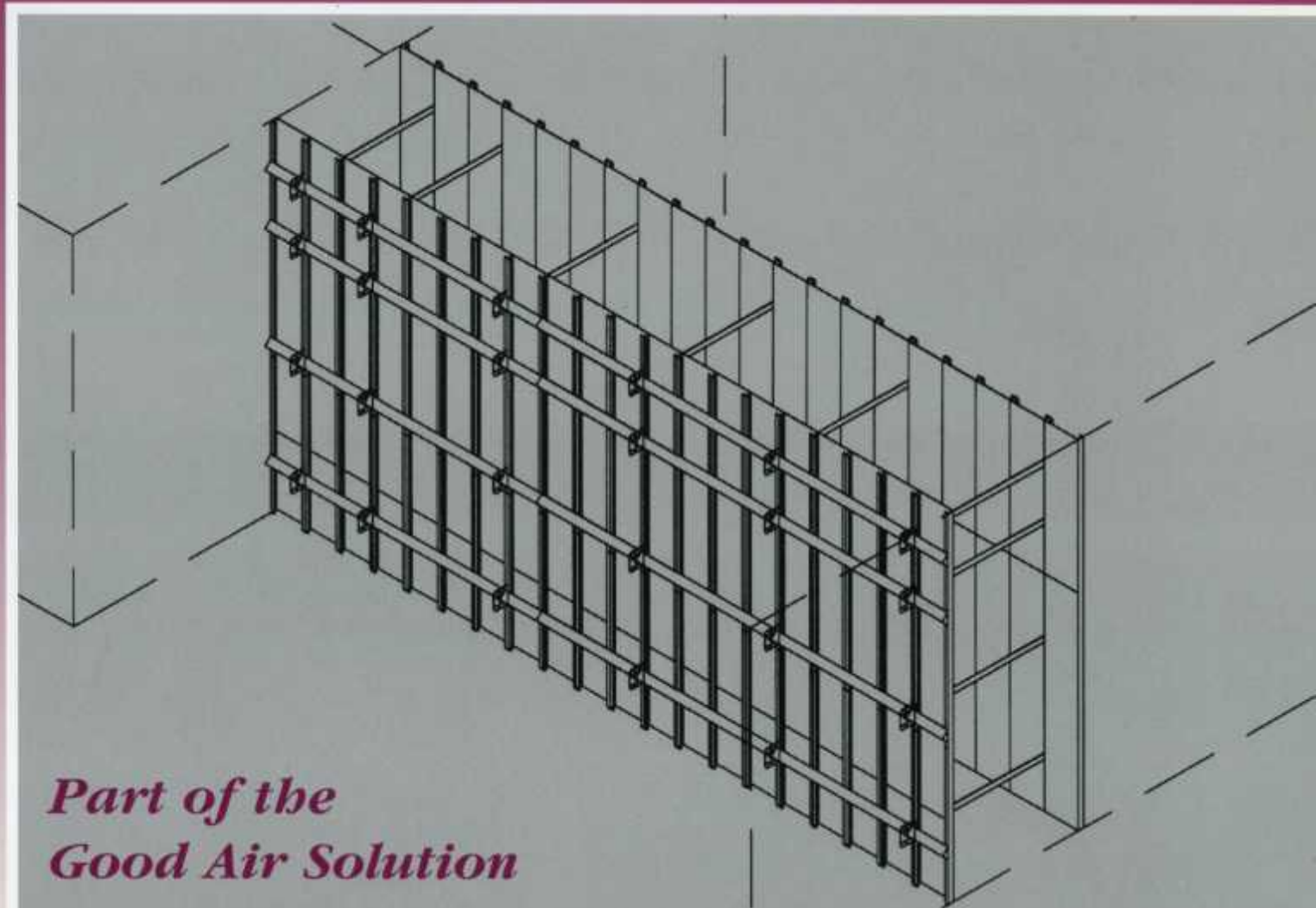




KENNEDY NZL STOPPINGS

**Jack
Kennedy
Metal
Products
&
Buildings,
Inc.**



*Part of the
Good Air Solution*

I N T R O D U C T I O N



Tieless NZL

Kennedy NZL stoppings can virtually double the air at the working areas of the mine.

Kennedy NZL (Near Zero Leak) stoppings are constructed to be used on "main lines"- in places where they would be in use for an extended period of time and/or subject to high ventilating pressures. Their greatest advantage is that they offer low leakage over time. Using Kennedy NZLs during main line development could provide very good air for the life of the mine. Alternatively for existing mains, by simply replacing the worst structures in your air course with NZLs, you could virtually double the air at the working areas of the mine.

