



Kennedy Steel Stoppings

Now **STRONGER**
& more **ECONOMICAL**
than ever before!

Jack
Kennedy
Metal
Products
&
Buildings,
Inc.

The *ORIGINAL* steel stopping... Trusted for
over 65 years in the world's largest &
highest producing mines.



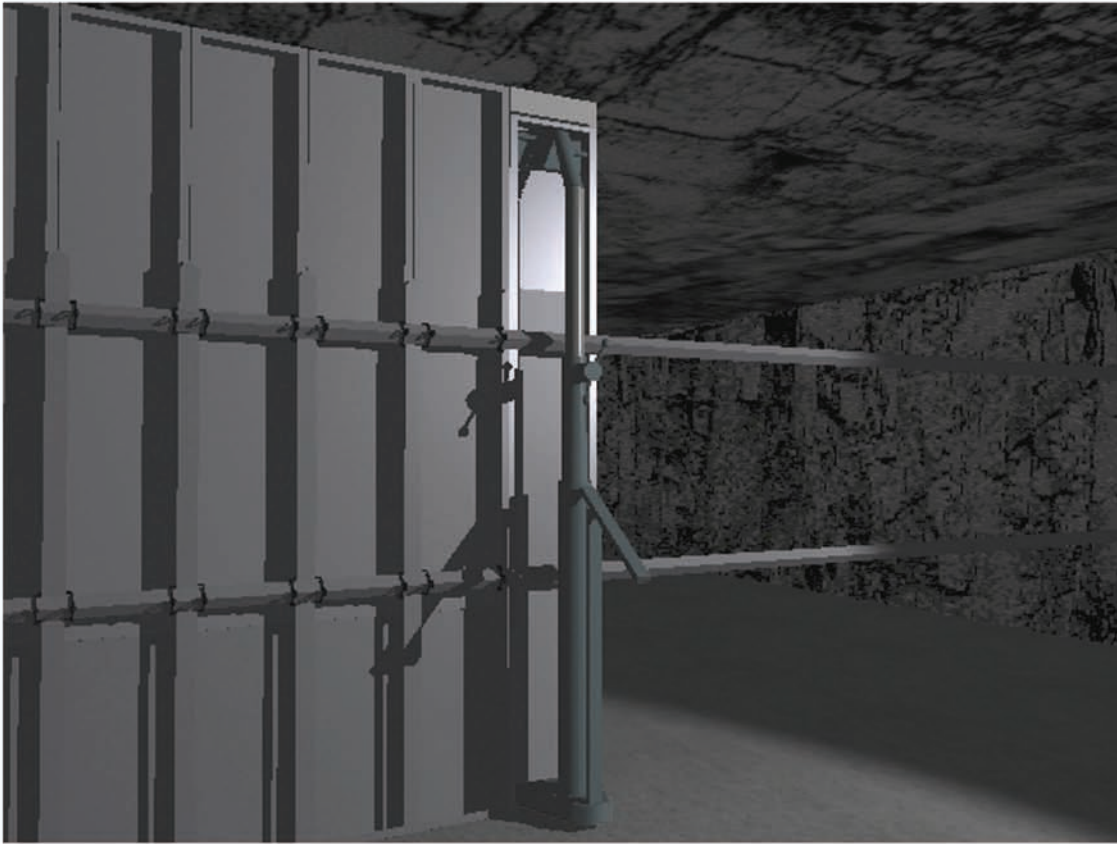
Part of the
Good Air
Solution

Introduction

Kennedy yielding steel stoppings are the finest ventilation structures available. Our stoppings and other structures have been used to ventilate the largest and most gassy mines in the free world including mines operating in some of the most difficult mining conditions

found anywhere. Their unique characteristics make them without equal in the mining community. The Kennedy steel stopping is light and easy to transport yet possesses twice the strength of a masonry structure and can yield to changes in the mining environment

without damage. Used properly, it will give better ventilation control with less trouble and cost less than any other system.



