

# DYNO<sup>®</sup> AP

## Technical Information



## Small Diameter Detonator Sensitive Emulsion



### Product Description

DYNO AP and DYNO AP PLUS are detonator sensitive, all-purpose, water resistant, packaged emulsion explosives that are recommended for underground drifting, quarry and construction blasting applications in medium rock types.

DYNO AP and AP PLUS are available in the following package types:

- Chub/PMP Film
- Chub/Valeron Film
- Paper Convolute Shell
- Paper Tube Shell

### Application Recommendations

- DYNO AP will perform in temperatures from -20° to +50° C (-4° 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), **ALWAYS** use a 10 gram or larger cast 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. Consult your Dyno Nobel representative for details.
- 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

MSDS  
#1030

	<u>DYNO AP</u>	<u>DYNO AP PLUS</u>
<b>Density</b> (g/cc) Avg	1.15	1.15
<b>Energy<sup>a</sup></b> (cal/g)	775	860
(cal/cc)	890	990
<b>Relative Weight Strength<sup>a</sup></b>	0.88	0.98
<b>Relative Bulk Strength<sup>a,b</sup></b>	1.24	1.38
<b>Velocity<sup>c</sup></b> (m/s)	4,700	4,600
(ft/s)	15,400	15,100
<b>Detonation Pressure<sup>c</sup></b> (Kbars)	63	61
<b>Gas Volume<sup>a</sup></b> (moles/kg)	41	39
<b>Shelf Life Maximum</b>	1 year (from date of production)	
<b>Maximum Water Depth</b>	90 m (300 ft)	
<b>Water Resistance</b>	Excellent	
<b>Fume Class</b>	IME1 <sup>e</sup> & NRCan1 <sup>d</sup>	

<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 @ 32 mm (1 1/4 in) diameter

<sup>d</sup> Approved by Natural Resources Canada as Fume Class 1 in chub/PMP packaging only.

<sup>e</sup> DYNO<sup>®</sup> AP is IME Fume Class 1.

### Hazardous Shipping Description

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





### Transportation, Storage and Handling

- DYNO AP and DYNO AP PLUS 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		Nominal Cartridge Count / 25 kg (55 lb) case	Case Type
mm	in		
32 x 200	1 1/4 x 8	141 - 148	A
32 x 300	1 1/4 x 12	97 - 102	A
32 x 400	1 1/4 x 16	70 - 79	B
40 x 300	1 1/2 x 12	68 - 69	A
40 x 400	1 1/2 x 16	50 - 55	B
50 x 200	2 x 8	59 - 60	A
50 x 400	2 x 16	28 - 29	B
65 x 400	2 1/2 x 16	17 - 19	A
75 x 400	3 x 16	12 - 14	A

### Packaging - Chub

Diameter x Length		Case Quantity	Case Type	Case Weight		Net Explosive Weight	
mm	in			kg	lbs	kg	lbs
25 x 300	1 x 12	120	A	19	42	0.15	0.33
32 x 200	1 1/4 x 8	105	A	18.6	41	0.17	0.37
32 x 300	1 1/4 x 12	70	A	19	42	0.26	0.57
32 x 400	1 1/4 x 16	54	B	19	42	0.34	0.75
40 x 300	1 1/2 x 12	50	A	19	42	0.37	0.81
40 x 400	1 1/2 x 16	37	B	19	42	0.49	1.08
50 x 200	2 x 8	40	A	19	42	0.45	1.00
50 x 400	2 x 16	18	B	18	40	0.96	2.12
65 x 400	2 1/2 x 16	12	A	18.6	41	1.47	3.24
75 x 400	3 x 16	8	A	17.6	39	2.08	4.59

- Package diameter and type affect product density. Use cartridge count to determine actual explosive charge weight. Note: All weights are approximate.
- DYNO AP and DYNO AP PLUS are 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

<b>A</b>	44 x 36 x 25 cm	17 3/8 x 14 x 9 5/8 in
<b>B</b>	44 x 38 x 21 cm	17 1/8 x 15 x 8 1/4 in

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