

IMPROVING PRODUCTIVITY WITH ALCOHOL DETECTORS

By Rhys Evans, Director

Construction and mining are two of the most dangerous industries to work in, as they have high potential for occupational accidents. The nature of the industries, however, with their hazardous conditions, long hours and remote locations where workers are away from their families, also create a climate that is ripe for high rates of alcohol abuse. This hazardous combination, with intoxicated personnel operating in dangerous environments, puts workers and their colleagues at risk, as well as creating additional liability for construction and mining companies themselves. Fast, high-quality and reliable breath alcohol detectors are therefore essential equipment for any site or mine to prevent workers from even being able to enter the workplace while under the influence of alcohol.

With the Operational Health and Safety Act (OHSA) specifying a zero tolerance approach to alcohol in the workplace, intoxication in the workplace is major source of liability for organisations in many industries. In addition, the dangers presented by intoxicated employees in environments such as mining are very real. However, testing every employee as they enter the workplace can be a time-consuming process that is often the source of dissension among workers. This is particularly relevant in the mining sector when considering the queues of workers that enter the premises each day and need to be tested for the presence of alcohol in their systems.

Traditional breathalyser technology typically requires the Health and Safety officer to attach a mouthpiece to the device, which the subject must make physical contact with and blow a long sample of breath. The mouthpiece must be changed for every person tested, for hygiene

reasons, which significantly slows the process. In addition, if the breath specimen is insufficient, the test must be performed again, resulting in further delays. On average, it is possible with this technology to conduct around six tests per minute, which means it will take a full hour to test just 360 workers. On a mine with hundreds or even thousands of workers, this is not an acceptable time frame.

Technological advances offer the ideal solution. The latest generation of electronic breath alcohol detectors are fast, accurate and non-invasive, making mandatory testing upon entry into a mine a real possibility. They even allow for liquids to be tested using the same device, so that workers cannot sneak alcohol into a mine in juice, soft drink or water bottles.

Rapid test solutions do not require physical contact between the subject and the device, and use a pressure sensor that only requires a very small breath sample to deliver results. These devices deliver a simple 'pass or fail' result, which is much faster than giving a specific alcohol level. An electro-chemical fuel cell creates a chemical reaction resulting in an electric charge in the presence of alcohol. This ensures greater accuracy compared to other methods, which react to other chemicals such as acetone and menthol, delivering false positives that could result in false accusations. In addition, passive mode can be used to draw air samples either from uncooperative workers or from liquids suspected of containing alcohol.

Using this new technology, Health and Safety officers can conduct on average three times the number of tests per minute, which means that more than 1 000 workers can be tested in an hour. This makes it possible to ensure that every worker is tested before they enter the mine, which enables better compliance with OHSA requirements, reduces risk, and improves the safety of all workers.