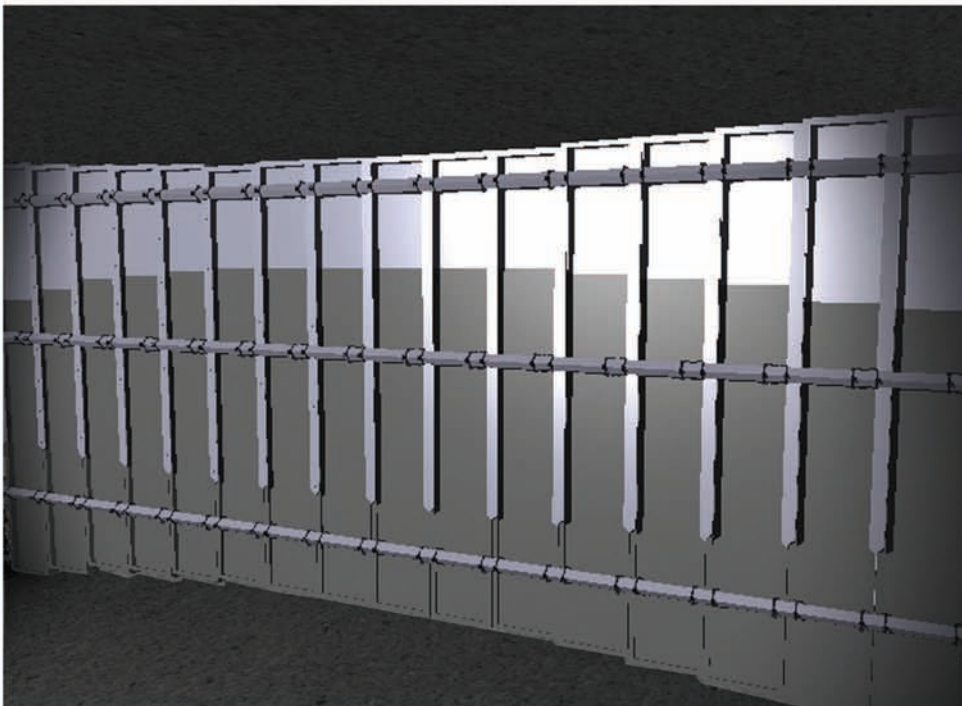
Kennedy steel stoppings possess twice the strength of a masonry structure.

The Kennedy Steel Stopping Solution

A Kennedy standard steel stopping is a system of foot-wide vertically telescoping steel panels, installed under pressure in an entry to form a substantial and incombustible airtight permanent stopping. Each panel is actually two panels - one inside the other - forming an upper and lower unit. Upon installation, these two panels are telescoped apart to reach from the roof to the floor of the mine.

The strength of each panel is inherent in the “C” shape of the panels. Together they form a solid wall of steel held securely by the roof-to-floor pressure. The telescoping action of the Kennedy steel stopping allows it to yield to heaving, as well as bow out to accommodate pillar expansion. After several inches of movement, the stopping is still tight and undamaged. Our stoppings can survive

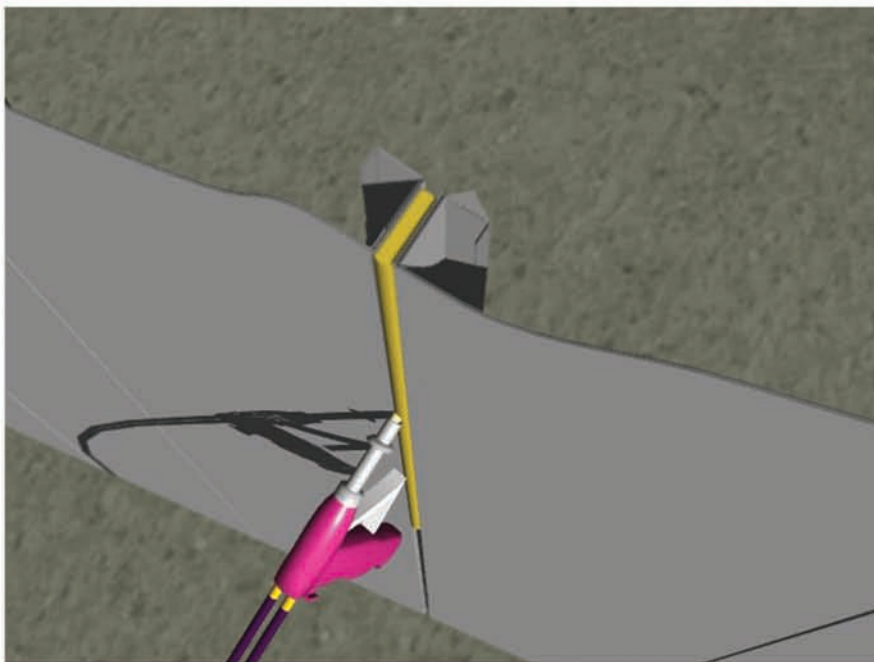
pressures that crush block stoppings. Kennedy steel stoppings are available for just about any seam thickness, in a wide range of widths and heights, along with a complete selection of doors.



Kennedy steel stoppings can survive pressures that would crush block stoppings.

Air and Fire Control Benefits

Kennedy steel stoppings are more airtight and allow less leakage than a conventional block stopping both when they're new and when they've been around for awhile. The non-porous steel provides for zero leakage. Plus, after construction each cross joint and each vertical joint is sealed with an MSHA approved sealant so that no air can pass by the stopping. A properly sealed Kennedy stopping is very resistant to leakage over time because of the sealant's ability to give, while sticking tenaciously to the stopping, roof and rib.



