

DYNO GOLD[®] C LD

Technical Information



Sensitized Bulk Emulsion



Product Description

DYNO GOLD C LD is a booster sensitive, high performance, economical, re-pumpable bulk emulsion explosive specifically formulated to provide superior blasting performance in nearly all open pit applications where large diameter boreholes are used. DYNO GOLD C LD can be used alone, blended with up to 45% ANFO for direct pumping to the bottom of water-filled boreholes or as the emulsion explosive component for augerable Heavy ANFO blends. The percentage of emulsion in DYNO GOLD C LD emulsion/ANFO or Heavy ANFO blends can be varied to best match specific blasting requirements. Refer to the data table at right for the physical properties of typical DYNO GOLD C LD Heavy ANFO explosive blends.

Application Recommendations

- Only ANFO manufactured with emulsion compatible ammonium nitrate prills is recommended for use in DYNO GOLD C LD emulsion/ANFO or Heavy ANFO blends.
- The minimum cast booster weight recommended for use as a primer for DYNO GOLD C LD, DYNO GOLD C LD emulsion/ANFO blends and DYNO GOLD C LD Heavy ANFO blends is 454 g (16 oz).
- **ALWAYS** double prime when bulk explosive columns exceed 6 m (20 ft). One primer should be positioned near the bottom of the hole and the second nearer the

Properties

MSDS
#1062

| | | | | |
|---|-----------|-----------|--------|--------|
| Percent Emulsion | 100 | 70 | 50 | 30 |
| Density (g/cc) Avg | 1.25 | 1.28 | 1.30 | 1.15 |
| Energy ^a (cal/g) | 670 | 735 | 775 | 820 |
| (cal/cc) | 840 | 940 | 1,010 | 945 |
| Relative Weight Strength ^{a,b} | 0.76 | 0.84 | 0.88 | 0.93 |
| Relative Bulk Strength ^{a,b} | 1.16 | 1.31 | 1.40 | 1.30 |
| Velocity ^c (m/sec) | 5,600 | 5,200 | 5,100 | 4,700 |
| (ft/sec) | 18,200 | 17,000 | 16,700 | 15,300 |
| Detonation Pressure ^c (Kbars) | 98 | 85 | 85 | 64 |
| Gas Volume ^a (moles/kg) | 42.4 | 42.7 | 42.9 | 43.0 |
| Water Resistance | Excellent | Excellent | Good | Poor |
| Minimum Diameter (mm) | 125 | 150 | 150 | 125 |
| (inches) | 5 | 6 | 6 | 5 |
| Loading Method | Pump | Pump | Auger | Auger |

^a All Dyno Nobel Inc. energy and gas volume values are calculated using PRODET™, a 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 in 150 mm (6 in) diameter at average density.

Hazardous Shipping Description

Explosive, Blasting, Type E 1.5 UN 0332 II



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Application Recommendations (continued)

- top of the explosive column.
- Do not use with detonating cord in borehole diameters less than 200 mm (8 in).
- **NEVER** load DYNO GOLD C LD Heavy ANFO blends into boreholes where standing water is present! Augered DYNO GOLD C LD Heavy ANFO blends are to be used in dry or dewatered boreholes only. To produce consistently good results, wet boreholes must be dewatered. After dewatering, check the borehole to ensure there is no re-entering or residual water. As soon as the borehole is confirmed dry, immediately prime and load.
- **ALWAYS** use pumped DYNO GOLD C LD emulsion or DYNO GOLD C LD emulsion/ANFO blends when standing water remains in a borehole.
- **NEVER** use pumpable DYNO GOLD C LD and DYNO GOLD C LD emulsion/ANFO blends where water depths exceed 30 m (100 ft). Consult your Dyno Nobel representative for an alternative product.
- Borehole sleep time is two (2) weeks. Where geology is wet and extended sleep times are anticipated, **ALWAYS** limit ANFO percentage in DYNO GOLD C LD Heavy ANFO blends to 50%. When product will sleep overnight and less water resistant blends are being considered, consult your Dyno Nobel representative for loading recommendations.
- **NEVER** store blended DYNO GOLD C LD emulsion/ANFO blends and Heavy ANFO blends in bulk delivery equipment, tanks or bins. DYNO GOLD C LD and ANFO should be blended and loaded directly into the borehole. Once blended, use only equipment specially designed to blend and load emulsion/ANFO or Heavy ANFO blends.
- Bulk delivery equipment should be calibrated periodically to ensure blend quality and explosive performance. Ensure safety systems are operational before each use.
- Routinely monitor the DYNO GOLD C LD emulsion/ANFO and DYNO GOLD C LD Heavy ANFO blend density to ensure that equipment remains in calibration during loading,

Transportation, Storage and Handling

- DYNO GOLD C LD can be stored for 3 months at temperatures between -18° C and 32° C (0° F and 90° F). Older product should be used first and all storage tanks should be kept clean of residual product.
- Use only pumps which have been approved by Dyno Nobel for 1.5 emulsion explosive transfer. Pump type, pump speed, worn pump parts, repeated repumping and pumping against high hose pressures can increase DYNO GOLD C LD viscosity and decrease shelf life.
- **ALWAYS** monitor emulsion pump performance and check pumps periodically for excessively worn parts. Design storage facilities to minimize repeated pumping.
- Transport, store, handle and use DYNO GOLD C LD in compliance with federal, state, provincial and local laws governing bulk explosives.

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