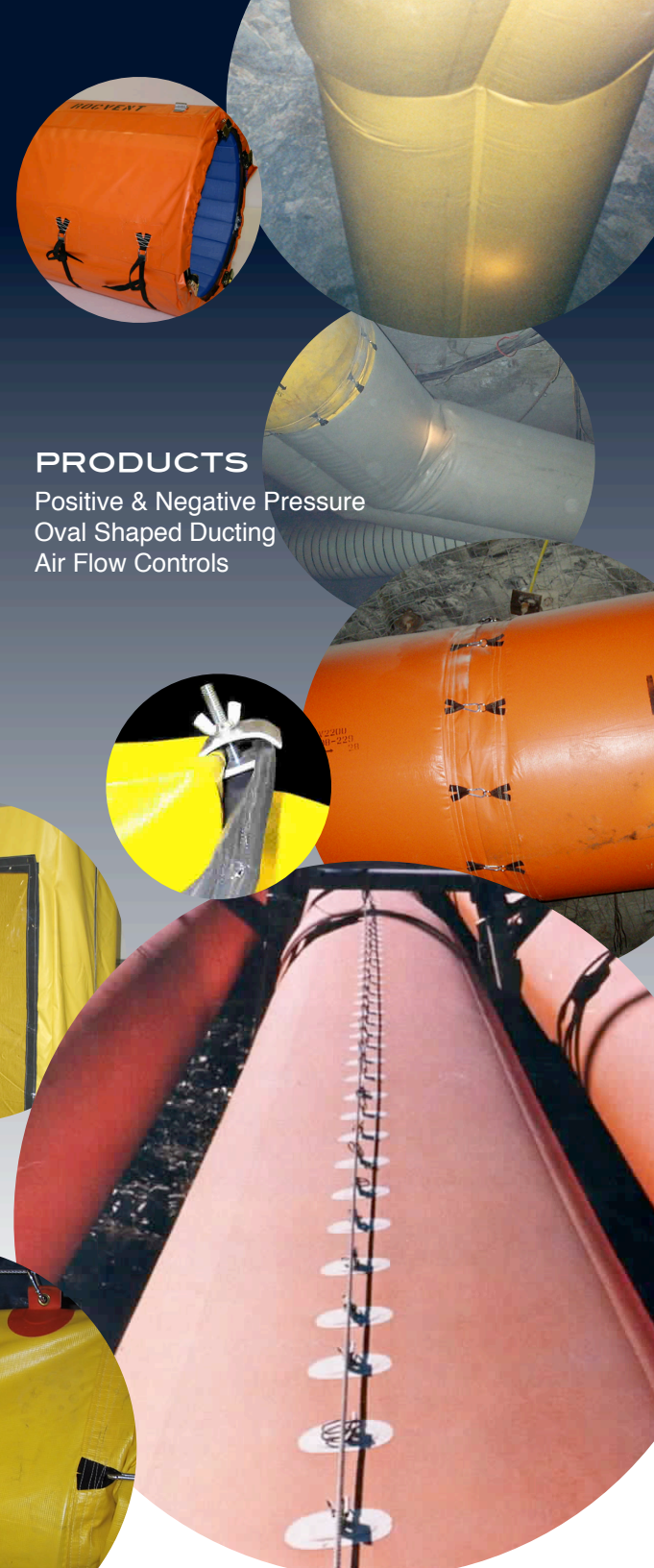




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MATERIAL



VENT DUCT SPECIFICATION

RV1923 – 18oz (YELLOW)

TOTAL WEIGHT: 18 OZ SQ YD COATED P.V.C.
TENSILE: 320 (W) X 380 (F) LBS/IN.
TEAR: 100 X 110 LBS
CONSTRUCTION: WARP KNIT
FIBER: POLYESTER

RV2600 – 26oz (YELLOW)

TOTAL WEIGHT: 26 OZ SQ YD COATED P.V.C.
TENSILE: 500 (W) X 480 (F) LBS/IN
TEAR: 140 PLUS X 120 PLUS LBS
CONSTRUCTION: WARP KNIT
FIBER: POLYESTER

RV2200 – 22oz (ORANGE)

TOTAL WEIGHT: 22 OZ SQ YD COATED P.V.C.
TENSILE: 410 (W) X 380 (F) LBS/IN.
TEAR: 120 PLUS X 110 PLUS LBS
CONSTRUCTION: WARP KNIT
FIBER: POLYESTER

RV2210 – 28oz (ORANGE)

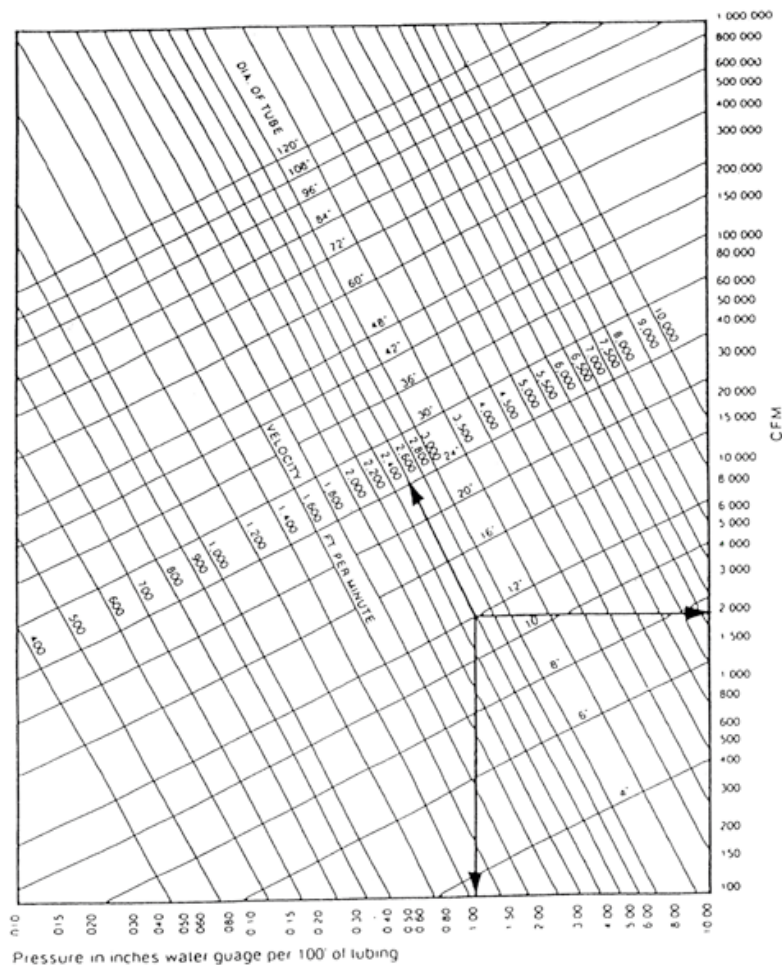
TOTAL WEIGHT: 28 OZ SQ YD COATED P.V.C.
TENSILE: 700 (W) X 660 (F) LBS/IN.
TEAR: 125 PLUS X 120 PLUS LBS
CONSTRUCTION: BASKET WEAVE
FIBER: POLYESTER

THE VENTILATION DUCTS ARE CERTIFIED BY NATURAL RESOURCES CANADA UNDER CERTIFICATION #1181. THE DUCTING ALSO CONFORMS TO CAN/CSA-M427-M91.



FRICTION CHART

Download our [Vent Loss Calculator](#) from our website.



EXAMPLE

Required information:

1. 2000 CFM
2. Length of duct, 500'
3. Size of duct, 12"
4. Type of duct, flexible positive pressure

Find 2000 on the CFM scale. Follow this line horizontally until it intersects the 12" diameter of tube line. Then follow the vertical line which passes through this intersection to the bottom of the chart and read the pressure. It is 1" per 100' of duct. The velocity is read directly from the point of intersection of the diameter volume intersection.

NOTE:

For positive pressure flexible tubing, multiply pressure by 1.8. For negative pressure (spiral) tubing multiply pressure by 3.2.

For each coupling add 6' of tubing, for each bend add 25'-35' of tubing. Exit losses equal approximately 100' of tubing.



ROCVENT INC.
PHONE: 705-692-5834
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www.rocvent.com

FRICTION CHART FOR POSITIVE AND NEGATIVE PRESSURE DUCTING

MATERIAL

WOVEN AND KNITTED PVC FABRIC

Industrial woven and knitted plastic is currently used for purposes where specifications call for a high degree of protection against atmosphere, wind and rain. The purpose for which it is used is from raincoats to inflatable structures.



With few exceptions, the material consists of a fabric woven or knitted in polyamide or polyester (or derivatives there of).

Both sides of the structural fabric are coated with soft polyvinyl chloride (PVC).

The PVC layer ensures that the material is air and waterproof, and protects the fabric against chemical and action fire. The fabric gives the plastic stability and strength and determines the stretch ability of the material.

BASE-FABRIC

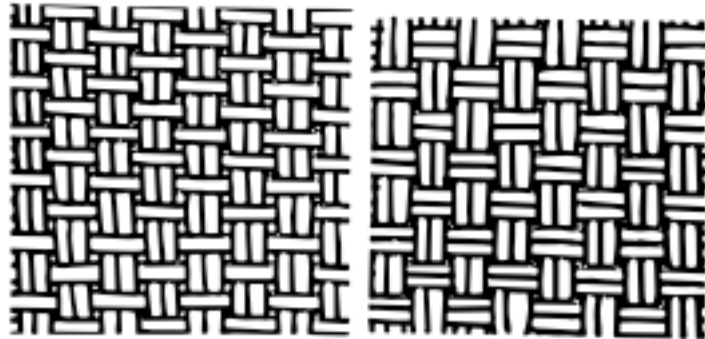
The base-fabric consists of yarn, knitted, semi-basket or full-basket woven. The warp is the yarn running in the longitudinal direction of the woven fabric and the weft is the yarn running from side to side of the fabric or circumference of tubing.

The number of threads per centimetre is quoted for the warp and weft. The thickness of the yarn is of considerable importance. This is normally quoted in denier or dtex. Denier is an earlier unit of measurement. The Decitex (dtex) is the weight of 10,000 metres of yarn expressed in grams. Denier is the weight in grams of 10,000 yards of yarn.