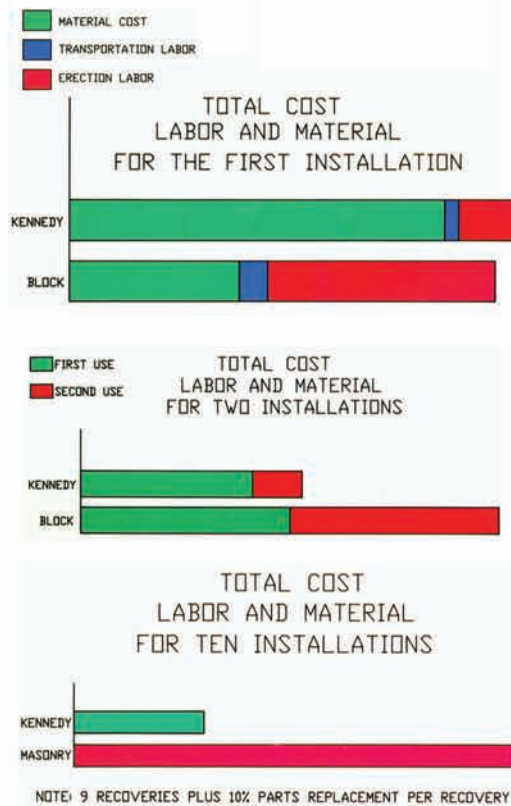
Fire performance testing done by both Kennedy Metal Products and the Bureau of Mines, using full scale fire tests, indicate the steel stopping is likely superior in holding a fire from crossing a stopping line. Fire does not go through it by conduction, radiation, etc. Volatiles on the back side of the steel stopping are not ignited.

The non-porous steel combined with an MSHA approved sealant makes the stopping extremely resistant to leakage.

Cost Saving Benefits

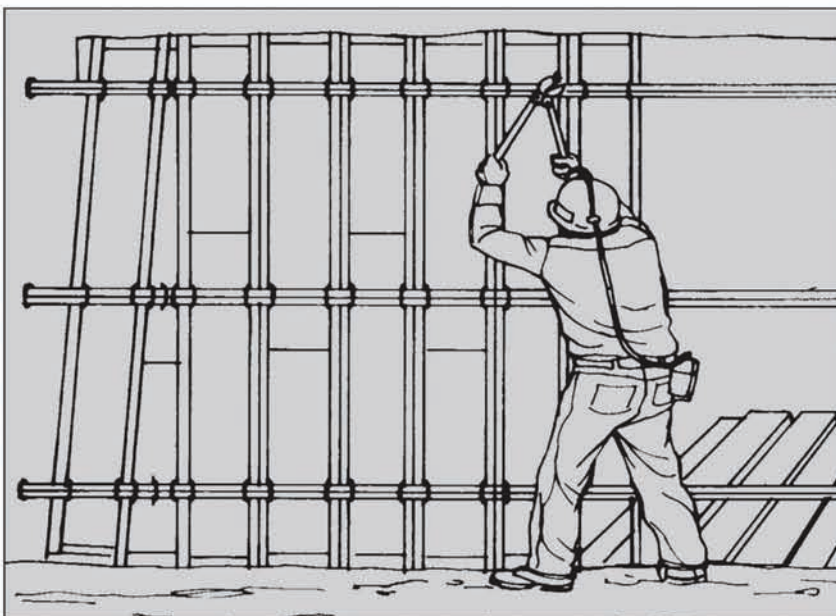
Efficiency

Kennedy steel stoppings have only about one-fourth the bulk of the block-type and one-fourteenth the weight. This makes transportation costs, particularly underground transportation costs, much lower. The high erection speed of the Kennedy steel stopping also makes handling much more efficient. One experienced man can erect a steel stopping in as little as 1 hour. Steel stoppings will also last longer than block-type stoppings.



Productivity

The real cost savings is not only in dollars and cents but in the stoppings' ability to increase your rate of mining. Their efficiency in transportation, handling labor and erection speed all contribute to faster production.



Recovery

The longevity of the Kennedy steel stoppings can provide you with a permanent asset with a virtually unlimited life. The galvanized panels do not rust, so there is no reason the stopping cannot last the life of your mine - 30 years or more. The stopping can be recovered simply by cutting each of the twist clamps that hold it together. A stopping that has been installed properly can be recovered with practically no damage even after years of use. The stopping's unique ability to yield to convergence between the roof and floor prevents it from being damaged in service. The entire stopping can be down and ready for loading in 5 minutes. All you will need to erect it at a new location are new twist clamps, head seals, and sealant; all other parts of the stopping, including the door, can be used again.

