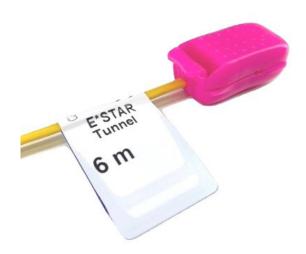


PRODUCT INFORMATION BROCHURE







E*STAR Tunnel has been developed for rapid tunnel blasting deployment with the aim of reducing post-blast plastic residue in the muck pile.

TARThe wires and the E*STAR Tunnel connector will ensure the highest level of safety and security on the blast site. The neon wire colors and connectors allow for quick detection of the E*STAR Tunnel detonators, even in a low-light underground environment. E*STAR Tunnel retains all the features and benefits of the E*STAR detonator, including the control equipment required for operating the system.

PRODUCT OVERVIEW

FEATURES & BENEFITS

- E★STAR Logger 2 for multiple ways of programming
- Touchless tagging (RFID Technology)
- Neon colors of wires/connectors
- Bus-line or Daisy-Chaining connection
- Duplex Bus-line for easy connection making
- 100% verification of the blast
- Simple procedure from loading holes to initiation of the blast
- Significant reduction of plastic residue in the muck pile





TECHNICAL DESCRIPTION

Shell material	Copper	
Leg Wires	Zinc coated steel	
Bus-line	Copper	
Leg wire color	Yellow	
Bus-line color	Lime green	
Connector color	Pink	
Base charge	720 mg	
Water pressure resistance	0.3 MPa / 48 hours	
Temperature range for application	from -30 °C to +60 °C	
Shelf life (storage conditions)	5 years (-30 °C to +40 °C)	
Label marking	Product name, Wire length, Data matrix code (traceability), Detonator serial number (for RFID labels)	
Notified body	CE 1019	
Delay interval	Programmable 1 – 20,000 ms (increments of 1 ms)	

STANDARD PACKAGING

Wire length (m)	Wire length (ft)	Packaging 1.4B UN 0255
4.9	16	80
6.1	20	80
7.3	24	80
9.1	30	80
12.2	40	80

E★STAR detonators are packaged in cardboard box of outer dimension 495 x 301 x 257mm / 19.5 x 11.875 x 10.125 in. Other wire lengths are possible on demand.

BUS-LINE

Wire length (m)	Wire length (ft)	Units per box
400	1,300	4

Bus-line is packaged in cardboard box of outer dimension 490 x 245 x 160 mm / 19.29 x 9.65 x 6.30 in.

SHELF LIFE, STORAGE & DISPOSAL

- Store in accordance with all applicable local, state, provincial and federal laws.
- Disposal of explosive materials can be hazardous. Methods of safe disposal
 of explosives may vary depending on the user's situation. Please contact an
 Austin Powder Technical Representative for information on safe practices.
 under good storage conditions.

TRANSPORT - UN CLASSIFICATION

Shipping Name: Detonators, Electric Class & Division: 1.4B

ID Number: UN0255

US DOT REFERENCE NUMBER

EX-2014030694

Disclaimer of Warranties and Limitations of Liabilities: Products described in this document are sold by Austin Powder without warranty; express, implied or statutory or as to MERCHANTABILITY, except as expressly stated in Austin Powder's straight bill of lading. Under no circumstances shall seller be liable for loss of anticipated profits, consequential damages or incidental damages. For more information and service locations please contact Austin Powder's headquarters:

ADD QR CODE IN HERE



Our Mission is to improve the world we live in through the safe and responsible use of explosives.