

# BLASTGEL®

## Technical Information



## Large Diameter Packaged Booster Sensitive Emulsion



### Product Description

BLASTGEL is a large diameter, booster sensitive, water resistant, perchlorate-free packaged emulsion (1000) or emulsion/ANFO blend (1070) explosive specifically formulated to provide cost effective, general blasting performance in open pit, quarry and construction blasting applications. BLASTGEL is packaged in tough, easy-to-handle shot bags that consist of a rugged poly liner surrounded by a woven poly outer package in diameters as small as 100 mm (4 in).

BLASTGEL is an excellent choice as the complete explosive load in wet holes with a loading density which is ideal for sinking in wet holes. In addition, BLASTGEL, which maintains its consistency when the package is slit, is clean and easy to handle and use as a partial explosive load after which bulk ANFO can be loaded to complete the explosive charge.

### Application Recommendations

- **ALWAYS** use a cast booster as a primer for BLASTGEL to ensure maximum performance.
- **ALWAYS** use a 340 g (12 oz) or larger cast booster at internal product temperatures higher than -18°C (0° F). At internal product temperatures below -18° C (0°F) and higher than -34° C (-30° F),
- **ALWAYS** use a 454 g (16 oz) or larger cast booster. BLASTGEL should not be used at internal product temperatures below -34° C (-30° F). At internal product temperatures below -34°C (-30°F), adequate product warm-up time must be allowed after loading into boreholes and before initiation. Consult the Warm-Up Time Chart to determine adequate borehole residence time after loading.
- **ALWAYS** ensure continuous column loading with all shot bags in contact with either

## Properties

MSDS  
#1063

	1000	1070
<b>Density</b> (g/cc) Avg	1.22 - 1.25	1.27-1.29
<b>Energy<sup>a</sup></b> (cal/g)	650	730
(cal/cc)	800	935
<b>Relative Weight Strength<sup>a,b</sup></b>	0.74	0.83
<b>Relative Bulk Strength<sup>a,b</sup></b>	1.11	1.30
<b>Velocity<sup>c</sup></b> (m/s)	5,800	5,500
(ft/s)	19,000	18,000
<b>Detonation Pressure<sup>c</sup></b> (Kbars)	91	97
<b>Water Resistance</b>	Excellent	Excellent
<b>Gas Volume<sup>a</sup></b> (moles/kg)	44	44
<b>Fume Class</b>	No underground use	
<b>Shelf Life Maximum</b>	1 year (from date of production)	
<b>Maximum Water Depth</b>	45 m (150 ft)	30 m (100 ft)

<sup>a</sup> 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.

<sup>b</sup> ANFO = 1.00 @ 0.82 g/cc

<sup>c</sup> Unconfined @ 125 mm (5 in) diameter

### Hazardous Shipping Description

Explosive, Blasting, Type E, 1.5D, UN 0332 II



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a primer or one another. For column lengths in excess of 9 m (30 ft) or whenever column separation is suspected, multiple priming is recommended.

- Minimum diameter is 100 mm (4 in).
- Use with detonating cord is not recommended.
- In wet holes where BLASTGEL is used to build the explosive column above and out of water, once the column is above the water level, **ALWAYS** load one additional cartridge before loading bulk ANFO. Slit the package with a knife near its top before loading to keep bulk ANFO out of water.
- Emulsion explosives are susceptible to “dynamic shock” and may detonate at low order or fail completely when applied in very wet conditions, where explosive charges or decks are closely spaced and/or where geological conditions promote this effect. Consult your Dyno Nobel representative for alternate product recommendations when these conditions exist.

### Transportation, Storage and Handling

- BLASTGEL must be transported, stored, handled and used in conformity with all applicable federal, state, provincial and local laws and regulations.
- BLASTGEL has a shelf life of one (1) year when stored at temperatures between -18°C and 38°C (0°F and 100°F). BLASTGEL emulsion explosives with a manufactured date exceeding one (1) year should be inspected prior to use. Consult your local Dyno Nobel representative for guidance. Explosive inventory should be rotated. Avoid using new materials before the old. For recommended good practices in transporting, storing, handling and using this product, see the booklet “Prevention of Accidents in the Use of Explosive Materials” packed inside each case and the Safety Library Publications of the Institute of Makers of Explosives.

### Packaging

BLASTGEL is available in diameters from 100 mm (4 in) to 175 mm (7 in) in 12 mm (½ in) increments and in weights from 9.0 kg (20 lbs) up to 22.7 kg (50 lbs) depending on package diameter. Note: All weights are approximate.

### Warm-Up Time Chart

Borehole Residence Time (Hours at 7°C / 45°F)

Internal Product Temperature Before Loading		100 mm (4 in) Diameter		125 mm (5 in) Diameter		165 mm (6 1/2 in) Diameter	
°C	°F	Wet	Dry	Wet	Dry	Wet	Dry
-34	-30	0.0	0.0	0.0	0.0	0.0	0.0
-40	-40	1.0	2.5	2.0	4.5	2.5	6.5

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### Dyno Nobel Inc.

2650 Decker Lake Boulevard, Suite 300, Salt Lake City, Utah 84119 USA  
Phone 800-732-7534 Fax 801-328-6452 Web [www.dynonobel.com](http://www.dynonobel.com)

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