One experienced man can erect a steel stopping in as little as 1 hour

Kennedy NZL Stoppings

Kennedy NZL (Near Zero Leak) stoppings are constructed to be used on “main lines” in places where they would be in place for an extended period of time and/or subject to high ventilating pressures. Their greatest advantage is that they offer low leakage over time. By simply replacing the first few structures in your air course with NZL’s you could potentially double the air at

the working areas of the mine. The secret of the NZL’s is the “foamed cement” filling that is used in place of concrete. The foamed cement isn’t as heavy as concrete and doesn’t try to burst the form apart as more vertical height is achieved. More importantly, during convergence, the foamed cement is able to yield by crushing downward into itself without either

catastrophic failure or putting outward forces on the structure.

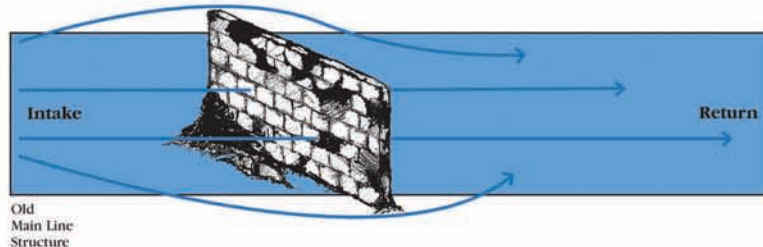
NZL’s are available in three different designs to fit various mine conditions:

1. Tieless Design
2. Rod Tie Design
3. Flat Tie Design

Ties are available in steel or non-conductive fiberglass.

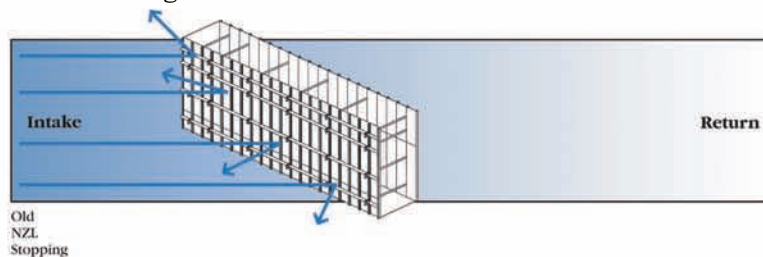
PROBLEM

Existing main line structures deteriorate from excessive pressure and create severely diminished airflow to the working area of the mine.



SOLUTION

Replace the worst structures in the air course with Kennedy NZL’s and virtually DOUBLE the air to the working area of the mine.



Kennedy NZL stoppings offer low leakage over time.

Kennedy Seals

Kennedy seals are similar to NZL stoppings but are heavier. They are constructed to resist explosion forces that may occur behind the seal. The Kennedy seals consist of

simply erecting two ordinary Kennedy stoppings, perhaps four feet apart with appropriate form-ties between them. The resulting cavity is pumped full of foamed

concrete to form the seal. Kennedy seals also offer the advantage of being readily adaptable to fit the relatively rough mine floor, roof and rib conditions.

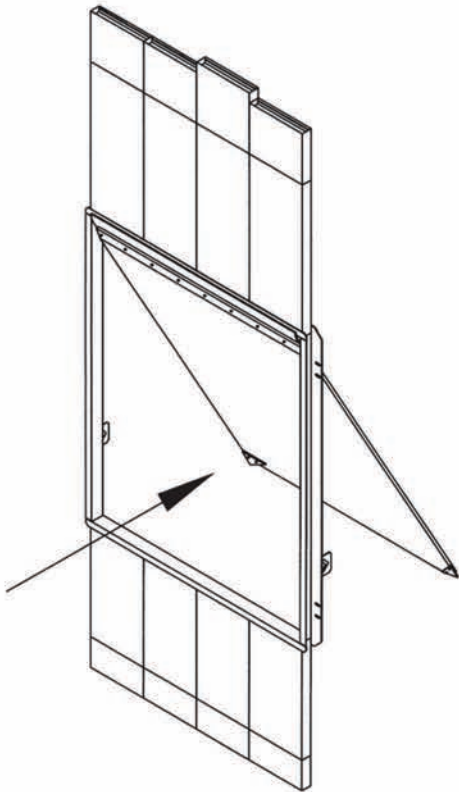
Steel Stopping Doors

A steel stopping door takes the place of up to four foot wide panels in the stopping. Doors are offered in kit form with all the necessary hardware for installation. Kennedy doors seal on the outside of the frame. The pressure that would normally be found on the frame of a man door in a conventional stopping is absorbed by the telescopic



action of the upper and lower short panels in the Kennedy steel stopping. Consequently, air leakage at the door is held to a minimum over the stopping's life. The door is an independent unit, hung on its own frame. Therefore, it does not prevent the stopping from yielding as necessary to accommodate roof to floor pressure

Concussion Relief Doors



The Kennedy concussion relief doors are built specifically to “blow open” to relieve concussion from initial longwall caves, blasting concussion, roof collapse, etc. These doors are able to open in both directions and are held closed by the friction of their perimeter seals. When desired, this door can be locked closed so it will not relieve pressure.

