



WIRELESS BLASTING SOLUTIONS

SUB LEVEL CAVING



SUB LEVEL CAVING OPPORTUNITIES FOR WIRELESS BLASTING



The WebGen™ 100 Wireless Electronic Blasting System presents exciting new opportunities for mines operating with the Sub Level Caving (SLC) mining method.

Without the constraints imposed by physical connections, wireless blasting can enable improvements in operator safety and mine productivity when pre-charging blast holes.

Wireless blasting neutralises issues such as back-break, hole dislocation and brow damage – all of which can damage or cut-off lead wires.

IMPROVE PERFORMANCE

Operator Safety Wireless blasting can eliminate the need to work on rill to access the collar and reduce operator exposure to blast damaged ore.

Redrill Rates Redrills can be as high as 40% in SLC operations. Wireless blasting can lower the cost of drilling per tonne of production and reduce use of shotcrete.

Ore Recovery Ore recovery can be as low as 60% in SLC operations. Reliable initiation of charged holes improves fragmentation leading to enhanced ore flow and improved ore recovery.

Drawpoint Productivity Productivity is improved by maintaining access for mucking right up to firing time.

WHAT COULD THE WEBGEN™ 100 WIRELESS ELECTRONIC BLASTING SYSTEM HELP YOU TO ACHIEVE?

WEBGEN™ 100 WIRELESS ELECTRONIC BLASTING SYSTEM

WebGen™ 100 is the world's first Wireless Electronic Blasting System for mining – a significant step in the evolution of blast initiation.

The system includes wireless in-hole primers which are initiated by a firing command that communicates through rock, water and air. It can fundamentally change the way blasting and mining is approached – particularly underground.

Unlike traditional “wired” systems where a firing command travels from the blast box through harness wire and into the detonator, the WebGen™ 100 System communicates with the in-hole primer via Ultra Low Frequency signals called Electro Magnetic Induction. The technology is similar to that used to communicate with submarines at sea.

SYSTEM COMPONENTS

The WebGen™ 100 Wireless Electronic Blasting System is comprised of the following components:

- Wireless Primer
- Encoder Controller
- Firing system



Wireless Primer

The Wireless Primer is the source of blast initiation and consists of three components:

- 1 **i-kon™ Plugin:** Accurate and fully programmable detonator with millisecond timing accuracy which can be assigned delays up to 30 seconds. A benchmark in reliability and accuracy.
- 2 **Receiver:** The i-kon™ electronic detonator plugs into a receiver comprising a multi directional antenna, and a battery which serves as the in-hole power source with two year shelf life and is designed for up to six months in-hole sleep time.
- 3 **Pentex™ W Booster:** Securely locks onto the unit at the time of charging a blast hole.
- 4 **Retention Devices:** A range of accessories ensure the Wireless Primer is user friendly at the blast hole including a 'Tether Lock' and a 'Spider Retainer' (shown right).



Encoder Controller

- 5 The Encoder Controller programs every individual Wireless Primer with its own unique encrypted code. This Encoder contributes to the inherent safety of the system, and programs each Wireless Primer with two codes. The first code is a unique Group Identity Number (GID) which is for exclusive use at each mine and assigned to specified groups of primers which will sleep, wake and fire together. The second code is a 'Delay time' which is specific to the wireless primer and blast design.



Firing system

The firing system consists of the following components:

- 6 **Transmitter:** Generates the electrical signal for the antenna to communicate with the DRX in the blastholes.
- 7 **Transmitter Controller:** Controls the transmitter and supplies required commands for a DRX Group.
- 8 **Antennas:** Four loop portable for near transmission or 40 m loop for deep transmission.



CONTACT US

To speak with an Orica specialist about the WebGen™ 100 Wireless Electronic Blasting System, visit orica.com/contact

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