ELECTRIC SUPER™ SEISMIC

Technical Information

Electric Seismic Detonators

Product Description

In addition to superior accuracy, the ELECTRIC SUPER SEISMIC detonator provides the high output strength and impact resistance of all Dyno Nobel electric detonators.

Now made with a copper shell, the ELECTRIC SUPER SEISMIC also offers improved corrosion resistance, even in the most severe seismic environments.

The ELECTRIC SUPER SEISMIC detonator is ideally suited for geophysical exploration work because it fires with no appreciable time lag between the application of the proper current/amperes and detonation.

Designed for Safety

Multiple anti-static features minimize the risk of accidental detonation. Reliability and performance is the heart of the Electric Super Seismic detonator. Internal components and statistical process controls assure each and every detonator meets IAGC's rigorous standards of the seismic industry.

High Strength

Electric Super Seismic detonators can make a successful shot out of a potential failure, especially when blasting at low temperatures, high hydrostatic conditions or seismic environment.

USE CAUTION WHEN SLEEP TIME IS ANTICIPATED

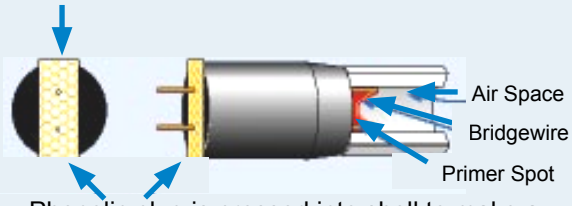
A loaded hole that is not shot immediately after the detonator tests positive with a ShotPoint Tracker™ or other testing device could fail for reasons beyond the control of the drill crew and product manufacturer. Reasons for failure could include but are not limited to geologic shifting, lightning, vandalism, farmer or animal interference.

Properties

SDS #1176

Detonator Shell	Copper
Wire Gauge / Color	20 gauge Yellow 18 gauge Red
Shell Length	63.5 mm / 2.5 in
Maximum Water Pressure	250 psi / 17.2 bars
Wire Tensile Strength	20 gauge 50 lbs / 222 N (Newtons) 18 gauge 75 lbs / 334 N (Newtons)
Shelf Life Maximum	3 years (from date of production)
Maximum Usage Temperature	+ 66°C (150°F)
Net Explosive Content per 100 units	0.0885 kg 0.1947 lb
Recommended Firing Energy per detonator	400 Volts 22.7 mj/ohm

Printed circuit tape directs high levels of extraneous current to the copper shell rather than through the bridgewire.



Phenolic plug is pressed into shell to make a positive seal that withstands high hydrostatic pressures.

Hazardous Shipping Description

Detonator, Electric, 1.4B UN 0255 II

Spooled	EX 8810006
Duplex Wire Kirks	EX 9207060A
Single Wire Kirks	EX 9207060B

See Product Disclaimer on page 2

DYNO Dyno Nobel

Groundbreaking Performance™

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Application Recommendations

- **NEVER** use Dyno Nobel seismic explosive products and/or components with explosive products and/or components made by other manufacturers.
- **ALWAYS** use a single series hook-up, limit the number of Electric Super Seismic detonators in the series to 25 and use a capacitor discharge blasting machine that will deliver a firing current greater than 10 amps RMS to the circuit for optimum performance in single-shot firing and pattern shooting.
- **ALWAYS** keep electric detonator wires, the blasting circuit and lead wires shunted unless testing field resistance, connecting or ready to fire. **ALWAYS** twist-shunt electric detonator legwires after the factory shunt is removed.
- **NEVER** handle or use electric detonators when stray current or static electricity is present or during lightning storms.
- **NEVER** connect ELECTRIC SUPER SEISMIC in the same series with other seismic detonators (including Vibrodet and Electric Seisdet) or any other type of electric detonators because of differences in firing characteristics. Misfires may result.

Radio Frequency Hazard Alert

- When blasting with electric detonators, no personal communication equipment of any type should be on the blast site regardless of whether it is on or off. This includes but is not limited to: portable / hand held radios, radio modems, pagers, mobile and cell phones.
- Radio-Frequency (RF) transmitters include but are not limited to: AM and FM radio; television, radar; cellular phones and other devices that are cellular based (i.e., on-board vehicle systems like "On Star"); wireless data acquisition systems; personal data devices such as "Palm Pilots" and "Pocket PCs" with built-in cellular phones or communication systems; Pagers; and Global Positioning Systems (GPS) base stations.
- Refer to the Institute of Makers of Explosives Safety Library Publication #20 for distance/wattage parameters and guidance when using two-way radios and cell phones near electric detonators.
- **ALWAYS** use them in accordance with these guides.

Transportation, Storage and Handling

- Electric Super Seismic must be transported, stored, handled and used in conformity with all federal, state, provincial and local laws and regulations.
- For maximum shelf life (3 years), ELECTRIC SUPER SEISMIC must be stored in a cool, dry, well ventilated magazine. 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.
- The disposable shipping tray is not part of the legal shipping package and is used only to prevent "relative motion" while in transit. If the tray is not used, it is mandatory that all explosives shipments are properly blocked and braced.

Packaging

Legwire Length		Part Number	Wire Configu-ration[a]	Nominal Resistance (ohms = 20 AWG)[a]	Quantity per		Weight per Tray or Box	
m	ft				Carton or Case	Box or Tray	kg	lbs
3.6	12	2003001200H	Kirked	1.20	25	250[b]	15.9	35
7	24	2003002400H	Kirked	1.40	15	150[b]	17.2	38
10	35	2003003500H	Kirked	1.65	10	100[b]	16.3	36
13	45	2003004500H	Kirked	1.85	8	80[b]	16.3	36
16	55	2003005500H	Kirked	2.05	7	70[b]	17.2	38
19	65	2103006500H = 20 AWG 2104006500H = 18 AWG	Spooled	2.25	20	100[c]	28.1	62
25	85	2103008500H = 20 AWG 2104008500H = 18 AWG	Spooled	2.70	10	50[c]	18.6	41
30	100	2103010000H = 20 AWG 2104010000H = 18 AWG	Spooled	3.00	10	50[c]	21.3	47
36	120	2103012000H = 20 AWG 2104012000H = 18 AWG	Spooled	3.40	10	50[c]	25.0	55
48	160	2103016000H = 20 AWG 2104016000H = 18 AWG	Spooled	4.25	20	40[c]	25.9	57

- Length rounded to nearest whole meter.

[a] #20 AWG Duplex Copper Wire Standard = Kirked / #18 or #20 AWG Duplex = spools; please specify.
[b] 10 shipping cases per disposable shipping tray [c] 5 cartons per shipping box [b] 3 cartons per shipping box
NOTE: Custom lengths, available upon request, are subject to a surcharge and require longer lead times. Check with your Dyno Nobel representative should you have any questions.

Case Dimensions

Kirked	26 ½ x 16 x 10 cm	10 ⅜ x 6 ¼ x 3 ⅞ in
Spooled	52 x 41 x 17 cm	20 ¾ x 16 ¼ x 6 ½ in
48 m Spooled	45 x 33 x 21 cm	17 ½ x 13 x 8 in

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