TECHNICAL DATA SHEET

A CED EXPLOSINES

DYNO® TX

Small Diameter Detonator Sensitive Emulsion

Prope	erties			SDS #1030
		Paper	Chub	
Density	(g/cc) Avg	1.10	1.17	
Energy ^a	(cal/g)	985	1,000	
	(cal/cc)	1,085	1,170	
Relative Weight Strength ^a		1.12	1.14	
Relative Bulk Strength ^{a,b}		1.51	1.63	
Velocity ^c	(m/s)	5,000	5,000	
	(ft/s)	16,400	16,400	
Detonation Pressure ^c (Kbar)		69	73	
Gas Volume ^a (moles/kg)		30	32	
Shelf Life Maximum		1 year from date	of production	
Maximum Water Depth		30 m (10	00 ft)	
Water Resistance		Excelle		
Fume Class ^d		Not underground	IME1	

- ^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 @ 50 mm (2 in) diameter
- d Approved for underground use as IME Fume Class 1 / Natural Resources Canada Fume Class 1 in chub/PMP package only.

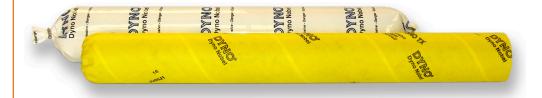
Hazardous Shipping Description

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



PRODUCT DESCRIPTION

DYNO TX is a detonator sensitive, high energy, water resistant, packaged emulsion explosive specifically designed for trenching, utility, road construction and most site preparation applications. It is recommended for use in very wet conditions, where explosive charges or decks need to be closely spaced and/or where geological conditions promote "dynamic shock" in other emulsion explosives.



APPLICATION RECOMMENDATIONS

- Package diameter and type affect product density. Use cartridge count to determine actual explosive charge weight.
- 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 -26°C (-15°F), ALWAYS use a 10 gram or larger cast booster. For internal product temperatures below -26°C (-15°F), consult your Dyno Nobel representative for the recommended cast booster size.
- Use with detonating cord is not recommended.
- For optimal performance, hole spacing for 50 mm (2 in) diameter product should be no closer than 0.75 m (30 in). Hole spacing for 65 mm (2½ in) diameter product should be no closer than 0.9 m (36 in). When delaying charges with minimum spacing, use delay intervals no greater than 25 milliseconds between adjacent charges.
- ALWAYS ensure continuous column loading of cartridges. Where column separation is likely, use additional primers.



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Properties Cont.

Packaging = Chub

Diameter x Length		Case	Net Explosive Weight*		Net Explosive Weight / Chub	
mm	in	Quantity	kg	lbs	kg	lbs
38 x 400	11/2 x 16	37	18.2	40	0.49	1.08
50 x 200	2 x 8	40	18.2	40	0.45	1.00
50 x 400	2 x 16	18	17.3	38	0.96	2.12
57 x 400	21/4 x 16	14	16.8	37	1.19	2.62
65 x 400	21/2 x 16	12	17.3	38	1.47	3.24
70 x 400	23/4 x 16	9	15.9	35	1.79	3.93
75 x 400	3 x 16	8	16.8	37	2.08	4.59
90 x 400	31/2 x 16	6	16.8	37	2.78	6.12

- Package diameter and type affect product density. Use cartridge count to determine actual explosive charge weight.
- Note: All weights are approximate.
- DYNO TX 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.
- *Add two pounds for Gross Case Weight

Case Dimensions

44 x 35 x 20 cm 17.25 x 13.875 x 7.875 in

TRANSPORTATION, STORAGE AND HANDLING

- DYNO TX 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 Tube Shell

Diameter	x Length	Case Quantity	Net Exp Weig			sive Weight e Shell
mm	in		kg	lbs	kg	lbs
45 x 400	1¾ x 16	28	18.6	41	0.67	1.48
50 x 200	2 x 8	42	18.2	40	0.43	0.95
50 x 400	2 x 16	21	18.2	40	0.86	1.90
57 x 400	21/4 x 16	17	18.6	41	1.09	2.39
65 x 400	2½ x 16	13	18.2	40	1.39	3.06
70 x 400	2¾ x 16	11	18.2	40	1.67	3.67
75 x 400	3 x 16	8	15.0	33	4.17	4.17

- Package diameter and type affect product density. Use cartridge count to determine actual explosive charge weight.
- Note: All weights are approximate.
- DYNO TX 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.
- *Add two pounds for Gross Case Weight

ADDITIONAL INFORMATION - Visit <u>dynonobel.com</u> for Brochures and Case Studies related to this product.

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