Kennedy CRD's open with excess pressure from initial longwall caves, blasting concussion, or other unexpected events such as a roof fall.

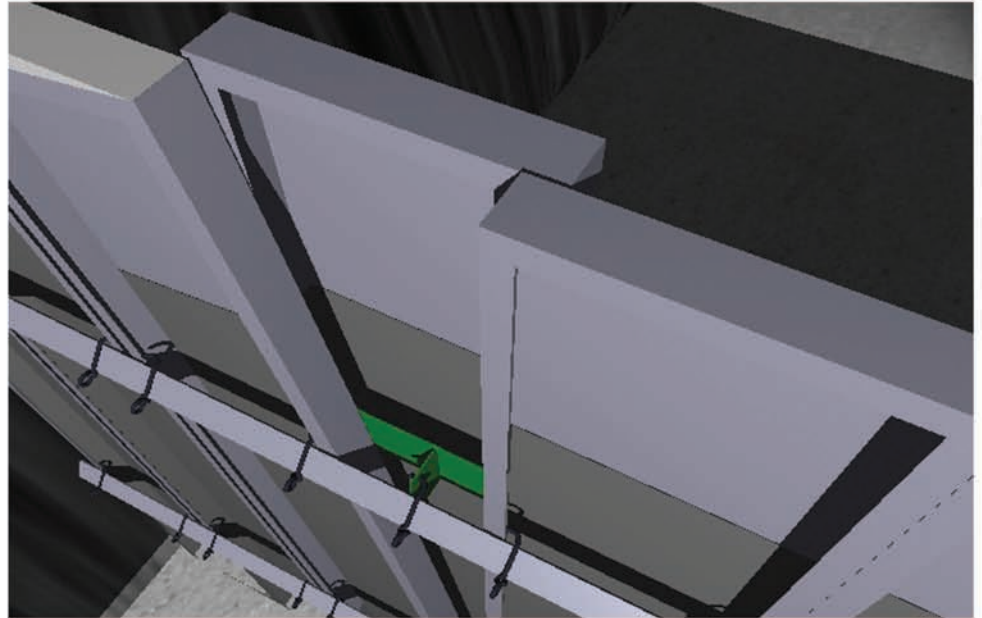
Methods for Filling Gaps & Voids

Lap Over Panels

Lap over panels cover various odd-shaped openings remaining at the end of the construction of the stopping. Pie shaped openings created by out of plumb ribs can easily be plumbed up through the use of one or more lap over panels. The lap over panel also gives the stopping some of its ability to absorb pillar expansion. As the pillars take weight and expand, the stopping can actually reduce its width in order to accommodate the reduction in entry size.

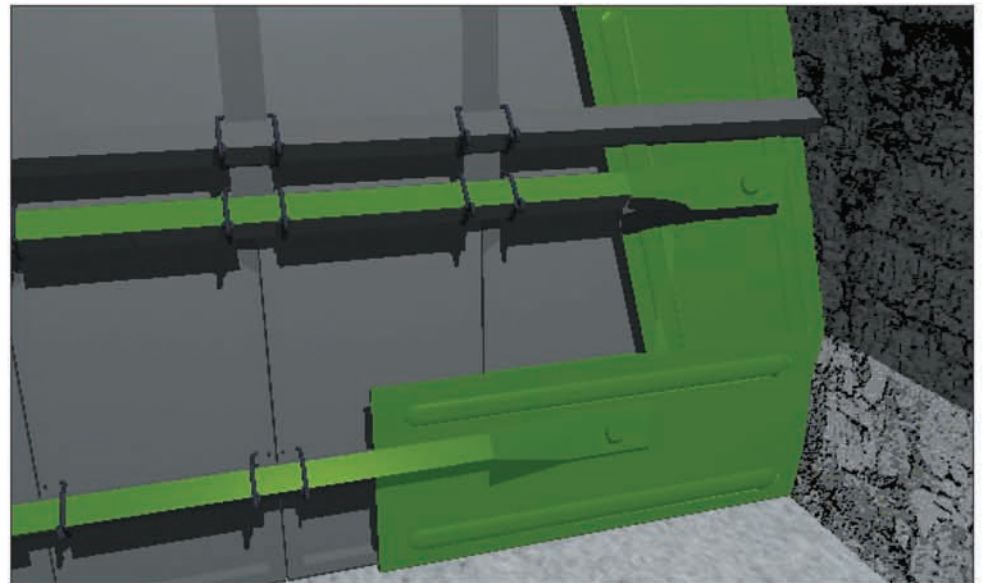
Lap over panels can also be used to accommodate benches on the floor or brows from the roof.

Hardware to make lap over panels is included with all Kennedy standard stoppings.



