

Electric INITIATORS

AEL offers 2 different types of electric detonators, the Instantaneous Electric detonator (IED) and the Electric shock tube starter. It is a low cost yet reliable initiator of primary blasts by firing lines of shock tube, detonating cord, black powder and secondary blasts.

An **Instantaneous Electric Detonator (IED)** normally detonates without delay on application of the electric firing current and is used in conjunction with a shot exploder and blasting cable.



The wires pass through a moulded plug which is crimped into the open end of a detonator tube. The colour of the insulated wires is usually two-toned and bared at the ends.

The **Electric Shock Tube** starter consists of an aluminium IED encased in a green REEFMASTER® connector block.

The Electric Shock tube starter has a reduced base charge, with enough Lead azide and PETN to ensure reliable initiation of shock tube but not enough for the reliable initiation of packaged explosives and other cap sensitive explosives.

The incorporation of the REEFMASTER® allows for initiation of up to 6 shock tube at a time.

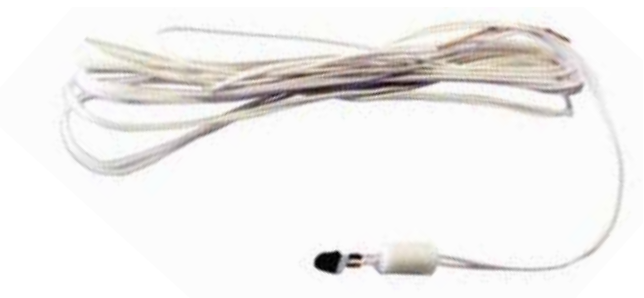


The **Electric Shock Tube starter** provides an easy to use, versatile and reliable method of initiating shock tubing.

FUSEHEAD ASSEMBLY

The **Fusehead Assembly** is an electrically triggered initiating system used primarily to initiate black powder in dimensional stone quarries.

It is comprised of a length of PVC covered copper wire which has a standard Fusehead attached onto one end.



Instantaneous ELECTRIC DETONATOR (IED)



An instantaneous electric detonator (IED), which nominally detonates without delay on application of the electric firing current. The copper detonator is fitted with a Type S fusehead to which two insulated leg wires are welded.

APPEARANCE

A copper detonator fitted with a Type S fusehead with two wires of diameter 0.5 mm pass through a moulded plug which is crimped into the open end of a copper detonator tube. The colours of the insulated wires are usually white and red and bared at the ends and covered with a protective white sleeve. The wire is wound in a figure of eight with tape holding it together.

APPLICATION

ELECTRIC-IED is used to initiate blasts by firing lines of shock tube, detonating cord, blasting gun powder and secondary blasts.

FEATURES

- Available with tangle-free wire, in various length
- Instantaneous firing
- Figure eight wire winding, 160 mm from loop to loop
- Copper shell detonator

BENEFITS

- Easy to use, versatile and reliable method of initiation of blasts
- Circuit can be easily tested
- Lead wire insulation is stripped on ends for quick connection
- Lead wires are easy to deploy and handle
- Low cost, yet reliable and predictable initiation
- Excellent water resistance

INITIATION

Electric IED are initiated by:

- a Shot Exploder
- Centralised Blasting System

SPECIAL PRECAUTIONS

- Handle with care. Damage to the detonator or wires could lead to misfires
- Never carry an IED by holding onto the detonator.
- Always keep detonators pointing away from you
- Severe impact on the detonator can result in an explosion

- Keep away from sources of heat and other forms of ignition (e.g. RF transmitters, friction, impact, static and heat)
- Never pull the wires off the assemblies
- Temperatures above 90 °C may result in spontaneous explosion
- The stripped end of the wires should be kept twisted (short circuited) together until unit is ready for connection to the blast (Safety precaution against Static and stray charges)
- Always connect wires to the lead wires (twisted-short circuited at other end) to the initiation unit before connecting detonator to the blast
- Never connect the blast until all the charging operations have been completed

