

DYNO[®] E-5

Technical Information



Small Diameter Detonator Sensitive Permissible Emulsion



Product Description

DYNO E-5 is a detonator sensitive, small diameter, water resistant, packaged, “permissible” emulsion explosive formulated to meet the requirements of the Mine Safety and Health Administration for use in underground coal mines. High detonation velocity and bulk strength make DYNO E-5 suitable for blasting coal “off the solid” as well as for blasting undercut-coal seams containing hard binders. DYNO E-5 is packaged in paper convolute shells.

Application Recommendations

- Products are permissible only if used in accordance with the Code of Federal Regulations, 30 CFR part 75. These regulations are very detailed and all users should become fully familiar with their content.
- Package diameter and type affect product density. Use cartridge count to determine actual explosive charge weight.
- 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.
- **ALWAYS** use high strength detonator such as the Dyno Nobel Electric Super Coal or equivalent at internal product temperatures higher than -12° C (10° F). At internal product temperatures higher than -12° C (10° F), the minimum recommended detonator for permissible application is a bronze shell No. 8 strength.

Properties

SDS
#1030

Density (g/cc) Avg	1.05
Energy^a (cal/g)	740
(cal/cc)	777
Relative Weight Strength^a	0.84
Relative Bulk Strength^{a,b}	1.08
Velocity^c (m/s)	4,500
(ft/s)	14,800
Detonation Pressure^c (Kbar)	53
Water Resistance	Excellent
Gas Volume^a (moles/kg)	38
Fume Class	IME1 ^d & NRCan1 ^e
Shelf Life Maximum	1 year (from date of production)

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

^d IME Class 1 is more stringent than the MSHA permissibility requirements.

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

Hazardous Shipping Description

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



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Transportation, Storage and Handling

- DYNO® E-5 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

Diameter x Length		Nominal Cartridge Count / 18 kg (40 lb) case
mm	in	
32 x 400	1 1/4 x 16	57
40 x 400	1 1/2 x 16	38

- Package diameter and type affect product density. Use cartridge count to determine actual explosive charge weight. Note: All weights are approximate.
- DYNO E-5 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 17.25 x 13.875 x 7.875 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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