1000 denier = 1100dtex yarn

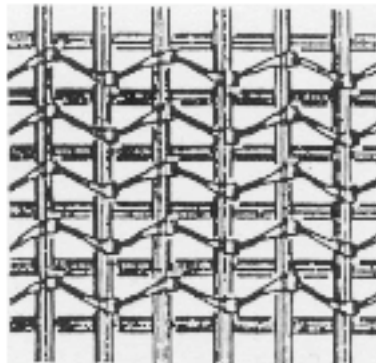
Basket weave also called panama weave gives the best tear strength. The strength of polyamide and polyester yarns is roughly equivalent. Polyamide yarn will stretch more, and for this reason, is better equipped to absorb a sudden load (e.g. tearing). The ability of the yarn threads in the woven material to interact to ensure that the load is taken by several threads is an important factor in tear strength. Knitted fabrics immediately form knots when torn and prevent any further damage by tearing.

PVC MATERIAL CONSTRUCTION



Semi-basket weave

Full-basket weave



Knitted Fabric

SOFT PVC

The coating layer consists of polyvinyl chloride, elasticizer, stabilizers, colour pigment, extender, and in some cases other additives.

PVC is a hard material and will only become flexible on the addition of an elasticizer. The additives used will determine the ultimate properties of the material.

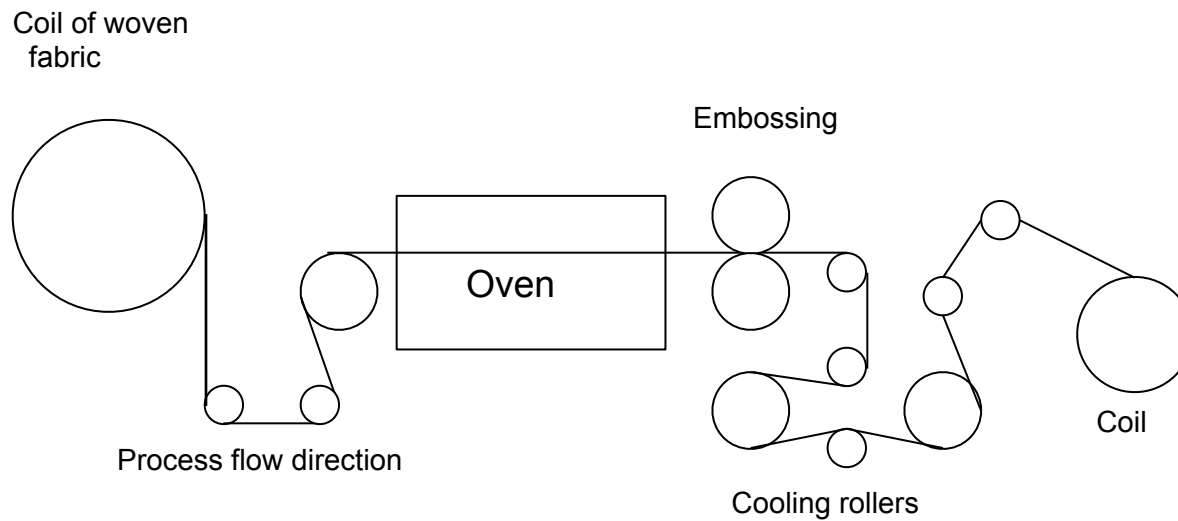
The PVC coating can be made resistant to heat and cold, sunlight, fires, aging and so on. It can be coloured to virtually any shade.

PVC COATING

The plastic is applied to the fabric in a coating machine. A uniform film of molten plastic compound is applied to the woven fabric before it enters an oven where it is heated to about 170 - 200 degrees Celsius.

At this temperature, the elasticizer dissolves the PVC grains to form a homogeneous elastic film of PVC plastic. This process is called gelatinizing.

PROCESS SCHEMATIC OF FACILITY FOR COATING WOVEN FABRIC WITH PVC





PRODUCT CHARACTERISTICS

Tubing is manufactured of PVC-coated woven or knitted fabric designed to ensure excellent tube function under severe conditions.

Temperature range is -30 to +70 degrees Celsius. This is the temperature range normally encountered in installations and the tubing will give reliable performance within this range. PVC woven fabric will grow stiff at lower temperatures.

Care should be taken in installations where the temperature drops below -30 degrees Celsius to avoid subjecting the tubing to sudden bends or contact with sharp objects. Provided these precautions are taken, the tubing will continue to function reliably at lower temperatures.

The high strength rating (see technical data) of the fabric enables the tube to withstand shock waves generated by blasting, several types of overloading and mechanical action within reasonable limits.

Vehicle exhaust and blasting fumes will not affect the tubing in normal conditions. The tubing is manufactured of synthetic woven fabric coated on both sides with PVC, and dirt will not

accumulate. This is in contrast to fabric coated with PVC on one side only, where dirt and dust tend to stick on the uncoated side.

The tubing is not sensitive to micro-organisms normally associated with rot and mildew in the layer of dirt deposited in the tube. The PVC coating is unsusceptible to corrosion and similar attack.

The material is flame retardant – conforming to CAN/CSA-M427-M91 Certificate #1181

The durability of PVC fabric has been confirmed by the experience of many years of installation.

Tubing is manufactured in high-frequency welding machines. The ability of the material to lend itself to welding is of crucial importance in ensuring a strong weld. The material and the welding method used give a welded joint virtually as strong as the material itself.

The manufacturer needs to possess special skills and experience to control the additives in the coating so as to counteract the aging process in plastic fabric.

MATERIAL PROPERTIES

TENSILE STRENGTH

The tensile strength of the plastic-coated fabric is determined by the properties of the basefabric, i.e. the strength of the yarn and its elongation properties.

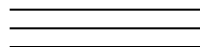
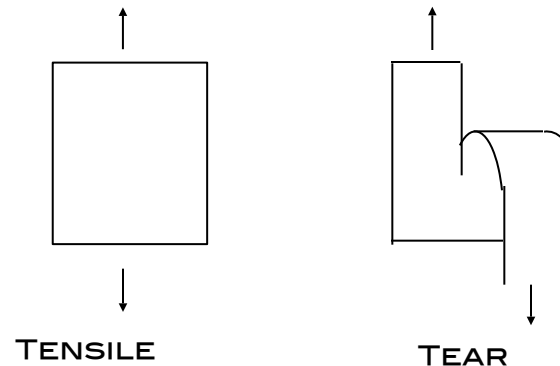
A 1 inch wide strip of material is pulled apart in a tensile testing machine until it fails, whereupon the rupture force and elongation are read off at the point at which the rupture occurred.

This test is conducted in the longitudinal (warp) and transverse (weft) direction.

TEAR STRENGTH

The normal method of identifying the tear strength of a material involves taking a sample, making a 5-cm long slit and inserting it in the two clamps of a tensile testing machine (SIS 25 12 31). The tear force that is required to re-initiate the tear is read off. Tests conducted in this manner often gives different values for tear strength in the longitudinal and transverse axis of the woven fabric.

Experience has shown that the elasticity of the yarn, hardness of the coating and weave effect tear strength. Elastic fabric with a coating that permits a limited amount of thread slip, typically basket-weave, normally has the highest tear strength.



THERMAL PROPERTIES

Plastic fabric is susceptible to temperature changes. It softens as temperature rises, and become more rigid as temperature drops. Resistance to low temperature may be controlled by varying the composition of the coating.

RESISTANCE TO FIRE

Through the use of different additives, plastic fabric can be rendered flame retardant. The material used in the manufacture of Rocvent tubing will not sustain burning.

Rocvent ventilation material has been certified by Natural Resources Canada under CSA Certification #1181. The ducting material also conforms to CAN/CSA-M427-M91.

AGING

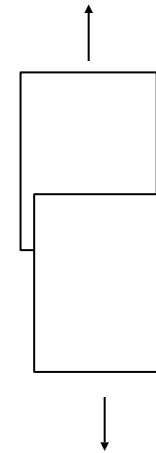
Plastic fabric ages slowly. Nevertheless, even a material as strong as PVC will degenerate with the passage of time through the action of a series of different factors. In all probability, the ultra-violet radiation present in sunlight is the major factor. This radiation acts on the PVC coating and causes brittleness. The plastic will become discoloured and hydrochloric acid gas released in the process will begin to attack the substrate.

WELDABILITY

Adequate adhesion between substrate and the plastic coating is of particular importance in the manufacture of tubing from plastic fabric.

The degree of adhesion must be adapted to reflect the other properties of the material to ensure that tensile strength is virtually identical to that of the material itself.

The grade of plastic fabric used in the Rocvent tubing and our purpose-designed, high-frequency welding equipment provides just such a result.



Shear strength test for a welded joint

ABRASION RESISTANCE

Abrasion resistance is determined by conducting a test in which a roller is rotated against a sample of fabric (ASTM D 1175-55T). Loads are applied to the roller in several ways and an account is taken of the number of roller revolutions that precede the exposure of the threads in the fabric.



TUBING

OVERVIEW

TYPES

Rocvent ventilation tubing is manufactured in a number of styles:

- **Layflat Tubing** - is collapsible PVC tubing (positive pressure) manufactured in a selection of grades to match the strength specifications required by customer
- **Spiral Ducting** – spiral reinforced ducting (positive and negative pressure)
- **Duo-Duct** – is collapsible dual oval chambers reducing required headroom by 25%
- **Vertical Shaft Tubing** – is a collapsible PVC tubing complete with 2” webbing radio frequency welded to the tubing at opposite sides – (180°) with connection of each length with 2 – 2” ratchets connecting the webbing of each length of tubing

Call your Rocvent representative for the correct style, size and material weight for further information.

MANUFACTURE

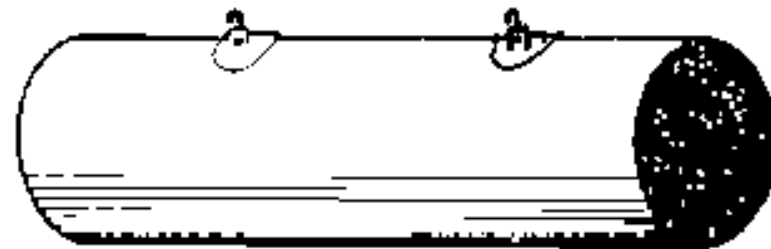
The material is welded in purpose-built, radio-frequency machines to form flexible tubes.

SIZES

Tube diameters vary from 300 mm to 2,400 mm (12” – 96”) Standard tube length is 7.62 & 15m (25’ & 50’). Tube sections are available in other lengths to custom order.

