



Detectors and Gaskets Lead the Way in Fighting Compressed Air Leaks

Energy is the largest cost centre in a mine that can be managed. Compressed air energy effectively costs 11 - 17 times the energy input cost (due to heat loss) and can represent 15% of underground electricity consumption. However, leaks are often seen as "business as usual".

While leakage can come from any part of the system, the most common problem areas are:

- Couplings
- Cracked or damaged hoses, tubes and fittings
- Open condensate traps
- Pipe disconnects
- Pipe joints
- Pressure regulators
- Shut-off valves
- Thread sealants

For underground mines, one of the most effective ways to detect leaks is with an ultrasonic acoustic detector. These handheld devices recognize and help to pinpoint the exact location of the high frequency hissing sounds characteristic of most air leaks. Ultrasonic leak detection is one of the most versatile and adaptable forms of leak detection, especially for noisy environments. These devices are relatively easy to use with the minimal amount of training. Mines in Ontario have found:

- one leak detected that could have cost \$130,000 / year
- one fixed leak led to a compressor shutdown
- cost of the ultrasonic leak detector was recouped in one week by fixing small leaks
- replacement of a 1,000 HP compressor with a 200 HP compressor and still maintained compressed air needs at the mine



The majority of air leaks occur at Victaulic gaskets and couplings. In many underground mines up to 60% of the air leaks are caused by damaged Victaulic gaskets. As most mines install parallel water and compressed air distribution pipes, past practice has been to only use the "E" gasket type (which is suitable for water). Some Victaulic gaskets are failing because of improper, or hasty, installation. This results in air leaks. Properly applying the gasket lubricant is a vital component of the compressed air pipe installation process.



"A mining industry pilot project gave us the opportunity to work with Victaulic on a gasket redesign. The gaskets will save hundreds of thousands of dollars." Vale Inco

You can
make a
difference.
Fix Leaks.
Cut Costs.
Save Energy.