DYNOMIX™

Technical Information

NITROGEN PRODUCTS

Booster Sensitive Explosive

Product Description

DYNOMIX is a prilled ammonium nitrate/fuel oil explosive mixture suitable for use in dry borehole conditions. It is available packaged in a variety of sizes and types of bags or delivered in bulk. For bulk delivery, it 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. DYNOMIX is used for quarry, surface mining, construction and underground blasting operations.

Application Recommendations

- DYNOMIX is not recommended for wet blasthole conditions and is not for use in ground containing reactive sulphides. Consult your Dyno Nobel representative regarding applications involving borehole dewatering and plastic borehole liners
- DYNOMIX is suitable for use in ground with a temperature range of 0°C to 55°C (32°F to 131°F). For applications in ground with temperatures outside this range contact your Dyno Nobel representative
- The loading density of DYNOMIX is subject to change (i.e., density poured from a bag differs from pneumatically placed or mobile equipment delivered densities). Typical application loading densities are: 0. 82 to 0.83 g/cc (poured 3 in to 5 in); 0.90 to 0.95 g/cc (pneumatic 1 in to 2 in) and 0.85 to 0.87 g/cc (bulk truck delivered 3 in to 17½ in)
- DYNOMIX 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)
- **ALWAYS** use an adequately sized cast booster or packaged explosive with a high detonation pressure to prime DYNOMIX

Properties

SDS #1009

	Poured	Pneumatic
Density (g/cc) Avg	0.82	0.95
Energy[a] cal/g (cal/cc)	880 (720)	880 (720)
Relative Weight Strength[b]	1.00	1.00
Relative Bulk Strength[b]	1.00	1.16
Velocity[c] m/sec (ft/sec)	3,900 (12,800)	3,900 (12,800)
Detonation Pressure[c] (Kbars)	31	31
Gas Volume[a] (moles/kg)	43	43
Water Resistance	None	None
Fume Class	IME1	IME1
Minimum Hole Diameter (mm)	75	25

[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 @ 150 mm (6 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

See Product Disclaimer on page 2

DYNO Dyno Nobel

Groundbreaking Performance™

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Application Recommendations (continued)

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

Transportation, Storage and Handling

- DYNOMIX 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

TYPICAL LOADING DENSITIES AND RATES OF DETONATION (poured)

Borehole Diameter		Typical Weight Per Foot Of Borehole		Typical Detonation Velocity (confined)	
mm	in	kg	lbs	mps	fps
32	1¼	0.22	0.5	2,900	9,500
50	2	0.55	1.2	3,300	10,700
75	3	1.1	2.5	3,300	10,900
100	4	2.0	4.5	3,600	11,800
125	5	3.2	7.0	3,800	12,400
150	6	4.7	10.4	3,900	12,800
187	7⅜	7.1	15.7	4,000	13,100
230	9	10.6	23.4	4,100	13,400
270	10⅝	15.2	33.4	4,100	13,600
311	12¼	20.2	44.4	4,200	13,700
350	13¾	25.4	55.9	4,200	13,700
380	15	30.2	66.5	4,200	13,800

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