COLOUR

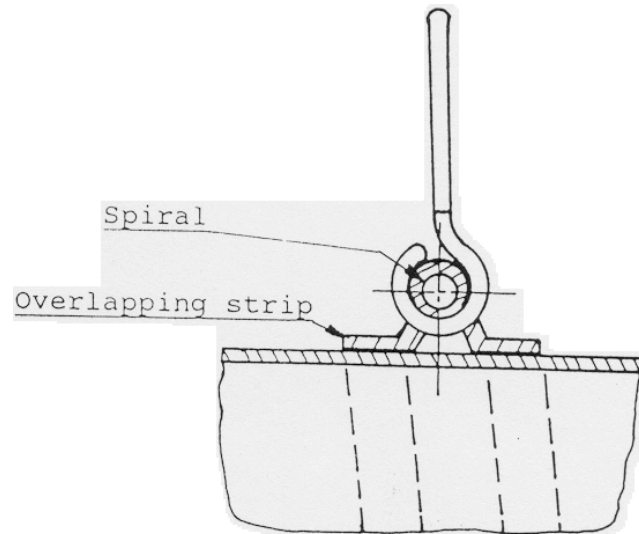
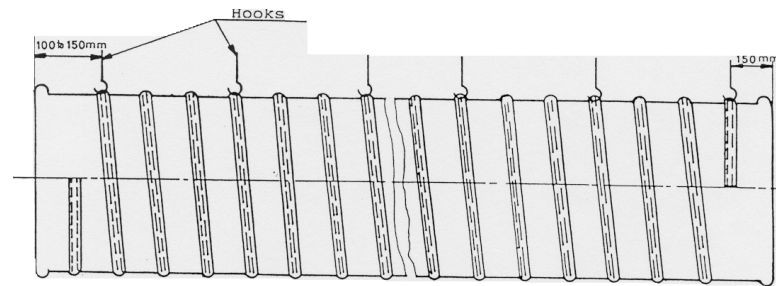
Tubing is normally manufactured in highly visible colors.



Typical ventilation tube section

SPIRAL DUCT

This ducting is made from our RV1923 type material. Spring steel wire is welded on to the duct using a special extruded P.V.C. profile with wear protection.



Standard sizes produced are:

DIA.		LENGTH
12"	X	25'
16"	X	25'
20"	X	25'
24"	X	25'
30"	X	25'
36"	X	25'

Standard pitches are 4" and 6". Other combinations can be made to your specification.

DUO DUCT

ROCVENT AIR TECHNOLOGY

A complete ducting system for mining and tunneling

INTRODUCING ROCVENT DUO DUCT

The duct may be damaged due to lack of clearance.

DUO DUCT increases clearance by 25% without restriction of air flow.

VENT TUBE DIAMETER (IN)	EQUIVALENT DUO DUCT SIZE HEIGHT - WIDTH
24 =	18.0 X 32
30 =	22.0 X 39
36 =	27.0 X 47
42 =	31.0 X 56
48 =	36.0 X 65
54 =	40.0 X 72
60 =	45.0 X 78

We invite you to draw on our experience in manufacturing and design of ventilation systems. Several types of ducting are available to suit your budget and technical requirements. Including our new **DUO DUCT** which reduces the required space by 25% and is quick and easy to install.

"These Products Are All Designed And Manufactured In Sudbury"

ROCVENT

55 MAGILL STREET
LIVELY, ONTARIO P3Y 1K6 CANADA
PH: (705) 692-5854 FAX: (705) 692-9044

VERTICAL SHAFT TUBING

The Shaft Tubing is standard tubing with 2" webbing that is frequency fastened to opposite sides of the tubing with 2" ratchets connected to the webbing of the next section. The Snaps are then connected to seal the tubing.





COUPLING SYSTEMS

END RINGS WITH MULTICLIPS

Made with high tensile wire rope in standard diameters of 12" to 96" (300 – 2625mm). The wire rings are heat sealed into the ends of the PVC tubing material.

The multi clips are inserted between the 2 end rings that have been inserted in one another.

of multi clips recommended:

5 coupling clips for 36" dia and smaller

7 coupling clips for 54" dia and smaller



SNAP-ROC COUPLINGS & ROLLED CUFF

This coupling system is providing an integral connection between the tubing sections for better air flow. The snaps and rings provide a quick and efficient connection of the system. The snap-Roc coupling system is available for all styles of tubing and ducting.

The tubing is snapped onto the Messenger Cable, then connected to the previous section of tubing with the snaps - starting with the snap at the top of the tubing.

Stretch out the tubing so that it is taut, adding intermediate suspension as required. The end cuff **MUST** be rolled back and snaps clipped on to prevent it from fraying.





OTHER COUPLING SYSTEMS AVAILABLE:

- Zipper
- Flex PVC Band
- High Pressure Metal Clamps
- Aussie
- Velcro

Contact your Rocvent representative for further details.

FITTINGS AND ACCESSORIES

ELBOWS

Rocvent manufactures elbow and branch sections to provide a complete ventilation system.

Elbow sections are manufactured in sizes designed to cover all our tubing diameters and normally provide 15, 30, 45, 60 and 90-degree bends.

These sections are manufactured with a stronger material to withstand the additional forces present in fittings.

Elbows are available in sections. The number of sections will depend on the angle of the elbow. The choice of the number of sections will be determined on the basis of minimum airflow resistance specified and cost consideration.

Elbows are equipped with an interior coupling ring at both ends or snap-roc couplings.

DAMPERS

Rocvent manufactures flexible PVC tube dampers. These dampers may be installed after a lateral wye or pantleg wye in order to control the volume of air to be split up into each leg.

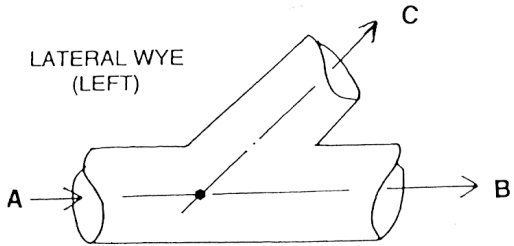
Call your Rocvent representative for further information on the damper and/or other accessories



Engineered 90 degree, Duo Duct Elbox 8000ft. Level Kidd Creek

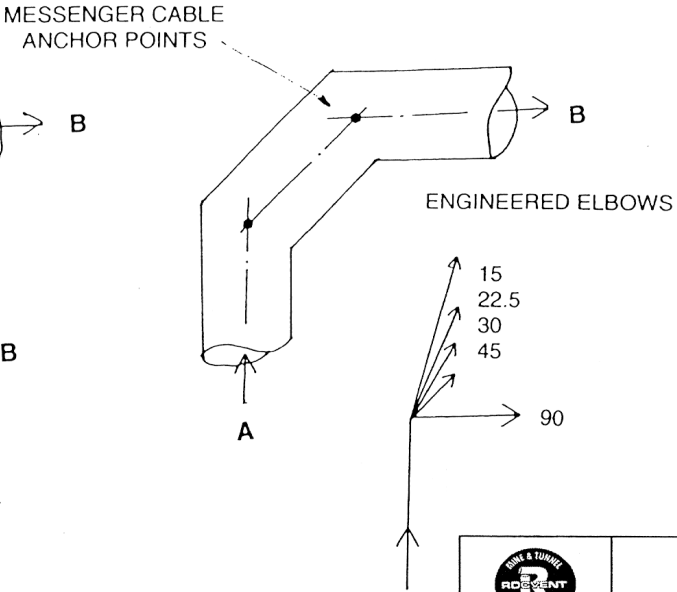
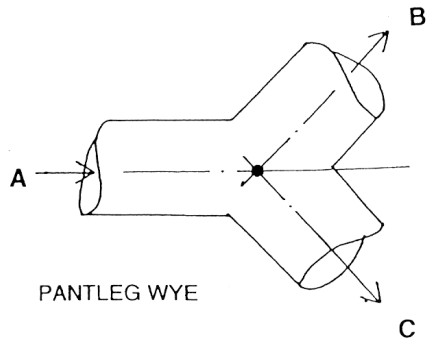
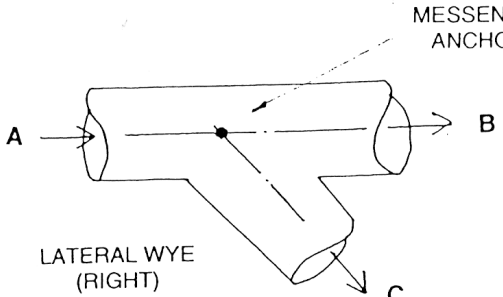



ENGINEERED FITTINGS



A – INLET B – OUTLET C – BRANCH

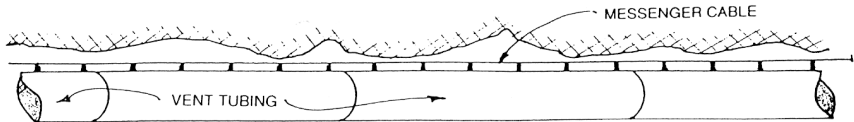
NOTE: LATERAL WYES & ELBOWS ARE TO BE INDICATED AS LEFT OR RIGHT FOR SNAP-ROC SYSTEM



