TECHNICAL DATA SHEET

Electric Super™ MS
New Series

Electric Millisecond Delay Detonator

Properties
SDS #1178

Shell Material	Aluminum
Shell Length (range)	58 to 93 mm
	2.28 to 3.6 in
Maximum Water Pressure	60 PSI 8 hrs
Shelf Life Maximum	5 years (from date of production)
Maximum Usage Temperature	66ºC (150ºF)
Net Explosive Content	0.10 kg
per 100 units	0.220 lb

Delay Period	Nominal Firing Time (msec)	Delay Period	Nominal Firing Time (msec)	Delay Period	Nominal Firing Time (msec)
0	0	9	225	18	450
1	25	10	250	19	475
2	50	11	275	20	500
3	75	12	300	22	600
4	100	13	325	24	700
5	125	14	350	26	800
6	150	15	375	28	900
7	175	16	400	30	1000
8	200	17	425		

Hazardous Shipping Description
Detonators, Electric, 1.4B, UN0255 PGII
EX 2006030288—Kirked

PRODUCT DESCRIPTION
ELECTRIC SUPER MS is a high strength, millisecond delay electric detonator featuring 30 delay periods designed to provide precision and accuracy in all delay periods. The ELECTRIC SUPER MS legwires are HDPE insulated, which offers excellent resistance to cuts, abrasion, oil, low temperature and high humidity. Easy-to-read delay tags display the delay number and nominal firing time of each period near the legwire ends.

Field results with the ELECTRIC SUPER MS have shown impressive improvements in both vibration control and fragmentation.

Recommended firing current:
- Series wiring: a minimum of 2 amps AC or 1.5 amps DC
- Parallel wiring: a minimum of 1 amp AC or DC per detonator
- Series-in-parallel wiring: a minimum of 2 amps AC or 1.5 DC per series

The maximum recommended continuous firing current is 10 amps per detonator.

APPLICATION RECOMMENDATIONS
- **NEVER** use the ELECTRIC SUPER MS with other types of Dyno Nobel electric detonators or electric detonators from another manufacturer. Wiring different brand electric detonators together in a blast circuit may result in misfires and is in violation of federal regulations. Even though some types of Dyno Nobel electric detonators are electrically compatible, they should never be planned to be used together as a standard blasting practice. Where special circumstances demand a larger number of standard delay periods, always contact a Dyno

Product Disclaimer: Please see reverse side.

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Properties Cont.

Packaging

Length		Case Weight		Wire Configuration	Quantity per		Product Code
m	ft	lb	kg		Case	NEQ (g)	
4.9	16	4.4	2.2	Short Fold	35	35	ECMSxxxx016A
6.1	20	5.3	2.4	Short Fold	35	35	ECMSxxxx020A
7.3	24	5.9	2.7	Short Fold	35	35	ECMSxxxx024A
9.1	30	6.6	3.0	Long Fold	15	15	ECMSxxxx030A
12.2	40	6.6	3.0	Long Fold	15	15	ECMSxxxx040A
18.3	60	6.6	3.0	Long Fold	10	10	ECMSxxxx060A
24.4	80	7.7	3.5	Long Fold	10	10	ECMSxxxx080A

All ELECTRIC SUPER MS 24' and less, have 22 AGW (0.6 mm) copper wire
All ELECTRIC SUPER MS 30' and more, have 20 AWG (0.8 mm) copper wire
xxxx = delay time in milliseconds

Electrical Data	
No Fire Current	0.25 amps
All Fire Current	1.00 amps
Series Ignition Current	1.50 amps
No Fire Impulse	2.5 mJ/ohms
All Fire Impulse	5.5 mJ/ohms

Electrostatic Sensitivity	
Double Wire to Shell	10 kV/300 pF/15 mJ
Pin to Pin	10 kV/300 pF/15 mJ

Nobel representative for specific recommendations before planning the blast design.

- **NEVER** use electric detonators near radio frequency transmitters unless in accordance with IME SLP 20.

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.

TRANSPORTATION, STORAGE AND HANDLING

- ELECTRIC SUPER MS 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 MS 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

Case Dimensions

286 x 194 x 127 mm 11 ¼ x 7 ⅝ x 5 in

ADDITIONAL INFORMATION – Visit **dynonobel.com** for Brochures and Case Studies related to this product.

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