Side Extension Panels

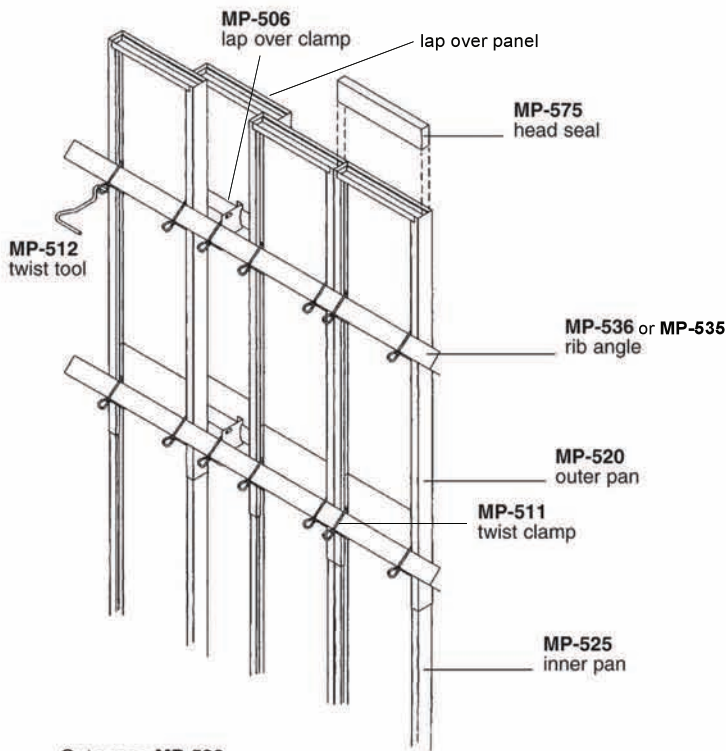
Also included with the standard Kennedy stoppings are side extension panels. If an opening is found beside the stopping where the rib cannot be easily trued sufficiently for easy sealing, side extensions can be applied to the stopping. An opening up to 2' deep can be accommodated with these extensions. They can be lapped over each other to provide intermedi-



ate heights. If continuous rib deterioration occurs due to weathering of the rib, the side extensions can be

re-adjusted outward or additional extensions applied at a later date.

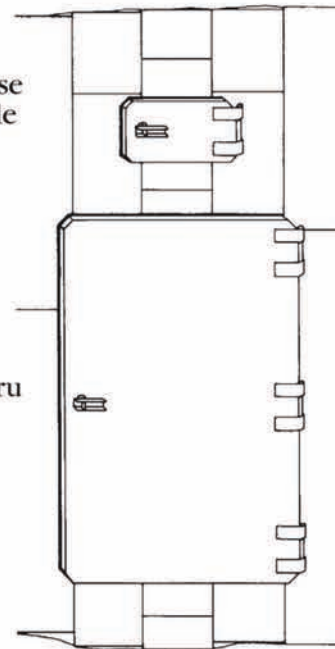
Steel Stopping Components



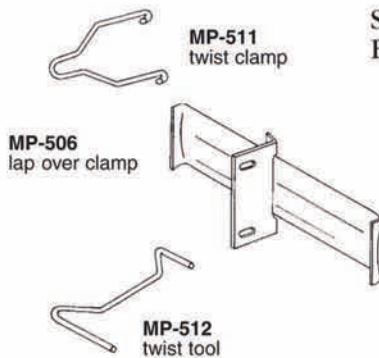
Outer pan MP-520 and inner pan MP-525 telescope together to adjust to any height seam.

Steel Hose and Cable Door

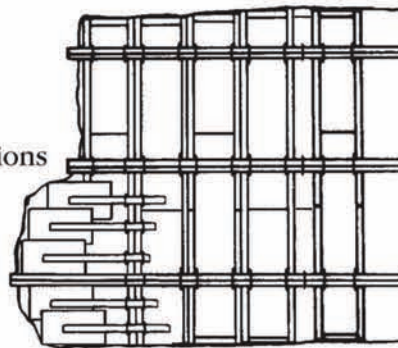
Walk Thru Door



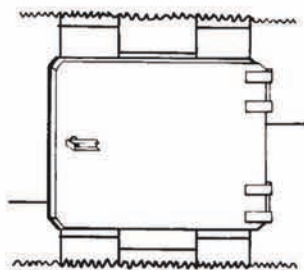
MPSC-915 self closing man door and MP-915 steel hose and cable door kits include short panels for above and below doors.



Side Extensions



Side Hung Door



The MPSC-915S self closing side-hung door is complete with regular heavy hinges and latch—plus short top panels and bottom panels. Makes up 3 panel widths of Jack Kennedy Steel Stopping.

Installation Jack

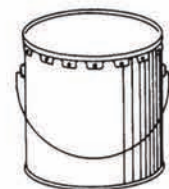


Special jacks for super-rigid installation of steel stoppings.