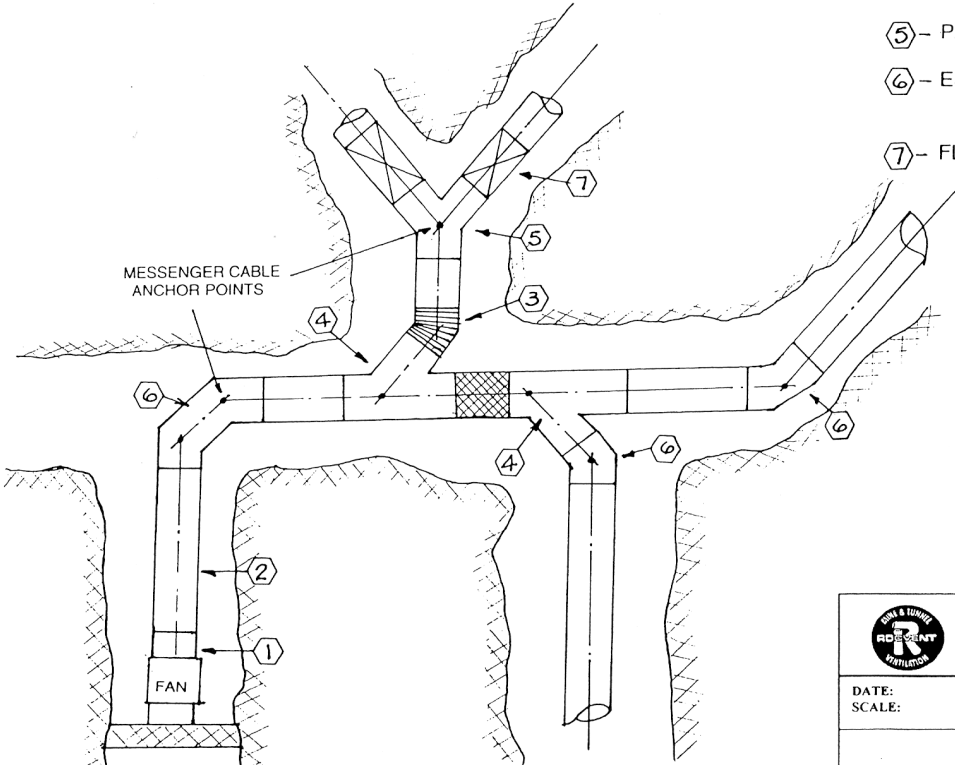
	<p>ROCVENT INC. PHONE: 705-692-5854 FAX: 705-692-9044 www.rocvent.com</p>
<p>DATE: SCALE:</p>	<p>ENGINEERED FITTINGS</p>



VENT TUBING IDENTIFICATION



- ① - FAN ADAPTERS
- ② - LAYFLAT TUBING
- ③ - SPIRAL TUBING
- ④ - LATERAL WYE (LEFT/RIGHT)
- ⑤ - PANTLEG WYE
- ⑥ - ENG. ELBOW - 90, 45, 22 DEG (LEFT OR RIGHT)
- ⑦ - FLEXIBLE DAMPERS



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<p>DATE: SCALE:</p>	<p>VENT TUBING IDENTIFICATION</p>



TUBING INSTALLATION



GENERAL INFORMATION

A poor installation of vent tubing is the chief cause for the lack of air at the workplace.

Tubing installation must be performed correctly to achieve the best results and minimize costs.

TYPICAL INSTALLATION ERRORS

The following illustrates typical mistakes made in installation. In all cases, these errors will cause great pressure drops in the system and lead to higher energy costs.

1. Messenger cable installed following the back rather than a straight line for 50' with intermediate supports as required.
2. Bending a flexible tube at an angle greater than 10 degrees. Always use the elbow sections ranging from 15 to 90 degrees.
3. The tubing run is impeded by water or compressed air piping to prevent any change in the cross-section area of the tubing.
4. Improper connection of tubing to fan or steel duct, changing tubing diameter without proper reducer.
5. Tube leakage will reduce the amount of air available. i.e. a 10" cut in tubing = 1000 CFM leakage. This effect is increased closer to the fan.

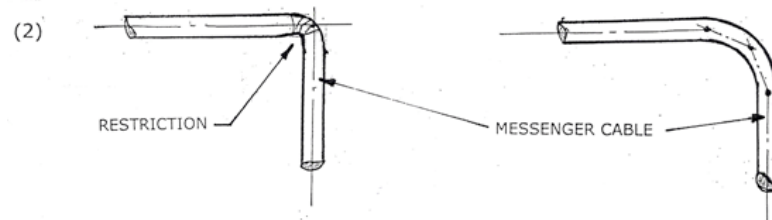
TUBING INSTALLATION

POOR INSTALLATION GOOD INSTALLATION

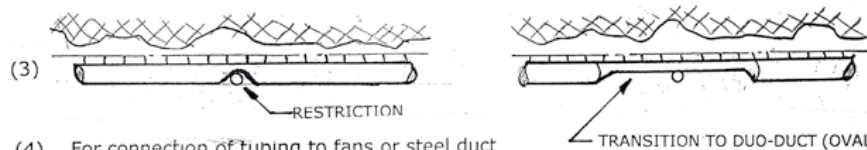
MESSENGER CABLE INSTALLATION



ENGINEERED FITTINGS (15, 22.5, 30, 45 & 90 Deg)



PIPING OBSTRUCTIONS



(4) For connection of tubing to fans or steel duct Belt & Ratchet Adapters are to be installed

(5) Band-aids for holes & tears
- see website accessories

NOTE: "Rule of thumb"
A 10" cut in tubing = 1000 CFM Leakage

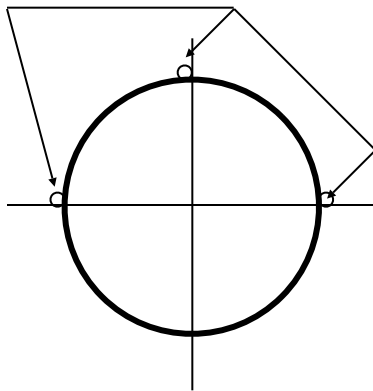
INSTALLATION COMPONENTS

SUSPENSION

The 6 ply **suspension tab** with a 2-ply pad is installed on the tubing using a radio frequency fusion method at 700-1000 mm depending on tube diameter. This provides the strongest suspension system in the industry with a large heavy duty grommet installed into the 6 plies of material.

A (carabiner) 7mm heavy duty snap hook is installed onto the grommet that will in turn be snapped onto a messenger cable.

3 rows of suspension points



FAN & STEEL DUCT ADAPTERS

The **Belt & Ratchet** is manufactured 4" larger than the fan or steel duct in order to go over flange (ie) - for 36" fan - (40" B&R x 36" Snap-Roc). The belt & ratchet provide for a good seal in lieu of carry strap or other means.

LATERAL & WYE FITTINGS

The **lateral wye** is located where the main air supply is to continue along a ramp or drift. The branch exits the fitting to the left or the right.

The **pantleg wye** is located where the main air is split at 45 degrees to the centre into two equal branches.

REDUCERS

The reducers provide a proper transition from one size to another for better flow of air.

MESSENGER CABLE KIT INSTALLATION INSTRUCTIONS

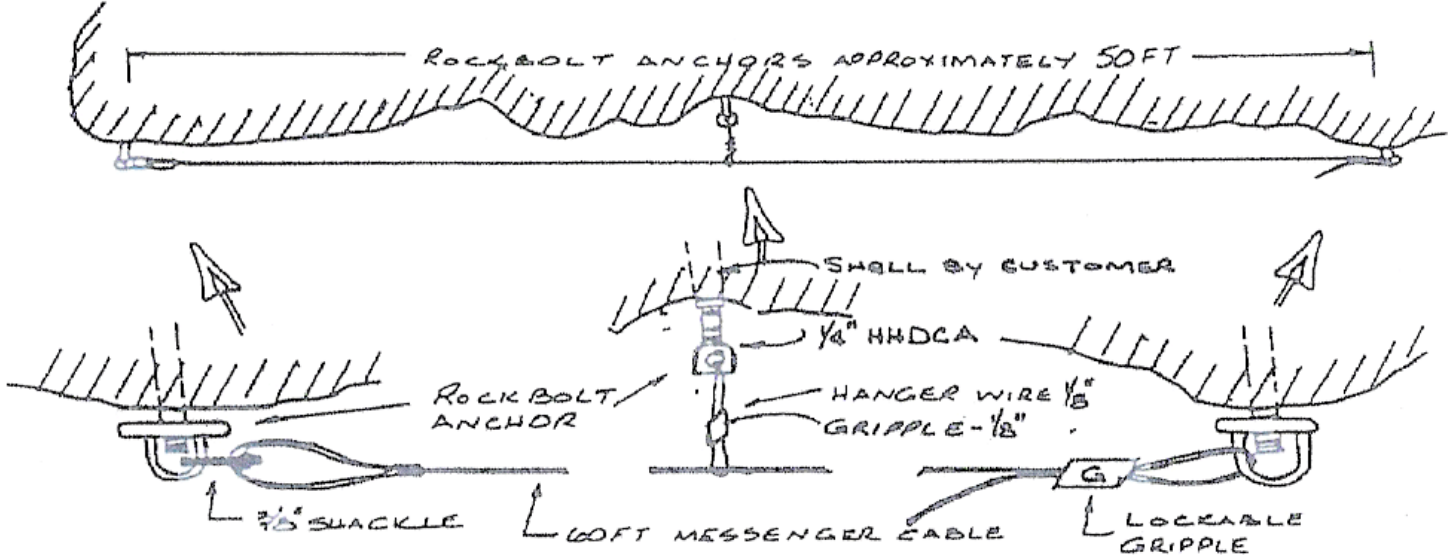
The 6.25mm x 18.3 m (1/4" x 60ft) messenger cable is provided as a kit complete with cable eye and 3/8" screw pin shackle for connection to a "rabbit ear" or eye nut. The messenger cable kit is the foundation of a successful installation.

Rocvent provides installation demonstrations to improve your system underground.

