

Cast Booster Sensitive Explosive



Product Description

FRAGMAX is a high energy, cast booster sensitive, dry blasting agent designed for use in dry borehole conditions in surface (quarry, mining, construction) blasting applications when primed with either nitroglycerin dynamite or a cast booster. Because of higher density and velocity of detonation, FRAGMAX provides greater bulk strength than DYNAMIX™ / ANFO enabling the user to benefit from improved fragmentation and/or expanded patterns. For bulk delivery, FRAGMAX can be premixed and delivered to overhead storage bins, mixed on-site with stationary equipment and loaded into blast hole delivery trucks or mixed as it is loaded down-the-hole with specialized mobile equipment.

Application Recommendations

- **ALWAYS** use an adequately sized, high-impulse, high detonation velocity, nitroglycerin explosive or cast booster 454 g (16 oz) every 5 m (16 ft) to prime FRAGMAX recommendations for priming are on the following chart.
- FRAGMAX is not recommended for wet borehole conditions. Consult your Dyno Nobel representative regarding applications involving borehole dewatering and plastic borehole liners.
- When two primers are necessary, place one near the bottom and one near the top of the main charge in the borehole. Additional primers should be used whenever the blaster feels that separations or blockages may have occurred as the borehole is being loaded. It is imperative that all primers in the borehole be either threaded onto a detonating cord downline or upline or be individually primed with a detonator connected to the blast circuit at the surface.

Properties

MSDS #1009

Density (g/cc) Avg	1.05
Energy ^a cal/g (cal/cc)	880 (995)
Relative Weight Strength ^b	1.00
Relative Bulk Strength ^b	1.28
Velocity	5,400 mps / 200 mm diameter 16,700 fps / 8 in diameter 4,750 mps / 125 mm diameter 15,600 fps / 5 in diameter
Detonation Pressure ^c (Kbars)	59
Gas Volume ^a (moles/kg)	45
Water Resistance	None
Minimum Borehole Diameter	115 mm / 4.5 in
Fume Class	Not approved for underground use

^a All Dyno Nobel Inc. energy and gas volume values are calculated using PRODET™, the computer code developed by Dyno Nobel Inc. for its exclusive use. Other computer codes may give different values.

^b ANFO = 1.00 @ 0.82 g/cc

^c Confined @ 125 mm (5 in) diameter.

Hazardous Shipping Description

Explosive, Blasting, Type B, 1.5D, UN 0331, II OR
Ammonium Nitrate, Fuel Oil Mixture, 1.5D, NA 0331, II





Application Recommendations

- Use of detonating cord in boreholes with FRAGMAX can cause loss of energy, especially where high coreload detonating cords are used in smaller diameter holes. High coreload detonating cords may initiate FRAGMAX at low order. Where detonating cord is used to initiate Nonel SL detonators, use lowest recommended coreload detonating cord.

Transportation, Storage and Handling

- FRAGMAX has a shelf life of 3 months from date of manufacture when stored at temperatures between -17° C and 32° C (0° F and 90° F). However, FRAGMAX contains a high percentage of industrial-grade ammonium nitrate prills which are susceptible to breakage from temperature cycling, humidity and mechanical handling. Temperature cycling and humidity may cause packaged product to harden and material stored in bulk bins to increase in fines, cake and lump. Inventory should **ALWAYS** be rotated by using the oldest product first. Bulk bins should be emptied and cleaned routinely to prevent build up on walls.
- For recommended good practices in transporting, storing, handling and using this product, see the Safety Library Publications of the Institute of Makers of Explosives.
- Explosives must be transported, stored, handled and used in conformity with all applicable federal, state, provincial and local laws and regulations.

Borehole Diameter		Dyno Nobel Cast Booster	Nitroglycerin Dynamite Primers (diameter x length)				Use at least two primers per borehole when FRAGMAX column exceeds the following heights	
mm	in		Product	mm	in	Meters	Feet	
100 – 165	4½ – 6½	Trojan® Spartan® 450	Secondary Primer Only	75 x 200 75 x 400	3 x 8 3 x 16	5.0	16	
165 & Up	6½ & Up	Trojan® Spartan® 900	Secondary Primer Only	75 x 400	3 x 16	5.0	16	

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