Dyno Nobel Interview

Can you provide an overview of Dyno Nobel's history and the services that you offer?

Since the days of Alfred Nobel in the mid-1800s, Dyno Nobel has made significant breakthroughs in explosives technology. Today, Dyno Nobel provides a full range of reliable explosives products and blasting services from a distribution network unmatched in the industry. Our R&D is focused on practical ways to use new technologies to benefit our customers, and the DynoConsult team supports and guides customers in better and safer use of our products.

What efforts is Dyno Nobel undertaking to limit the environmental impact of blasting?

Starting with gassed emulsion, we can achieve better initiation and a more homogenous mix, which prevents the product from migrating into cracks and joints. This limits product loss on the bench and eliminates any residue or spills that, once returned to nature, will affect it negatively. In Canada, we are moving away from ANFO and blends because through our site audits, we have noticed that housekeeping is an issue. If we eliminate the problem at the source by using a different type of product, we can limit AN water contamination. Equally, we moved away from perchlorates in our packaged products by replacing them with alternate chemicals. This improved the safety of our products and allowed us to use them much closer to water bodies than previous products.

How can blasting impact a company's financial performance?

Dyno Nobel has proven that gassed emulsion and electronic detonators are the future of rock breaking. We have completed numerous tests and field trials that showcase our efficiency and value. Customers recognize that using these products is quickly justified by making huge savings on fuel, equipment wear and tear, and energy consumption at the crushers.

In terms of safety, what is the most critical moment in blasting? What work Is Dyno Nobel doing to improve safety standards?

There are two critical moments in blasting that involve safety. The first concerns borehole priming and loading. When we join a detonator and a booster together, we increase the risk of injury by many factors. Once the primer is inserted into a borehole, the impact radius is reduced from the immediate vicinity around the user to a borehole location that can only vertically release gases and shockwaves. This greatly limits the damage area. Proper loading techniques allow for optimal product placement in the borehole, thus eliminating any flyrock or blast underperformance. This keeps site personnel out of harm's way and allows for the best explosive performance by eliminating the risk of misfires. The use of wireless detonators enables us to safely preload underground rounds or surface benches and initiate them from a safe distance in sequence, removing personnel from unstable ground and the risk of collapse or failing high walls.

Second is the blast initiation. Flyrock can result in injuries to personnel and cause damage to equipment and property. At Dyno Nobel, we use training and site audits to emphasize that safe distances need to be respected. Moreover, blast designs must be properly executed. We need to take advantage of the technologies available to us to better predict the outcomes of all blasts.

What is the difference between the key initiation systems, and when is it most suitable to use each?

Electric systems are still widely used for blast initiation as a starter detonator to initiate a NONEL shock tube. I see them used on construction jobs, as they provide great flexibility and value. However, they are not applicable near stray currents, radio waves, or power lines.

Non-electric detonators are widely used in all applications. They are reliable, easy to use, and affordable. We see them in large open pit mines, and they are widely utilized underground because they provide a great range of available periods or timing delay. However, the cap scatter from those detonators does affect the fragmentation.

Timing accuracy is best served with electronic detonators. They produce the most uniform and optimal fragmentation when linked with a signature hole analysis, and they reduce ground vibrations. We can test each detonator individually or all detonators in a blast before evacuation or before initiation. Up to the last second, we know if all detonators are responding, thus eliminating the risk of misfires.

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