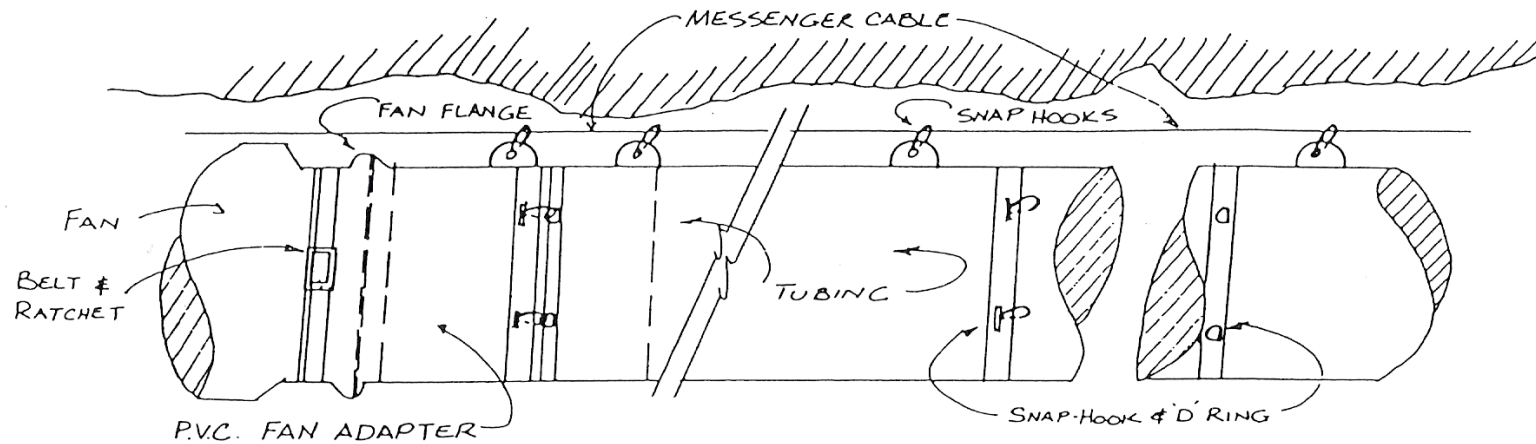
1. Connect 3/8" shackle to rock bold anchor
2. Locate next anchor approx. 50' & pass end of cable through anchor & back into lockable gripper
3. Pull up slack by hand then install tension tool & complete tensioning
4. At midpoint drop hanger wire from 1/4" HHDC ceiling hanger hilti pins & loop under messenger wire & back up into 1/8" gripper
5. Up to:
 - I. 36" dia - 1 intermediate support / 50ft
 - II. 48" dia - 3 intermediate supports / 50ft
 - III. 54" dia - 4 intermediate supports / 50ft

- Messenger cable kit #50-GRIP-000060
- Messenger cable kit complete with 3 intermediate support cables #50-GRIP-300060 (for Shotcrete application)
- Tensioner #50-GRIP-00TOOL





SNAP-ROC TUBING



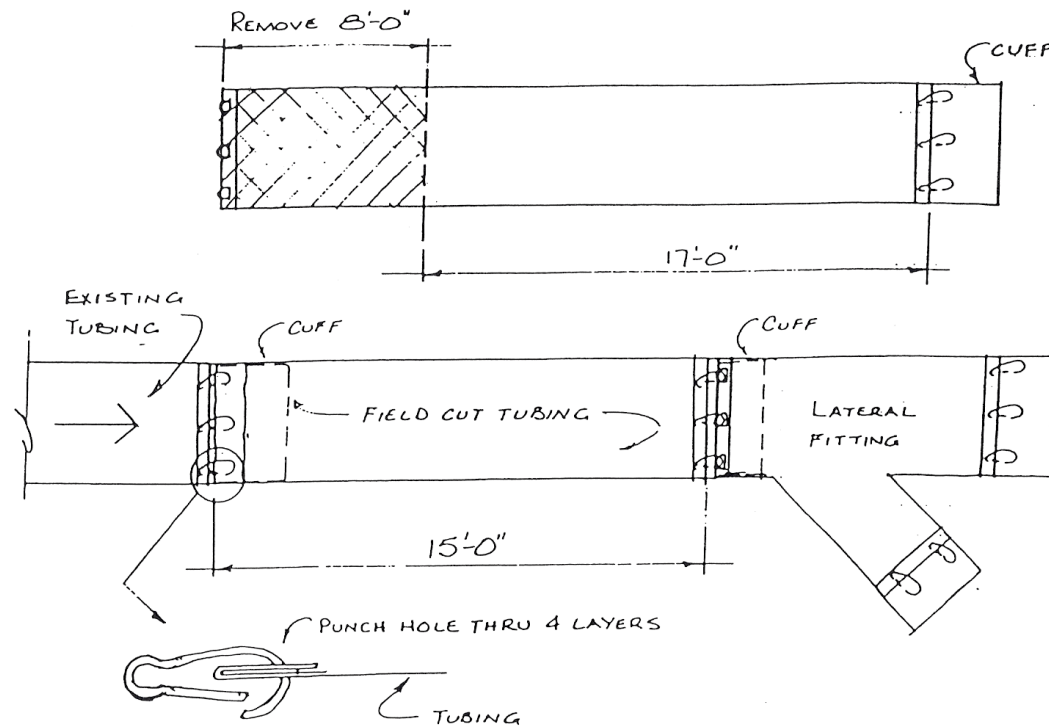
SNAP-ROC TUBING INSTALLATION

- Belt and ratchet used for connection to fans & steel duct
- Snap-Roc system may be used for standard tubing, Spiral and Duo-Duct (oval)

ADVANTAGES

- Hook and D Ring provide fast and simple installation
- Higher air flow efficiency - no air leakage
- Installed off messenger cable for faster and more efficient installation

CUSTOM FIELD CUT - VENT TUBING



INSTALLATION

Required: 15' of tubing from last installed section of tubing to lateral fitting

1. Cut off 8' 0" of tubing from inlet end of tubing, leaving 17' 0"
2. Fold back cut-off end 2 times making 4 thicknesses
3. Punch holes through material to line up with hooks of last installed section of tubing
4. Inset 'cuff' of last installed section of tubing & connect snaps

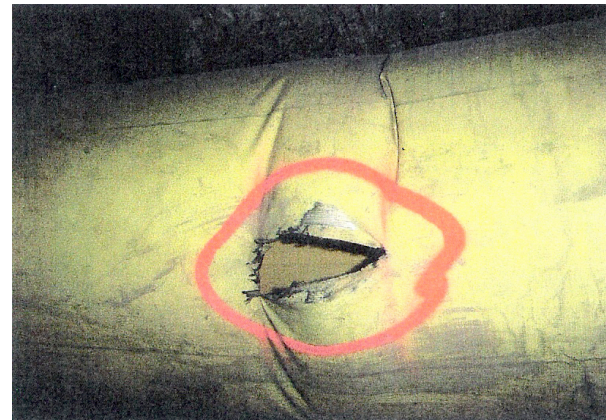
TUBING REPAIRS

Repairing of the vent tubing is essential in order that the air be distributed to the locations intended.

From a 10" hole or cut, as much as 1000 CFM can be lost.

Band-aids are manufactured to be installed on all diameters of tubing with standard widths of 36".

Custom widths are available and are also made special for Steel duct repairs.

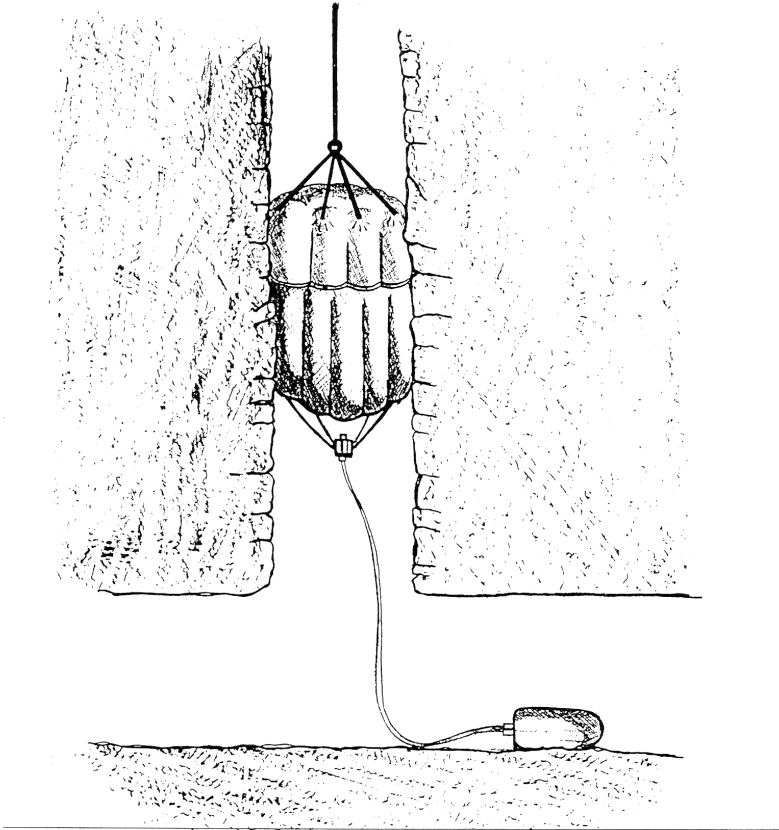





OTHER PRODUCTS



INFLATABLE HEADCOVER



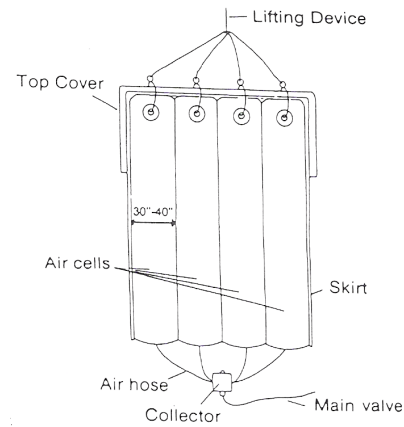
	ROCVENT INC. PHONE: 705-692-5854 FAX: 705-692-9044 www.rocvent.com
DATE: SCALE:	INFLATABLE HEADCOVER

A radical approach to increased safety underground. Rocvent has designed an inflatable headcover to meet conditions, which previously exposed workers to falling objects such as rocks.

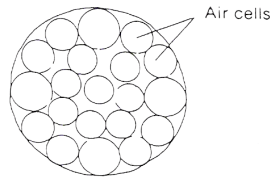
The multicell system enables protection where there was no previous means of security from falling objects. We design to custom orders and welcome your inquiry.

FEATURES:

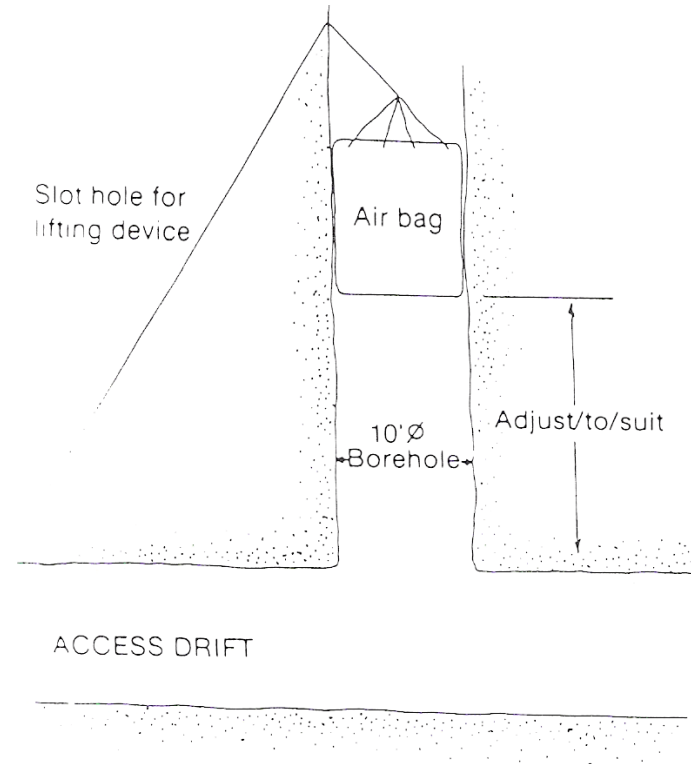
- Light weight
- Small physical size
- Ease of installation
- Shorter down-time



X-Sectional View



Configuration of the air bag head cover



Set-up of the air bag head cover



HEADCOVER INSTALLATION INSTRUCTIONS

This standard working procedure has been prepared to help all team members to work as safely as possible. This procedure is a minimum standard required.

