

Electric Super™ Seismic

Technical
Information



Electric Seismic Detonators



Product Description

ELECTRIC SUPER SEISMIC has the high output strength, impact resistance and superior accuracy of all Dyno Nobel electric detonators. Now made with a copper shell, the ELECTRIC SUPER SEISMIC offers improved corrosion resistance in the most severe seismic environments.

Testing demonstrates that the copper shell ELECTRIC SUPER SEISMIC detonator also has improved energy output and increased impact resistance. 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

An internal, high strength metal sleeve (rated at 40,000 psi) protects sensitive delay elements from misfires due to hydrostatic pressure or rough handling. In addition, 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 because they have the highest output strength in the industry.

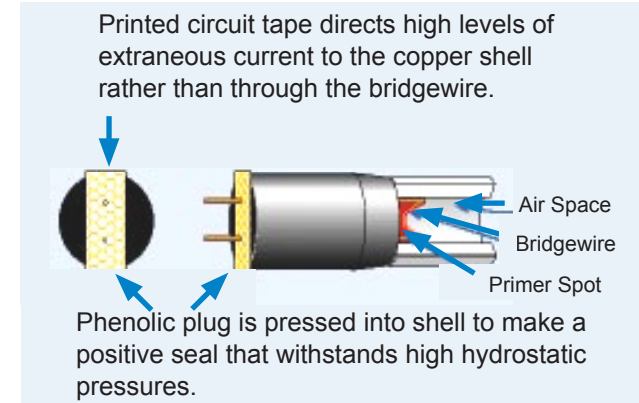
USE CAUTION WHEN SLEEP TIME IS ANTICIPATED

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

MSDS
#1176

Detonator Shell	Copper
Wire Color / Gauge	Yellow
Shell Length	60 mm / 2.375 in
Maximum Water Pressure	250 psi / 17.2 bars
Tensile Strength	25 lbs / 111 N (Newtons)
Shelf Life Maximum	5 years (from date of production)
Maximum Usage Temperature	+ 66°C (150°F)
Net Explosive Content per 100 units	0.0925 g 0.2039 lb
Recommended Firing Energy per detonator	400 Volts 22.7 mj/ohm



Hazardous Shipping Description

Detonator, Electric, 1.4B UN 0255 II

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



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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 (5 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		Wire Configuration	Nominal Resistance Detonator Assembly (ohms) ^a	Quantity per		Weight per			
m	ft			carton or case ^b	case or shipping tray ^b	carton or case ^b		shipping tray ^b	
						kg	lbs	kg	lbs
3.6	12	Kirked	1.20	25	250	1.5	3.2	14.52	32
7	24	Kirked	1.40	15	150	1.5	3.3	14.97	33
10	35	Kirked	1.65	10	100	1.4	3.1	14.06	31
13	45	Kirked	1.85	8	80	1.2	2.7	12.27	27
16	55	Kirked	2.05	7	70	1.5	3.3	14.96	33
19	65	Kirked	2.25	6	60	1.5	3.4	15.44	34
19	65	Spoiled ^a	2.25	20	100	28.1	62		
22	75	Kirked	2.50	5	50	1.5	3.3	14.97	33
25	85	Kirked	2.70	4	40	1.4	3.1	14.06	31
25	85	Spoiled ^a	2.70	10	50	19.1	42		
30	100	Spoiled ^a	3.00	10	50	21.3	47		
36	120	Spoiled ^a	3.40	10	50	24.9	55		
48	160	Spoiled ^a	4.25	20	40	29.5	65		

• Length rounded to nearest whole meter.

^a #20 AWG Duplex Copper Wire Standard / #18 AWG Duplex available upon request

^b 10 shipping cases per disposable shipping tray

Case Dimensions

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

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