STORAGE

- The shelf life of the product is 36 months from the date of manufacture
- Store in moderate temperatures and dry conditions in a well-ventilated magazine
- Abide by the legal storage requirements for the region
- Temperatures above 90 °C may result in spontaneous explosion
- Always rotate stock (first in, first out)

PACKAGING (7 kg GROSS)

LENGTH (m)	UNIT PER INNER CARTON	INNER CARTONS PER CASE	UNITS PER CASE	NEQ (kg)
2.0	100	8	800	0.8
3.5	100	8	800	0.8

PRODUCT INFORMATION

ELECTRIC - FUSEHEAD ASSEMBLIES PRODUCT

Bridge Resistance	1.4 ± 0.2 Ω
No-fire Current	≤ 0.2 A for 50 ms
No-fire Impulse	≤ 0.8 mJ/Ω
All-fire Current	≥ 0.8 A
All-fire Impulse	≥ 3.0 mJ/Ω

Transport (UN Classification)

Standard Packaging: Class 1.1B, UN no. 0030, DETONATORS ELECTRIC for blasting

Electric FUSEHEAD ASSEMBLY

A length of PVC covered copper wire which has a HiFIRE® Fusehead attached. Wire lengths are standardised.

APPEARANCE

A length of PVC covered copper wire wound in a figure of eight. HiFIRE® Fusehead attached onto one end, with the other wire end stripped from PVC. Wire lengths are standardised to 1,0 and 2,0 m lengths.

APPLICATION

ELECTRIC-FUSEHEAD ASSEMBLIES is used:

- To initiate blackpowder in dimensional stone quarries
- In initiation of pyrotechnic charges in fireworks, security and safety systems

FEATURES

- Available with tangle-free wire, in various length
- Instantaneous firing
- Figure eight wire winding, 160 mm from loop to loop
- Tin plated copper wires with PVC insulation, diameter 0.6/1.3mm

BENEFITS

- Easy to use, versatile and reliable method of initiating blackpowder/pyrotechnic compositions.
- Circuit can be easily tested
- Lead wire insulation is stripped on ends for quick connection
- Reliable and predictable initiation

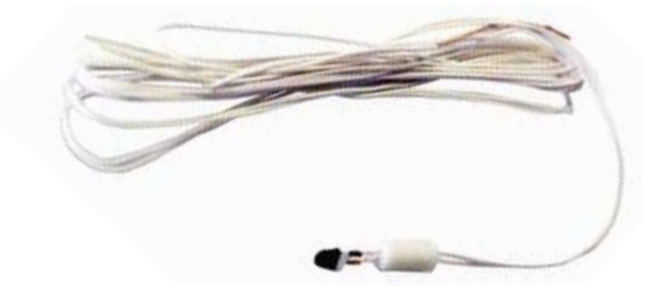
SAFETY BENEFITS

- Low energy initiator

INITIATION

Electric IED are initiated by:

- A shot exploder
- Centralised blasting system
- Blast initiation timer



SPECIAL PRECAUTIONS

- Handle with care. Damage to the fusehead or wires could lead to misfires
- Never carry a fusehead assembly by holding onto the fusehead.
- Keep away from sources of heat and other forms of ignition (e.g. RF transmitters)
- Never pull the wires
- Never connect the blast until all the charging operations have been completed

STORAGE

- The shelf life of the product is 36 months from the date of manufacture
- Store in a segregated, approved, cool, well-ventilated and labelled area. Keep packaging tightly closed and sealed until ready for use
- Abide by the legal storage requirements for the region
- A temperatures range of -35 to +60 °C recommended for safe handling and functioning
- Always rotate stock (first in, first out)

PACKAGING (7 kg GROSS)