Note: This procedure has been written in the most general form possible. Care must be taken to evaluate every situation individually.

REQUIREMENTS

GENERAL:

- All applicable laws and regulations will be followed while performing this job.
- All applicable mine site specific rules and regulations will be followed while doing this job.
- The workers doing this job have been previously trained to:
 - I. Work safely in an underground environment, select and use personal protective devices, safety signs, fire extinguishers and the appropriate hand tools.
 - II. Protect self and others in underground mines and recognize: loose and/or abnormal ground conditions and faulty ground-support.
 - III. Scale loose rock, prepare the rock face, select, repair and fasten hoses.
 - IV. Individuals undergoing training in the required prerequisites must be accompanied by a trained individual.

JOB SPECIFIC:

- The workers performing this procedure have been previously trained to:
 - I. Safely handle rock drill oil
 - II. Safely handle resin cartridges (WHMIS)
 - III. Drill holes with a rock drill
 - IV. Install ground support (re-bar)
 - V. Determine the safe loading capacity for rigging gear and rig accordingly
 - VI. Use the equipment that is available to place the headcover
- Clear communications must be verified between the tigger site and bottom of the raise if the headcover is to be lifted from a location other than the break-through site.

HAZARDS:

- Compressed air can cause serious injuries and care should be taken when working around it
- Compressed air hoses must be properly maintained and connected. A whipping air line can cause serious or fatal injuries.
- The break-through area of a raise is particularly dangerous due to the possibility of falling rock. Hearing protection should be removed when working in this area. The time spent near to the raise opening must be limited.
- If the work that is to be performed will take longer than one shift it is recommended that the headcover is



deflated between shifts (strongly recommended if blasting operations are on-going nearby).

- All noise generating activities must be stopped while installing the headcover and while working under the headcover.
- **The headcover to be used must be the correct size for the raise.** The diameter range that is suitable for the installation of the headcover is from the rated diameter down to two feet less than the rated diameter. *****Under no circumstance is the headcover to be used in a openings that are larger than the rated diameter of the headcover.**

PROCEDURE:

1. Check scale and clear site area:
 - ✓ The area around the top of the raise and all access ways to the raise must be well scaled and blown clean.
 - ✓ The brow area around the raise breakthrough must be well scaled and ground support installed as required.
 - ✓ All remaining cuttings and loose rock must be removed from the breakthrough area.
2. Place lighting at the bottom of raise, if possible:
 - ✓ Adequate to create good visibility for all further work to be performed.
3. Determine the lifting method to be used:
 - ✓ Using a tigger winch from the top of the raise or an access point in the raise
 - ✓ Using a drilled hole from the breakthrough area and a cable passed through it. This hole must be drilled at a 45 degree angle to the horizontal and on azimuth that will intersect the center line of

the raise. Depending on the circumstance the drilled hole will intersect the raise at least 60 feet up it.

**If passing a cable through a drilled hole it must be at least 1/2 inch in diameter or larger to protect from abrasion at the intersection of the drilled hole and the raise.

4. Lower the cable to the raise bottom:
 - ✓ Lower an extra 30 feet of cable
5. Using a long hook retrieve the cable from under the raise:
 - ✓ Do not enter the area under the raise
6. Move the inflatable headcover into position near to the bottom of the raise:
 - ✓ Not under the raise
 - ✓ Removing all ropes and shipping binding
7. Attach a 50 foot, one inch air line to the headcover.
8. Connect the lifting cable to the lifting attachment on the inflatable headcover:
 - ✓ Ensure that the lifting straps will not foul when lifting commences.
9. Lift the bulkhead into place in the raise:
 - ✓ As per drawing
 - ✓ Care must be taken not to damage the headcover on screen or any other sharp edges
 - ✓ The bulkhead must be installed a suitable distance up the raise to allow the headcover to slide while absorbing an impact.
10. Connect the regulator to the mine air and to the air line on the headcover.
11. Inflate the headcover:
 - ✓ The regulator pressure gauge must indicate **1. psi.min.**



12. Lower 10 to 30 feet of slack (depending on the circumstances) cable into the raise.
13. Perform the work that is required.
14. Re-snug the cable to support the headcover.
15. Deflate the headcover.
16. Lower the headcover.
 - ✓ Pull it out from under the bottom of the raise.
17. Inspect and document damage to the headcover.
18. **Disconnect and stow the headcover for shipping to ROCVENT for testing/repair after each use.**
19. Lift the reamer back into the raise, if required.
20. Barricade and rope off all access to the raise.



INFLATABLE STOPPING PANEL

1. Light-weight, easy to transport, simple to store.
2. Easy and inexpensive to install and move.
3. Highly resistant to wear and tear, excellent flexibility.
4. Resistant to gases and aggressive water, flameproof.
5. Water-repellent, will not rot or age.

These performance characteristics render the inflatable stop panel the ideal choice for temporary - in the event of fire or gas escapes - and long-term closure of sections of the mine.

MATERIAL AND DESIGN

Flameproof PVC-coated polyamide. Grade 09 09 12.

Pressure regulator with water separator, installed in a special pocket for added protection. Drainage hole in lower section of water separator to prevent collection of water in tubing.

INSTALLATION

The panel may be carried to the site on the pallet and unrolled on two planks of suitable lengths at the erection site.

Apply compressed air through the quick coupling until the unit is sufficiently stiff to raise using the planks. Continue inflation until the panel has stabilized against the floor, walls and roof.

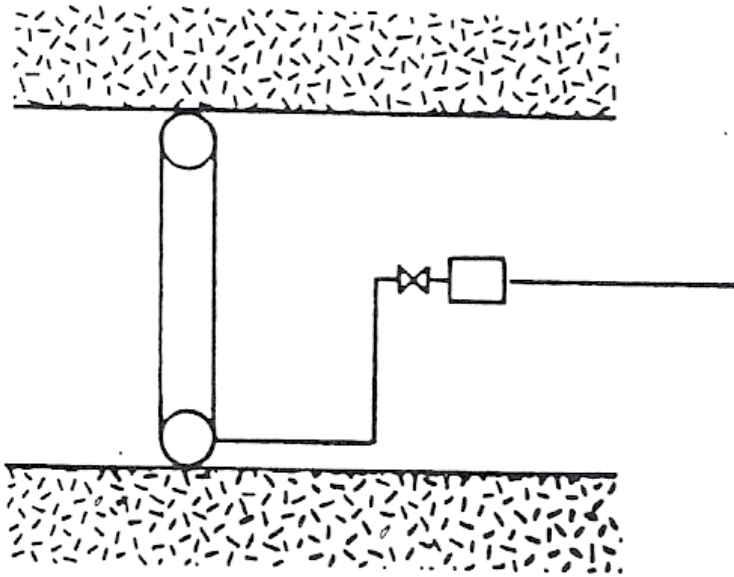
The panel is equipped with a pressure regulator. After inflation, disconnect compressed air and connect pressure regulator. Adjust regulator to near-open threshold. Listen for escaping air when adjusting. Turn knob clockwise to increase pressure in the enclosure.

The regulator is equipped with a self-purging water filter to prevent failure in damp drifts. A discharge valve is located to the side of the control unit. The panel will not normally provide a hermetic seal against the uneven walls of the tunnel. Use pieces of foam plastic as required to plug leaks. At floor level, the simplest method is to shovel coarse material against the panel.

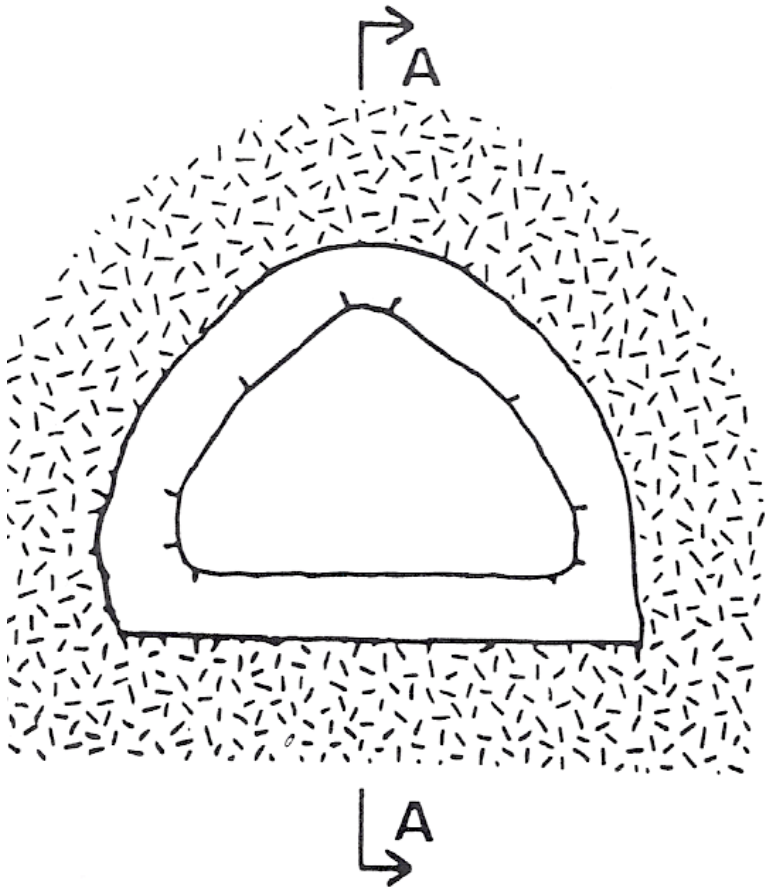
The stop panel is available with an opening in the center upon request.

