

BLASTGEL® ARCTIC

Technical
Information



Large Diameter Packaged Booster Sensitive Emulsion



Product Description

BLASTGEL ARCTIC is a large diameter, booster sensitive, water resistant, perchlorate-free packaged emulsion and ANFO blend explosive specifically formulated to provide cost effective, general blasting performance in extreme cold temperature blasting applications. BLASTGEL ARCTIC is packaged in tough, easy-to-handle shot bags that consist of a rugged polyethylene liner surrounded by a woven polypropylene outer package in various diameters.

BLASTGEL ARCTIC is an excellent choice when outdoor and/or internal product temperatures are colder than -20°C (-4°F) or when extended storage has been between -20°C and -40°C (-4°F and -40°F). BLASTGEL ARCTIC is 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 454 g (16 oz) or larger cast booster at internal product temperatures below -20°C (-4°F). At internal product temperatures below -40°C (-40°F), adequate product warm-up time must be allowed after loading into boreholes and before initiation.
- **NEVER** store product below -50°C (-58°F) for extended periods of time.
- **ALWAYS** ensure continuous column loading with all shot bags in contact with either 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.
- Use with detonating cord is not recommended.
- In wet holes where BLASTGEL ARCTIC is used to build the explosive column above and out of water, once the column is above the water level, **ALWAYS** load

Properties

SDS
#1163

BLASTGEL ARCTIC	
Density (g/cc) Avg	1.23–1.27
Energy ^a (cal/g)	730
(cal/cc)	935
Relative Weight Strength ^{a,b}	0.83
Relative Bulk Strength ^{a,b}	1.30
Velocity ^c (m/s)	5,500
(ft/s)	18,000
Detonation Pressure ^c (Kbars)	97
Water Resistance	Excellent
Gas Volume ^a (moles/kg)	44
Fume Class	No underground use
Shelf Life Maximum	1 year (from date of production)
Maximum Water Depth	30 m (100 ft)

^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 Unconfined @ 125 mm (5 in) diameter

Hazardous Shipping Description

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



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one additional cartridge before loading bulk ANFO. Slit the package with a knife near its top before loading to minimize ANFO contact with 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 ARCTIC must be transported, stored, handled and used in conformity with all applicable federal, state, provincial and local laws and regulations.
- BLASTGEL ARCTIC has a shelf life of one (1) year when stored at temperatures between -40°C and 38°C (-40°F and 100°F). Extended storage below -40°C can adversely effect performance and reliability of BLASTGEL ARCTIC. Consult your Dyno Nobel representative for more information on extreme cold temperature storage.
- BLASTGEL ARCTIC 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

Material Number	Diameter		Weight	
	mm	in	kg	lbs
QD43045020	115	4½	9.2	20
QD43050025	125	5	11.3	25
QD43055030	138	5½	13.6	30
QD43060040	152	6	18	40
QD43070050	177	7	22.7	50

Note: All diameters and weights are approximate

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