

POWERMITE®

Technical Information



Small Diameter Detonator Sensitive Emulsion



Product Description

POWERMITE and POWERMITE PLUS are detonator sensitive, high energy, water resistant, packaged emulsion explosives that are recommended for most underground drifting, quarry and construction blasting applications in medium rock types. POWERMITE and POWERMITE PLUS are also recommended when blasting where sulfide ore reactivity and/or sulfide ore dust explosion hazards exist.

Application Recommendations

- Package diameter and type affect product density. Use cartridge count to determine actual explosive charge weight.
- POWERMITE will perform in temperatures from -20° to 50°C (-4°F to 122°F).
- At internal product temperatures higher than -18° C (0° F) **ALWAYS** use a Dyno Nobel high strength detonator or equivalent. At internal product temperatures below -18° C (0° F) and higher than -23° C (-10° F) use an 8 gm or larger case booster. For internal product temperatures below -23° C (-10° F) consult your Dyno Nobel representative for the recommended cast booster size.
- Use with detonating cord is not recommended.
- POWERMITE product are not recommended for use with pneumatic loading equipment. Severe impact may degrade the emulsion quality and performance.
- 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.

Properties

SDS
#1030

	POWERMITE	POWERMITE PLUS
Density^a (g/cc) Avg	1.15	1.15
Energy^b (cal/g)	790	910
(cal/cc)	910	1,050
Relative Weight Strength^b	0.90	1.03
Relative Bulk Strength^{b,c}	1.26	1.45
Velocity^d (m/s)	4,900	4,700
(ft/s)	16,100	15,400
Detonation Pressure^e (Kbars)	69	63
Gas Volume^a (moles/kg)	37	36
Fume Class	NRCan1 ^e	
Shelf Life Maximum	1 year (from date of production)	
Maximum Water Depth	30 m (100 ft)	
Water Resistance	Excellent	

^a Product density without package.

^b 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.

^c ANFO = 1.00 @ 0.82 g/cc.

^d Unconfined @ 50 mm (2 in) diameter.

^e Approved by Natural Resources Canada as Fume Class 1.

Hazardous Shipping Description

Explosive, Blasting, Type E, 1.1D, UN 0241 II



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Transportation, Storage and Handling

- POWERMITE products must be transported, stored, handled and used in conformity with all applicable federal, state, provincial and local laws and regulations.
- Packaged emulsions have a shelf life of one (1) year when stored at temperatures between -18° C and 38° C (0° F and 100° F). 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 = Paper

Diameter x Length		Case Quantity	Case Weight		Net Explosive Weight / Cartridge	
mm	in		kg	lb	kg	lb
32 x 200	1¼ x 8	109	18.2	40	0.17	0.37
32 x 300	1¼ x 12	70	18.2	40	0.26	0.57
32 x 400	1¼ x 16	57	18.2	40	0.32	0.71
38 x 300	1½ x 12	51	18.2	40	0.36	0.79
38 x 400	1½ x 16	38	18.2	40	0.48	1.06

Packaging = Chub

Diameter x Length		Powermite*	Powermite Plus*	Powermite SL*	Powermite Canada*	Case Quantity	Case Weight		Net Explosive Weight / Cartridge	
mm	in						kg	lb	kg	lb
25 x 300	1 x 12	■		■		120	18.2	40	0.15	0.33
25 x 400	1 x 16			■		90	18.2	40	0.20	0.44
28 x 400	1⅛ x 16		■			64	18.2	40	0.29	0.63
32 x 300	1¼ x 12	■				70	18.2	40	0.26	0.57
32 x 400	1¼ x 16		■	■		54	18.6	41	0.34	0.75
38 x 300	1½ x 12	■			■	50	18.6	41	0.37	0.81
38 x 400	1½ x 16	■		■		37	18.2	40	0.49	1.08
50 x 400	2 x 16	■			■	18	17.3	38	0.96	2.12
65 x 400	2½ x 16				■	12	17.7	39	1.47	3.24

* Formulations are available in all areas and in custom sizes. Refere to Packaging Details for more information.

Packaging Details

- Package diameter and type affect product density. Use cartridge count to determine actual explosive charge weight. All weights are approximate.
- POWERMITE is available in a wide variety of sizes. Custom sizes are subject to surcharge and may require longer than usual lead times.
- Check with your Dyno Nobel representative should you have any questions.

Case Dimensions

44 x 35 x 20 cm
17¼ x 13⅞ x 7⅞ in

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Dyno Nobel Inc.

2795 East Cottonwood Parkway, Suite 500, Salt Lake City, Utah 84121 USA
Phone 800-732-7534 Fax 801-328-6452 Web www.dynonobel.com

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