ORT = DRIFT

MANOVERTAVLA = CONTROL UNIT

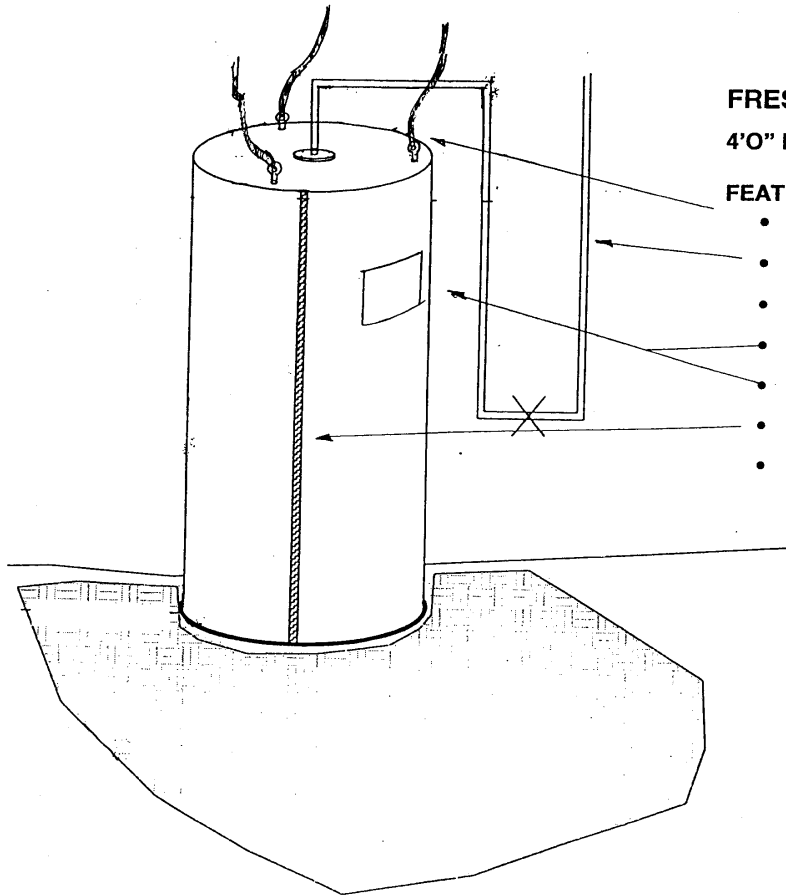


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FRESH AIR STATIONS

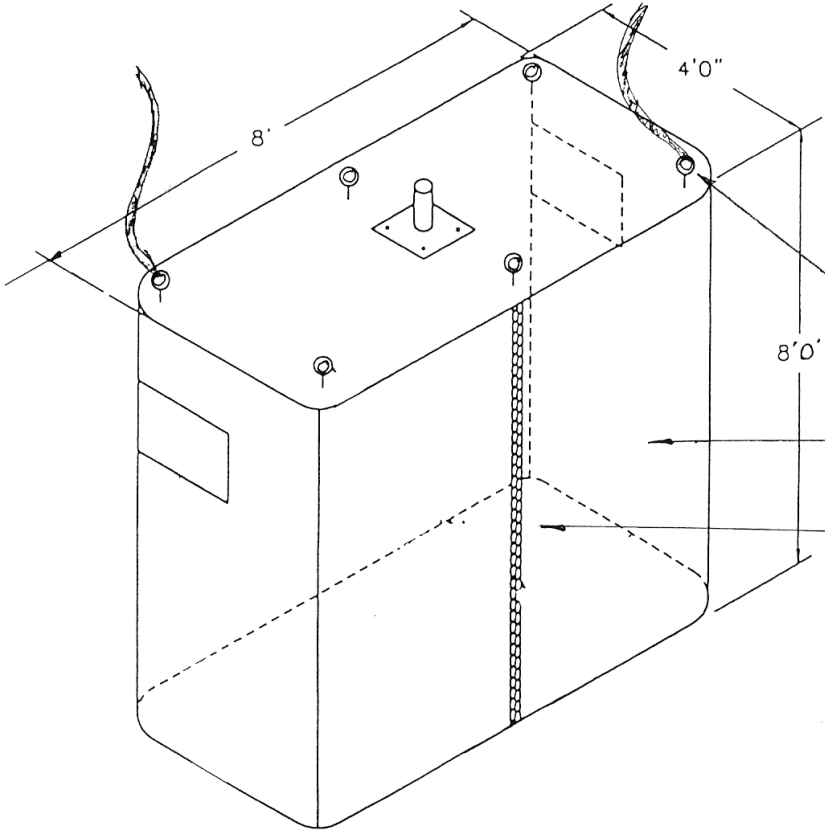


FRESH AIR STATION
4'0" DIA. X 8'0" HIGH

FEATURES:

- 3 eye bolts c/w 1" webbing to hang from back
- air supply by customer
- 3/4" plywood top covered with PVC material
- 48" dia. vent tubing material RV2200
- clear plastic window
- 7'0" non corrosive zipper
- supplied with or without floor as required

FRESH AIR STATION	
4'0" DIA. X 8'0" HIGH	



FRESH AIR STATION
4:0" X 8'.0" X 8:0" HIGH

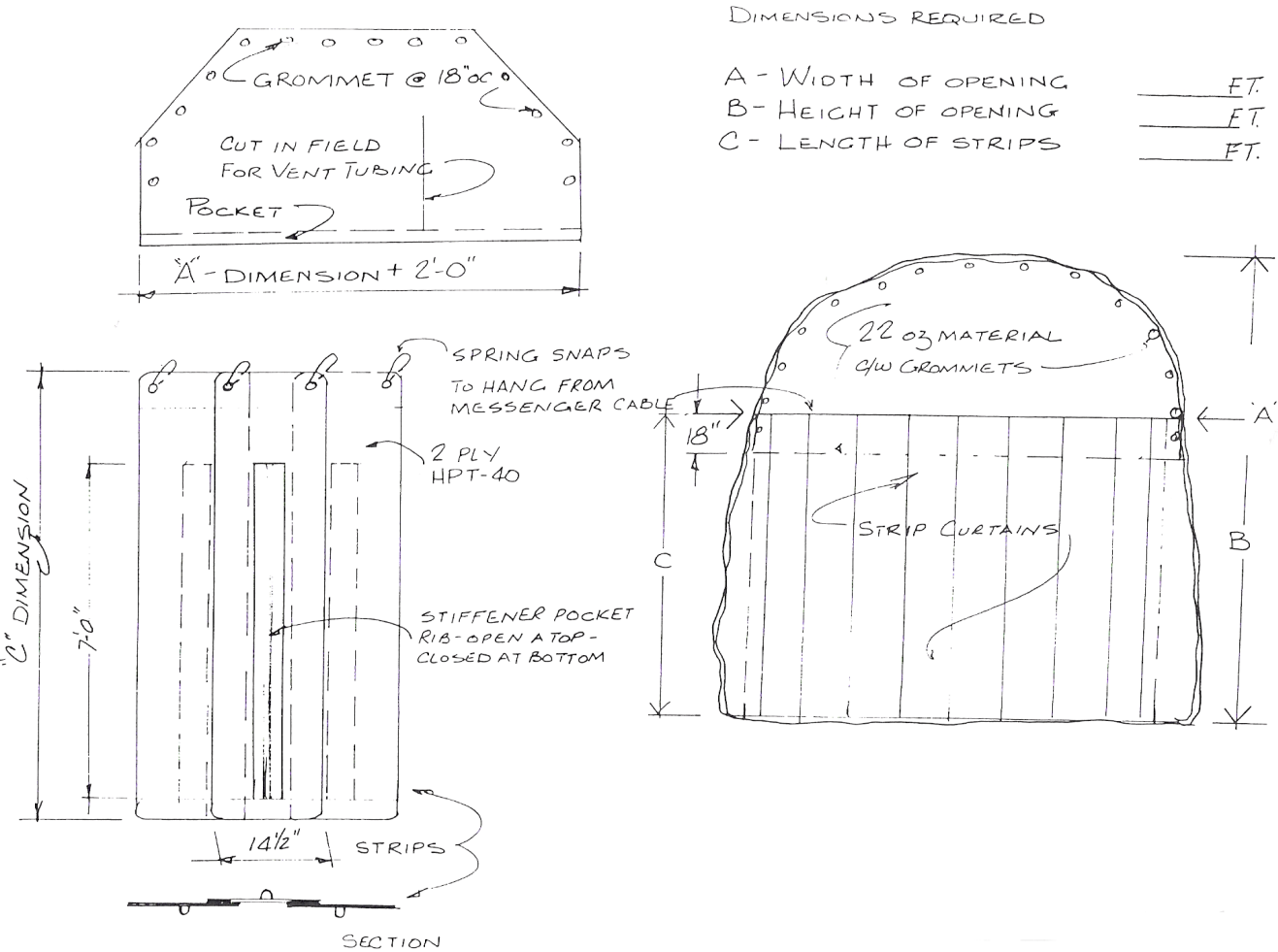
FEATURES:

- 6 eye bolts c/w nylon webbing to suspend from back
- air supply by customer
- 3/4" plywood top covered with PVC material
- 4'0" x 8'0" x 8'0" high vent tubing material RV2200
- clear plastic windows
- 7'0" non corrosive zipper
- supplied c/w double PVC floor

FRESH AIR STATION	
4:0" X 8'.0" X 8:0" HIGH	



STRIP CURTAINS



DIMENSIONS REQUIRED

A - WIDTH OF OPENING _____ FT.