The secret of the NZLs is the synergy of the yielding structures and the "foamed cement" filling. The foamed cement isn't as heavy as concrete and doesn't try to burst the form apart as more vertical height is achieved during pouring. More importantly, during convergence, the foamed cement is able to yield by crushing downward into itself without either catastrophic failure or putting excessive outward forces on the structure. NZLs also provide incomparable rib support during convergence and will not overload either the roof or floor.

THE KENNEDY NZL STOPPING SOLUTION

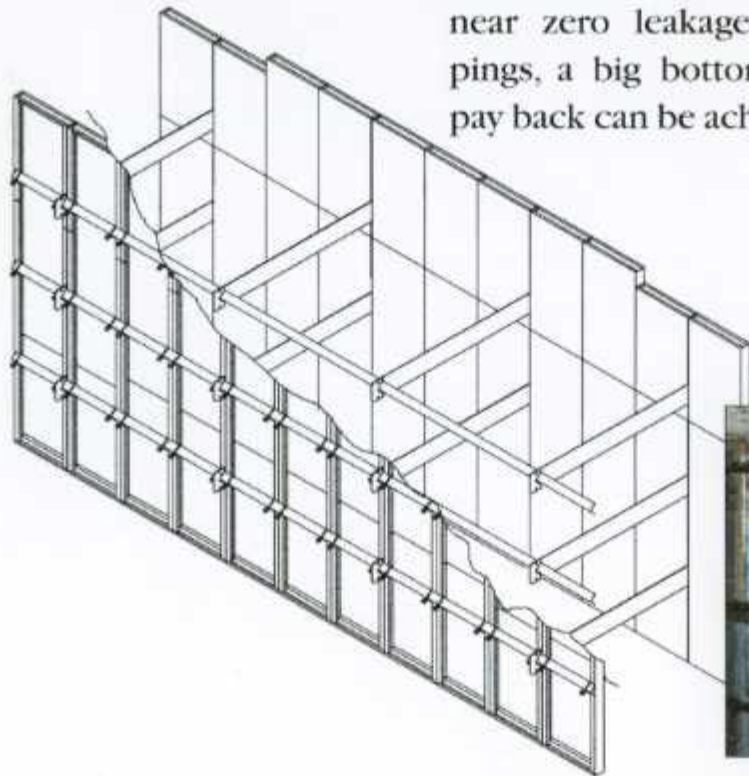
For decades, the mining industry has searched for a solution that would better utilize precious ventilating resources and provide increased air flow to remote areas of the underground mine.

When the focus is placed on the problem of older main line structures that have deteriorated from severe pressure and excessive air leakage, there is economic justification for replacement. By replacing a reasonably small number of structures with new, robust, near zero leakage stoppings, a big bottom line pay back can be achieved.

The Kennedy NZL seal method uses two telescoping Kennedy steel stoppings that combine with high gauge, quick setting foamed cement as inside filler to create a ventilating structure that can have any depth and yields to convergence

with low leakage while holding adjacent strata in place. The Kennedy NZL stopping can virtually double the air to working areas and extend the life of the mine.

***Kennedy
NZL stoppings
offer low
leakage over
time.***



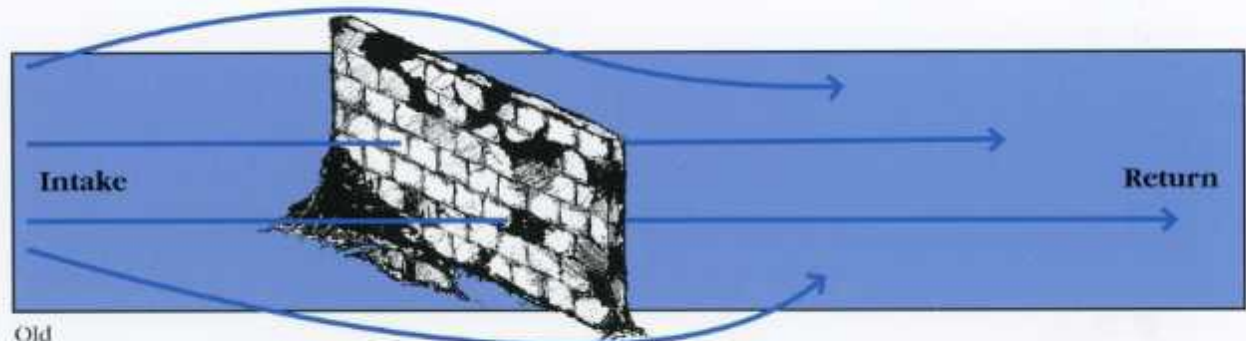
KENNEDY NZL STOPPING ADVANTAGES

THE KENNEDY SEAL METHOD

- Designed to adapt to convergence pressure
- Lateral expansion is contained
- Resists the natural phenomena of pillar expansion from convergence
- Supports pillar ribs to limit rashing
- Will not overload roof or floor
- Provides low leakage over time
- Holds adjacent strata in place
- Permits more plastic flow of strata without overloading
- High gauge foamed cement yields with the NZL stopping
- Stopping depth adjusts to any thickness
- Can virtually double air flow