- MP-541A 2'-3'
- MP-542A 2-1/2'-4'
- MP-543A 3'-5'
- MP-544A 4'-7'
- MP-545A 5'-9'
- MP-546A 6'-10'
- MP-547A 7'-12'
- MP-548A 8'-12'
- MP-550A 10'-18'
- MP-554A 12'-20'

Other stopping components available such as sliding regulators, p-traps, etc. . .

Trowel Sealant



MP-568 sealant for steel or masonry stoppings. Incombustible. Ready mixed trowel grade. 32 pound cans.

Order Information

Kennedy Metal Products Steel Stoppings

Customer _____

Date of Request _____

Delivery Date Requested _____

Height	Width	Quantity	Height	Width	Quantity
2' - 3'	_____	_____	5' - 9'	_____	_____
2 1/2' - 4'	_____	_____	6' - 10'	_____	_____
3' - 5'	_____	_____	7' - 12'	_____	_____
4' - 6'	_____	_____	8' - 14'	_____	_____
4' - 7'	_____	_____	10' - 18'	_____	_____
5' - 8'	_____	_____	12' - 20'	_____	_____

NZL Stoppings

Thickness _____

Steel Doors

MPSC-915 (Man Door) _____

MP-915 (Steel Hose and Cable Door) _____

MPSC-915T (Top Hung Door) _____

MPSC-915S (Side Hung Door) _____

Quantity

Installation Jacks

MP-541 A (2' - 3' range) _____

MP-542 A (2 1/2' - 4' range) _____

MP-543 A (3' - 5' range) _____

MP-544 A (4' - 7' range) _____

MP-545 A (5' - 9' range) _____

MP-546 A (6' - 10' range) _____

MP-547 A (7' - 12' range) _____

MP-548 A (8' - 14' range) _____

MP-550 A (10' - 18' range) _____

MP-554 A (12' - 20' range) _____

Sealant

MP-568 Trowel Grade _____

Date Order Placed _____

Delivery Date Quoted _____



Jack Kennedy Metal Products & Buildings, Inc.