LENGTH (m)	UNIT PER INNER CARTON	INNER CARTONS PER CASE
1.0	1000	0.05
3.5	100	8

PRODUCT INFORMATION

ELECTRIC - FUSEHEAD ASSEMBLIES PRODUCT

Bridge Resistance	1.5 ± 0.1 Ω
No-fire Current	≤ 0.18 A
No-fire Impulse	≤ 0.8 mJ/Ω
All-fire Current	≥ 0.8 A
All-fire Impulse	≥ 3.0 mJ/Ω

Transport (UN Classification)

Standard Packaging: Class 1.4S, UN no. 0545, IGNITERS

Electric

SHOCK TUBE STARTER



An instantaneous electric detonator (IED), which nominally detonates without a delay on application of the electric firing current. The aluminium detonator is partially filled with an initiating charge of Lead Azide and Pentaerythritoltetranitrate (PETN).

APPEARANCE

The unit is fitted with a fuse head to which two insulated copper wires of 1.3 mm diameter are welded. The wires pass through a plug which is crimped into the open end of the tube. The colour of the insulated wires is white and yellow. The wires are 1.0 m long and are stripped at the ends. The detonator is fitted into a red or green REEFMASTER® connector.

APPLICATION

- The Shock Tube Starter is a low cost yet reliable initiator of primary blasts by firing lines of shock tube
- The Shock Tube Starter is used in tunnelling, stoping, open pit and quarrying

FEATURES

- Available with short tangle-free wire, 1.0 m in length
- Green/Red 51 mm REEFMASTER® type block capable of holding and initiating up to 6 shock tube lines
- Instantaneous firing
- Low explosive charges, 150 mg Lead Azide, 40 mg PETN
- Figure eight wire winding, 160 mm from loop to loop
- Tin plated copper wires with PVC insulation, diameter 0.6/1.3 mm

BENEFITS

- Easy to use, versatile and reliable method of initiating shock tubing
- Initiates all shock tube initiating system assemblies
- Excellent water resistance provided by moulded plugs and crimp
- Circuit can be easily tested
- Lead wire insulation is stripped on ends for quick connection
- Reliable and predictable initiation of blasts

SAFETY BENEFITS

- REEFMASTER® does not create shrapnel that could cut off shock tube in the vicinity
- Is resistant to accidental initiation by stray currents

INITIATION

Shock Tube Starter assemblies are initiated by:

- A shot exploder
- Centralised blasting system
- Blast initiation timer

SPECIAL PRECAUTIONS

- Handle with care. Damage to the block or wires could lead to misfires
- Never carry a Shock Tube Starter assembly by holding onto the detonator block
- Always keep detonators pointing away from you
- Severe impact on the detonator can result in an explosion
- Keep away from sources of heat and other forms of ignition (e.g. RF transmitters)
- Never pull the wires
- Never connect the blast until all the charging operations have been completed
- Ensure that the shock tube lines are properly inserted in the block for reliable application

- Handle with care-detonators are explosive
- Do not attempt to initiate detonating cord with this product

STORAGE

- The shelf life of the product is 36 months from the date of manufacture
- Store in moderate temperatures and dry conditions in a well-ventilated magazine
- Abide by the legal storage requirements for the region
- Temperatures above 90 °C may result in spontaneous explosion
- Always rotate stock (first in, first out)

PACKAGING (7 kg GROSS)

LENGTH (m)	UNIT PER INNER CARTON	INNER CARTONS PER CASE	UNITS PER CASE	NEQ (kg)
1.0	30	8	240	0.05

PRODUCT INFORMATION

ELECTRIC - SHOCK TUBE STARTER PRODUCT

Bridge Resistance	$0.6 \pm 0.2 \Omega$
No-fire Current	$\leq 0.45 \text{ A}$
No-fire Impulse	$\geq 0.8 \text{ A}$
All-fire Current	$\geq 1.5 \text{ A}$
All-fire Impulse	$\geq 16 \text{ mJ}/\Omega$

Transport (UN Classification)

Standard Packaging: Class 1.1B, UN no. 0030, DETONATOR, ELECTRIC for blasting