

Product presentation 2016



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Introduction to Etken products

Etken Teknologi is currently supplying two systems; Pyrotechnical cartridges (Royex Generation II) and pyrotechnical initiation systems (MaxClip and MaxEl). These two product lines combined offers one of the most flexible and effective pyrotechnical systems on the global market.

Combined with consultancy services and project planning, Etken excels as a supplier of complete pyrotechnical breaking solutions.





What do our products offer?

- An alternative to conventional explosives where restrictions makes use of detonating explosives difficult or impossible.
- A viable solution for rock blasting where requirements on vibration and gas emissions limits the use of high explosives.
- Highly competitive replacement for mechanical tools such as hydraulic hammers and slitters.
- A solution of pyrotechnical products with a 1.4S transport classification which makes logistic and traceability requirements significantly more relaxed compared to high explosives.





What makes us unique?

- Etken Teknologi utilizes test driven development. All products offered have been tested in each intended application.
- The Royex system is the first pyrotechnical solution that allows for usage of a separate selection of pyrotechnical igniters – The MaxClip initiation system.
- The MaxClip system is the first pyrotechnical shock tube based system that offers out of hole and in hole timing.
- Combining a unique, pyrotechnical, timing system with the powerful and oxygen balanced mixture in the Royex Gen II cartridge, Etken Teknologi can offer the most versatile and dynamic pyrotechnical system on the global market.





Royex cartridges

- The cartridge consists of a plastic housing containing a pyrotechnical mixture.
- The robust plastic housing is designed to protect the propellant mixture and the igniter during handling and the injection of stemming.
- The cartridge igniter threaded fitting is designed to accept a separate variety of pyrotechnical Maxfire igniters.
- The cartridges come in a variety of sizes and load weights and the range is constantly expanded to meet customer requirements.





Royex cartridges

- Classified as a P2 pyrotechnical article by the BAM institute, Berlin, Germany. Holds a 1.4S transport classification.
- Minimal risk of explosion when initiated unconfined or in packaging.
- Deflagration instead of detonation drastically changes vibration footprint in rock applications.
- Balanced pyrotechnical mixture generates minimal toxic gases upon initiation.





MaxClip system

- The MaxClip system is the first pyrotechnical shock tube based timing system, specially designed for optimum initiation of the Royex Cartridge.
- The system constitutes a major development in safe pyrotechnical initiation systems with a combination of surface delay igniters, clip squibs and hot, in-hole Maxfire igniters.
- The timing available though the MaxClip system makes the Royex system suitable for applications previously never possible with pyrotechnical cartridges.



MaxClip system

- Classified as a P1/P2 pyrotechnical article by the BAM institute, Berlin, Germany. Holds a 1.4S transport classification.
- No detonating igniters, neither on surface nor in hole.
- Global patent protection makes the system solely available to Etken Teknologi and partners.



Secondary breaking

- Secondary breaking of over size boulders and blocks is a common application for the Royex system.
- Breaking boulders can be done safely and efficiently, normally without moving close by equipment and machinery.
- The system is an attractive replacement for hydraulic breakers in quarrying and open pit mining.





Surface production blasting

- Correction and production blasting at sites where the use of high explosives is complicated or unsuitable due to regulatory or operational constraints.
- A pyrotechnical approach drastically reduces fines thus minimizing waste generation. Savings can be made in fine sensitive operations such as coal or quartzite mining.





Sensitive blasting

- An attractive alternative in urban areas where vibration, noise and fly rock restricts the use of high explosives.
- Proven in trenching, benching and shaft sinking projects in dense urban areas where use of explosives where not permitted.
- Effective as an alternative to mechanical breakers in concrete demolition.





Continuus construction

- Minimal operational risk allows for continuous construction without excessive evacuation
- Low noise and vibration allows for rock breaking in populated areas.
- High precision rock breaking possible to conform to detailed tolerance requirements.





Tunnel development

- Offering a minimum toxic gas environment for underground operation
- Minimal vibration footprint
- Low damage impact on hanging wall





Thank you!

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