PROBLEM

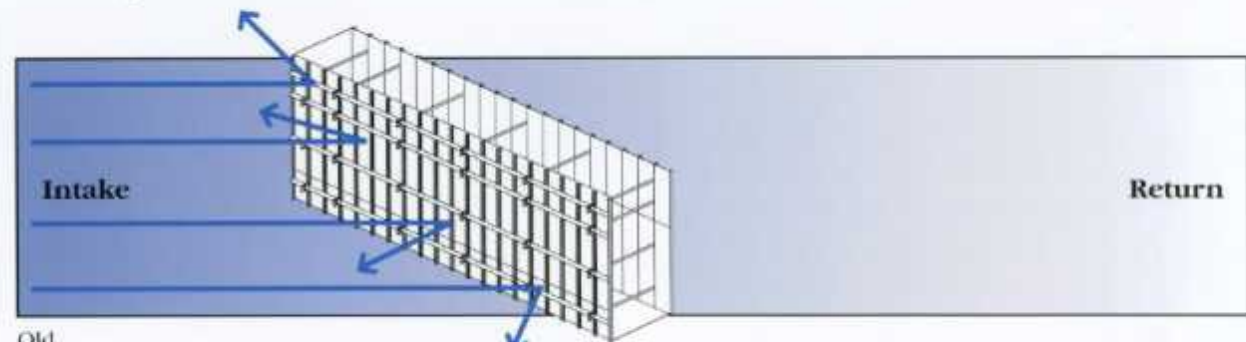
Existing main line structures deteriorate from excessive pressure and create severely diminished air flow to the working area of the mine



Old
Main Line
Structure

SOLUTION

Replace the worst structures in the air course with Kennedy NZLs and virtually DOUBLE the air to the working area of the mine



Old
NZL
Stopping

KENNEDY NZL FORM TIE SYSTEMS

Kennedy NZL stoppings are installed using four different form tie systems to achieve any thickness. Each approach is unique and designed with specific advantages that respond to our customers preferences.



KEYHOLE FORM TIE



The keyhole form tie is a simple bracket with a keyhole that can receive a chain

Advantages

- Bracket doesn't "stick out" in the way
- The 2 form walls can be any distance apart
- Walls don't have to be parallel in either axis

FOUR PIECE FORM TIE

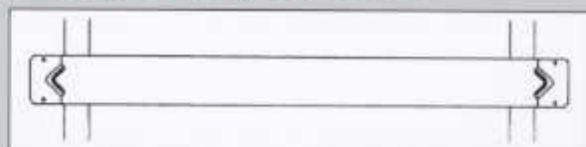


The four piece system is similar to the three piece but is adjustable in fixed increments

Advantages

- Tie is able to be inserted after the angles are already in place
- A complete Kennedy stopping that is already erected can be used as one of the form elements
- Inventory of different tie lengths is reduced

THREE PIECE FORM TIE



The three piece system consists of a half chevron that is inserted over the angle

Advantages

- The tie is able to be inserted after the angles are already in place
- A complete Kennedy stopping that is already erected can be used as one of the form elements
- The centerpiece is inserted through the joints and projects past the angles

HOOK/ROD FORM TIE



With the hook/rod form tie, the plates must be installed as the angles are applied

Advantages

- The two stopping walls are not attached at all until the structure is complete
- Nothing prevents working in the space between the walls to seal the space
- Rods are simply hooked into the plates and held in place with twist ties

O R D E R I N F O R M A T I O N

Kennedy Metal Products NZL Stoppings

Customer _____

Date of Request _____

Delivery Date Requested _____

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

Preferred Form Tie System

Three Piece Form Tie

Hook & Rod Form Tie

Four Piece Adjustable Form Tie

Key Hole Form Tie

Tieless

<i>Steel PSA Doors</i>	<i>Quantity</i>
MPSC-915-24x24 - PSA (Man Door)	_____
MP-915-12x12 - PSA (Steel Hose and Cable Door)	_____
MPSC-915S-36x30 - PSA (Side Hung Door)	_____

<i>Installation Jacks</i>	<i>Quantity</i>
MP-541 (2' - 3' range)	_____
MP-542 (2 1/2' - 4' range)	_____
MP-543 (3' - 5' range)	_____
MP-544 (4' - 7' range)	_____
MP-545 (5' - 9' range)	_____
MP-546 (6' - 10' range)	_____
MP-547 (7' - 12' range)	_____
MP-548 (8' - 14' range)	_____
MP-550 (10' - 18' range)	_____
MP-554 (12' - 20' range)	_____

<i>Sealant</i>	<i>Quantity</i>
MP-567 Foam Pack	_____
MP-568 Trowel Grade	_____



Jack Kennedy Metal Products & Buildings, Inc.
P.O. Box 138
Taylorville, IL 62568

Date Order Placed _____
Delivery Date Quoted _____

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 four continents.