P.O. Box 138

Taylorville, IL 62568

Phone (217) 287-7231 Fax (217) 287-7231

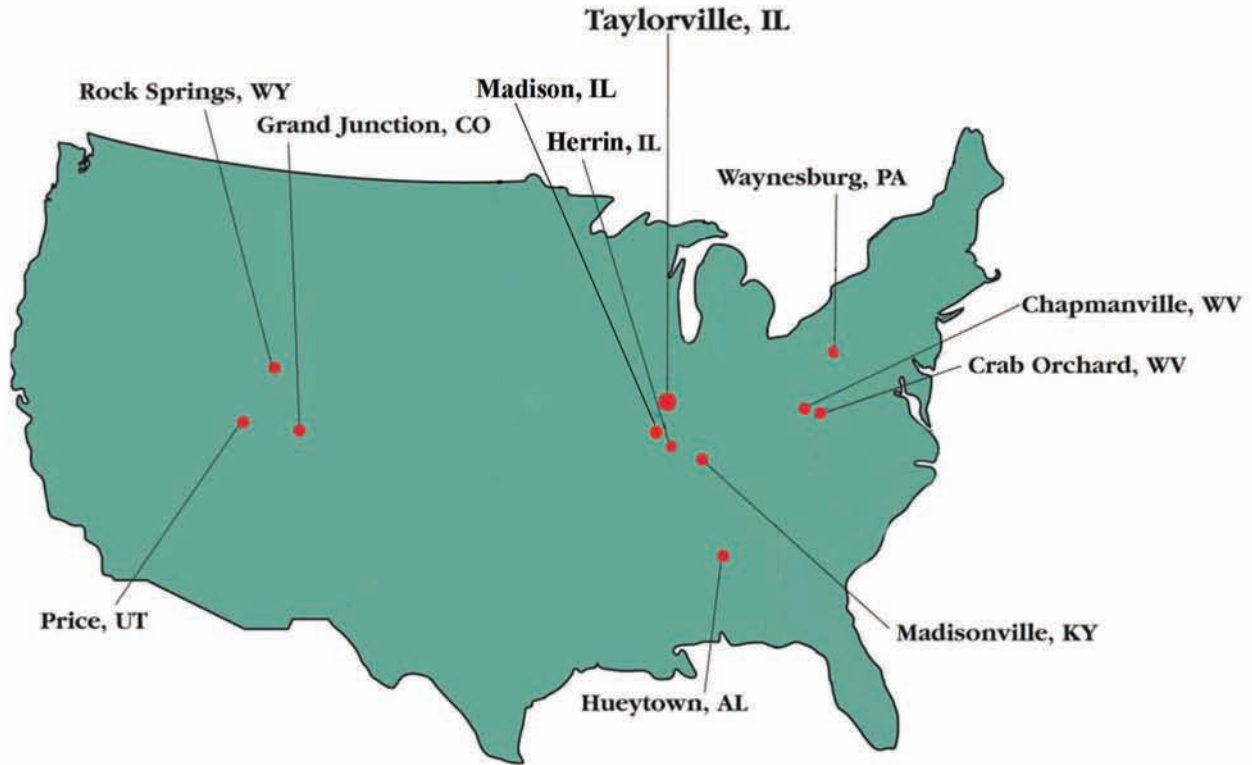
info@kennedymetal.com

READ THIS NOTICE

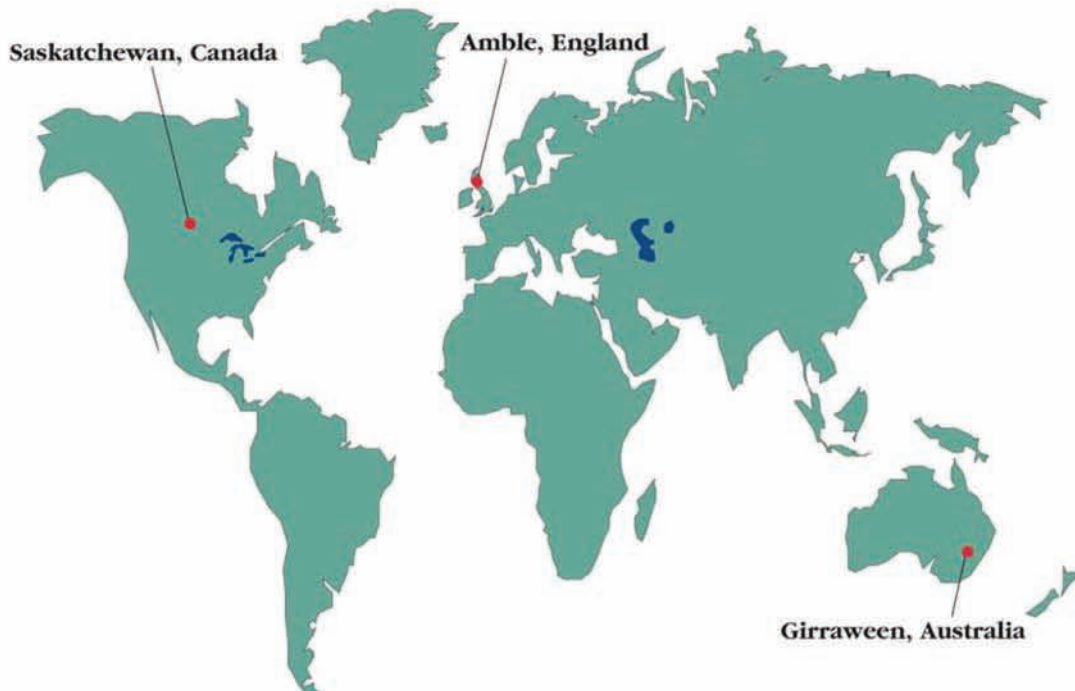
The seller makes no warranty of any kind whatsoever, expressed or implied; and all implied warranties of merchantability and fitness for a particular purpose are hereby disclaimed by seller and excluded from this agreement. Seller hereby disclaims any liability for any other or consequential damages which might occur from failure of the product to perform as herein stated.

Kennedy Worldwide

Kennedy Metal Products has been working to make mining safer and more productive for decades. We are recognized experts in mining ventilation with plants and warehouses on three continents.



Kennedy is a worldwide company with plants and warehouses on three continents.





Jack Kennedy Metal Products & Buildings, Inc.

P.O. Box 138

Taylorville, Illinois 62568

Phone (217) 287-7231 Fax (217) 287-7232

Email info@kennedymetal.com

For the best ventilation use the complete Kennedy system... stoppings, doors & overcasts

- Steel Stoppings
- NZL (near zero leak) Stoppings
- Overcasts & Undercasts
- Overcast Stairs & Ramps
- Over 200 Models of Man Doors
- Concussion Relief Doors
- Manual Machine Doors
- Power Machine Doors
- Regulators
- Automatic Regulating Systems
- Rescuer Boxes
- Belt Crossings
- Conveyor Box Checks
- Roof Brackets

PATENT INFORMATION

These products are covered by or for use under one or more United States or Foreign Patents, granted or pending:

2328552, 772665, 6715961B2, 6682263B2, 7438506B2, 2004222798, 2487523, 7267505B2, 2330820, 2358209A, 752791, 6688813, 763802, 6846132B2, 2003200298, 2418176, 8444108, 2654815, 8162569, 2741272, 10/151203, 2822171, 8960419, 2014200775, 2843526, 10378355, 10287884

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