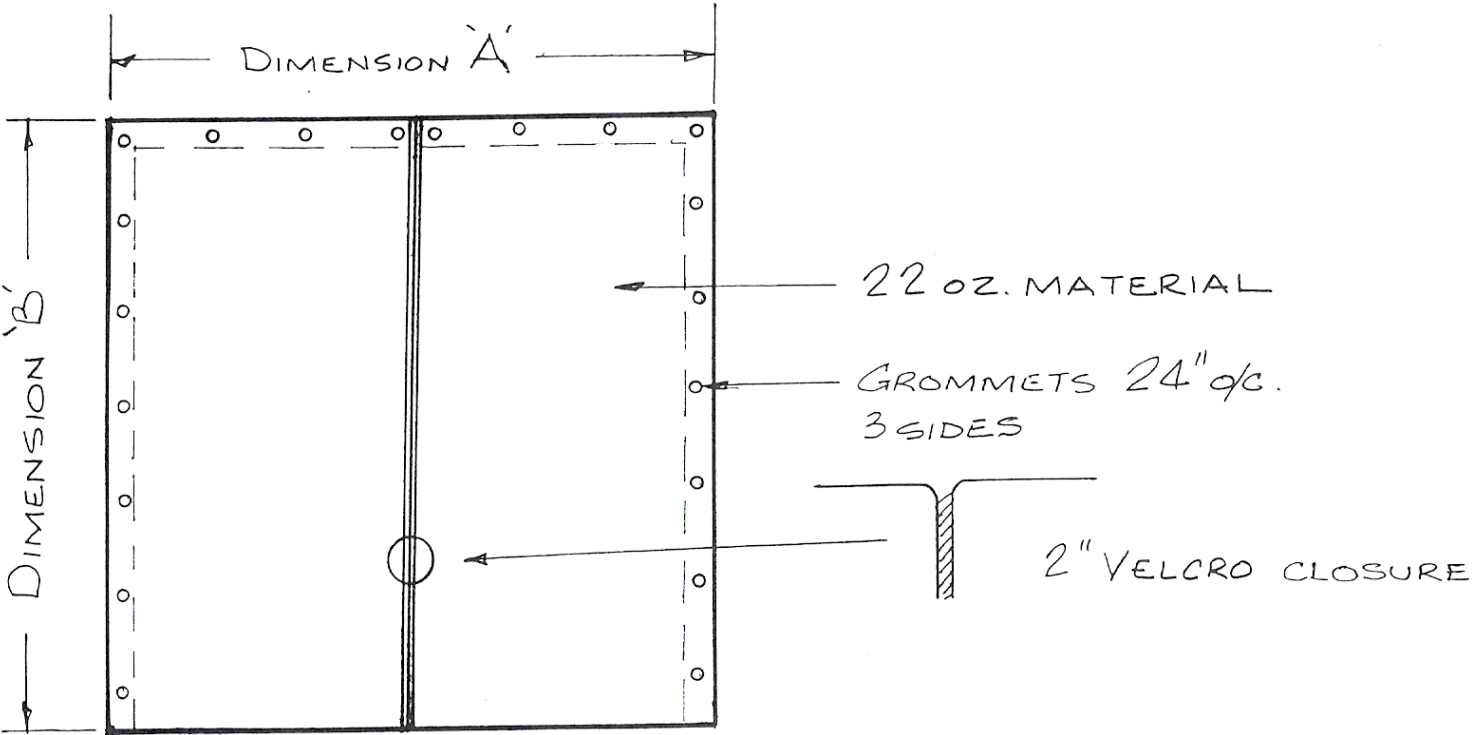
B - HEIGHT OF OPENING _____ FT.

C - LENGTH OF STRIPS _____ FT.



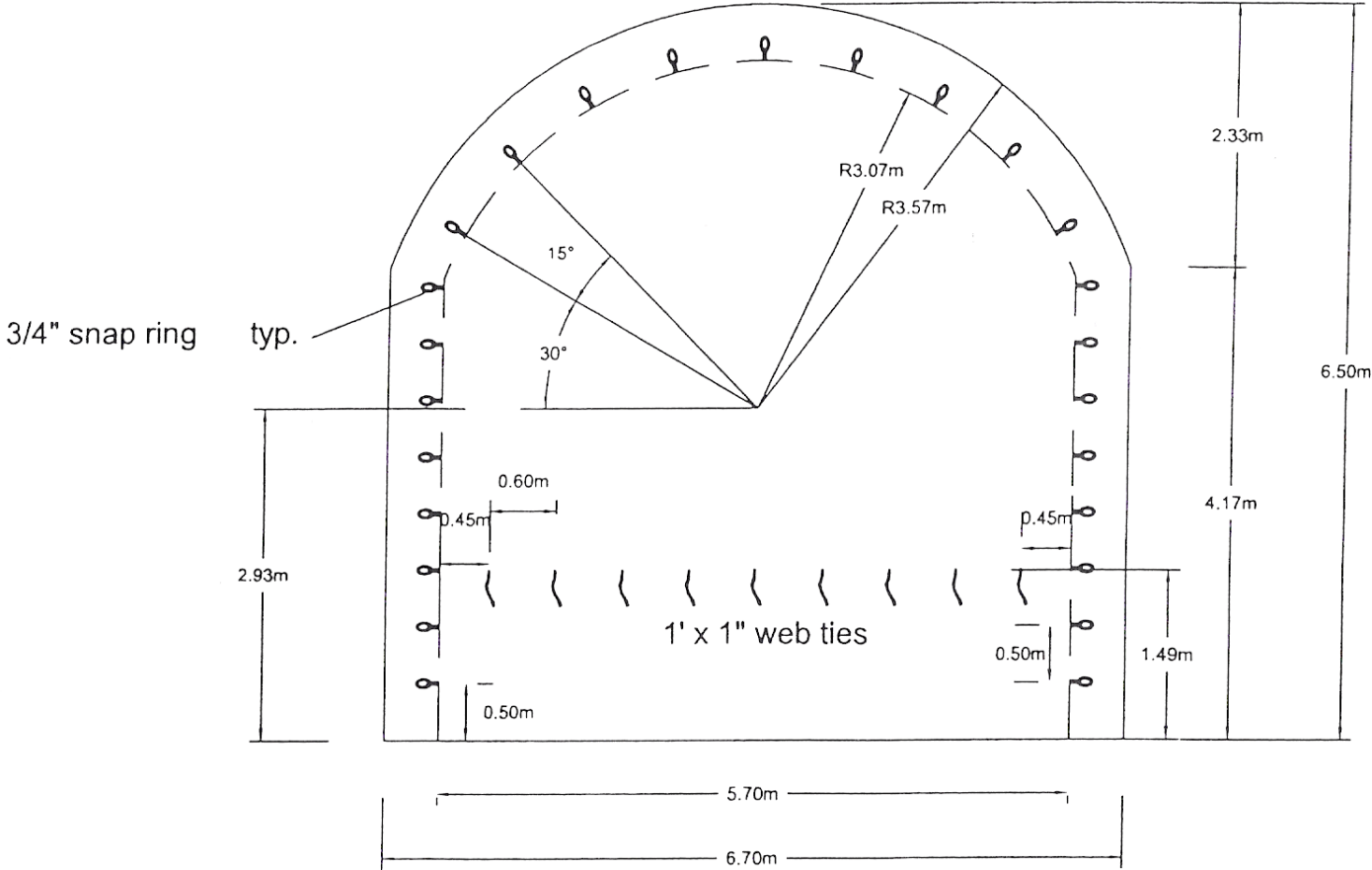
VELCRO SPLIT CURTAINS

DIMENSION 'A' _____
DIMENSION 'B' _____





CURTAINS



Vent Brattice Made with 22 oz. Material

MESSENGER CABLE KIT & TENSIONING TOOL

The 6.25mm x 18.3 m (1/4" x 60ft) messenger cable is provided as a kit complete with cable eye and 3/8" screw pin shackle for connection to a "rabbit ear" or eye nut. The messenger cable kit is the foundation of a successful installation.

Rocvent provides installation demonstrations to improve your system underground.



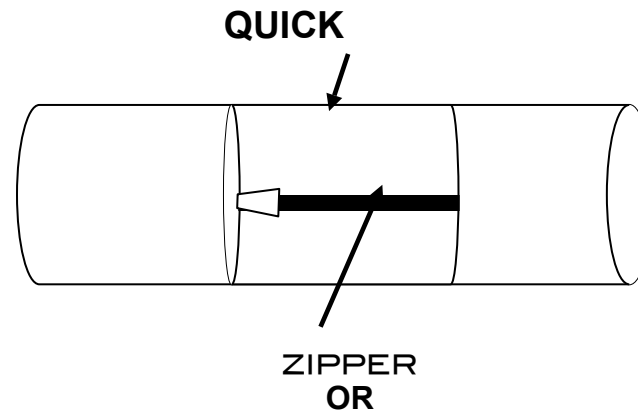
QUICK SLEEVE REPAIR UNITS

(REPAIR BANDS FOR LAY FLAT)

Each repair unit comes with a zipper.

Standard widths and diameters to match damaged tubing.

Call us for custom widths



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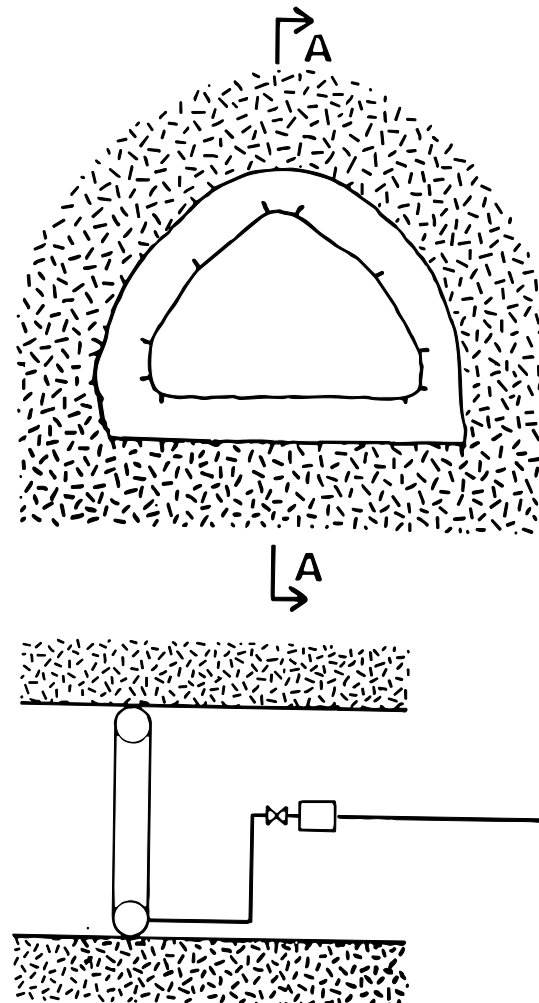
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MATERIAL AND DESIGN

Flameproof PVC-coated polyamide. Grade 09 09 12.

Pressure regulator with water separator, installed in a special pocket for added protection. Drainage hole in lower section of water separator to prevent collection of water in tubing.

Manufactured to individual customer specifications. Please quote height, width and cross-section area.





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