

TITAN[®]
BULK EXPLOSIVES

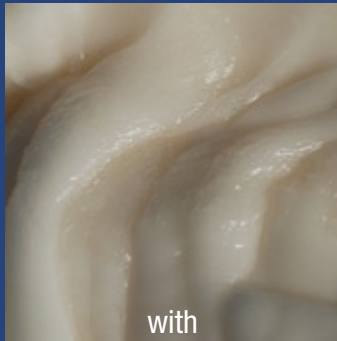


TITAN

DYNO[®]
Dyno Nobel

Groundbreaking Performance[™]

Say Good-bye to ANFO!



TITAN BULK EMULSIONS

YOUR CHALLENGES

OUR SOLUTIONS

▶ *Increased security concerns and government regulation with ammonium nitrate prills*

Say good-bye to ANFO when you switch to TITAN.

▶ *Rough floors from poor toe breakage increases equipment maintenance and slows production*

TITAN makes it easy to optimize the explosive column load: more energy in the toe where it's needed most, transitioning to a lighter load at the top. The result is uniform fragmentation and smoother floors.

▶ *Wet holes complicate drilling and loading which make productivity predictions difficult*

TITAN displaces water in wet holes and provides variable density so, wet or dry, you can operate with one explosive and one pattern. And you'll never need to de-water!

▶ *Problem geology causes flyrock, blowouts and poor fragmentation*

TITAN tends to stay in the borehole rather than migrating into voids and cracks. In these conditions, your blast results are typically more predictable and fragmentation more uniform.

▶ *Inconsistent fragmentation slows production and increases downstream operating costs*

TITAN releases a higher percentage of available energy than ANFO (especially in 3" to 6" holes), shooting at a velocity that delivers high brisance in most rock types, resulting in superior fragmentation.

▶ *Shooting every day increases blast-related liabilities*

TITAN's reduced powder factor and increased truck capacity means you'll be able to load larger patterns - and shoot less often.

▶ *Post-blast NO_x fumes*

TITAN is highly refined and can significantly reduce or entirely eliminate NO_x fume generation from your shots.

▶ *Labor shortages and slow cycle times limit advance rates in tunneling and shaft sinking projects*

Whether drifting, stoping or sinking a shaft, DynoMiner® systems load fast and easy with a single operator.



TITAN expanding to desired density

TITAN XL 1000 (repumpable emulsion)

HOW IT WORKS

- A specialized Titan XL 1000 truck transports unsensitized repumpable emulsion to the pattern
- Small quantities of gassing chemicals are blended into the emulsion as it is pumped into the borehole
- The gassing reaction sensitizes the emulsion and expands it to the desired density
- Dyno Nobel's gassing technology enables variable density from 0.90 to 1.25 g/cc to optimize blasting results
- Titan XL 1000 is ideal for remote locations where a repumpable emulsion storage silo is all that's needed for on site reloading.



TITAN displacing water in wet hole

TITAN SME (site mixed emulsion)

HOW IT WORKS

- A specialized Titan SME truck transports heated ammonium nitrate solution and other raw materials to the pattern (none of these materials, in the wrong hands, can be easily detonated)
- A patented mixing/pumping system combines the ingredients
- The mixture only becomes explosive after gassing occurs in the borehole
- Dyno Nobel's gassing technology enables variable density from 0.90 to 1.25 g/cc to optimize blasting results

TITAN 7000 RU (underground emulsion)

HOW IT WORKS

- Titan 7000 RU repumpable emulsion is formulated for use with DynoMiner® loading units in underground construction, quarry and mining operations
- DynoMiner loading units are available in configurations designed for drifting, stoping or shaft sinking
- A variety of specialized Titan 7000 RU formulations are formulated for uphole loading as well as concrete and sulfide ore compatibility



DynoMiner operator loading TITAN 7000 RU

800-732-7534

www.dynonobel.com

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