READ THIS WARNING

NEVER install this stopping or seal under unstable top or adjacent to unstable ribs. Installing the stopping or seal applies pressure to the roof and ribs and could dislodge unstable strata. A roof or rib failure could occur that could result in severe injury or even death.

NEVER install this stopping or seal without thoroughly understanding the proper installation procedures. Failure to properly install the stopping could cause injury or even death to you or others at the time of installation, or to you or others weeks, months or years after the installation.

NEVER install this stopping without thoroughly understanding the effect it will have on the mine's ventilation. Installation of this stopping may create an air change. This change could result in dust or gas accumulation that in turn could cause an ignition or explosion. Do not allow this stopping's installation to make ventilation changes you do not understand. A mine disaster could occur causing injury or death to you and/or others.

WARNING: High pressure differential across the stopping or seal as it is being installed could cause it to become difficult to control the last panels as they are being placed to close the last

parts of the opening and cause injury or even death. Be careful.

WARNING: High pressure differential across the stopping or seal being constructed could cause the stopping or seal to be dislodged as it is being completed. Do not attempt to install a stopping or seal where there is either insufficient anchorage or insufficient panel strength to maintain the stopping solidly in place during and after installation. If the stopping is dislodged it could hit people on the low pressure side and severely injure or even kill them.

WARNING: Be sure this stopping or seal is installed tightly and remains tight. Leakage in this stopping or seal may make significant air flow changes in this and other areas in the mine. These changes could result in dust or gas accumulation that in turn could cause an ignition or explosion. Watch particularly for sealant deterioration and rib failure. Do not allow degradation of this stopping or seal to cause ventilation changes. A mine disaster could occur causing injury or death to you and/or others.

WARNING: Some sealants that may be used with this stopping could require special safety precautions, rubber gloves, respirators, etc. Be certain

you have the proper safety equipment during sealing operations. Injury or even death could result from improper procedures.

WARNING: Be careful of the roof and ribs during recovery of this stopping or seal. Remove only one panel at a time. The stopping could be holding up roof or containing the ribs. Insure the roof and ribs are adequately supported. Roof or rib failure could result in injury or death.

WARNING: Recovery of any stopping or seal has the potential of making significant air changes in this or other areas of the mine. Be sure you know recovery of this stopping or seal will NOT result in undesirable air changes. These changes could result in dust or gas accumulation that in turn could cause an ignition or explosion. Do not allow this stopping's or seal's recovery to make ventilation changes you do not understand. A mine disaster could occur.

WARNING: Read completely and thoroughly all installation manuals, instructions and warnings before attempting to install this product and follow such manuals, instructions and warnings. Failure to do so could result in injury and/or death to you and others at the time of installation or in the future.



Jack Kennedy Metal Products & Buildings, Inc.

FOR THE BEST VENTILATION, USE THE COMPLETE KENNEDY SYSTEM...STOPPINGS, DOORS & OVERCASTS

- Steel Stoppings
- Preassembled Stoppings
- Manual Machine Doors
- Power Machine Doors
- Overcasts
- Undercasts
- Over 200 Models of Man Doors
- Concussion Relief Doors
- Manual Regulators
- Power Regulators
- Automatic Regulating Systems
- Rescuer Boxes
- Roof Brackets
- Conveyor Belt Slip and Sequence Switches
- Belt Crossings



PATENT INFORMATION

These products are covered by one or more United States or Foreign Patents, granted or pending.

4082331; 4118894; 4523406; 1256319; 4373294; 4478535; 5168667; 645899; 2258006; 2066075; 92/2783; 6164871; 738872; 9926549.8; 2288597; 99/6988; 6032986; 724730; 9906465.1; 99/2403; 5167474; 09/044455; 1734399; 9906200.2; 992074; 6220785; 741355; 99/7771; RE34220; RE32871; 578107; 2177437; 1210943; 85/05115; RE32675; 555283; 566341; 2119832; 1198902; 83/1658; 4820081; 601647; 2214542; 1302099; 88/8623; 4695055; 588583; 2182081; 1246348; 86/7509; 4484837; 6379084; 09/905429; 60/353243

Copyright © 2005 by Jack Kennedy Metal Products & Buildings, Inc. All rights reserved. Printed in U.S.A.
Prices and specifications subject to change without notice.