



# PRODUCT INFORMATION

## BROCHURE

1.1B

1.4B

## SHOCK★STAR®

### MS DETONATORS



### Shock★Star MS Series In-Hole Delays

are available in a sequence of 31 whole number periods from instantaneous (0 ms) to 1000 ms. They are designed to be used as down-hole detonators for the initiation of cast boosters, high explosives or pneumatically loaded ANFO. In-Hole Delays come equipped with a T-Connector for compatibility with detonating cord initiation or can be initiated by an electric or non-electric detonator or approved shock tube starter device.

## PRODUCT OVERVIEW


### TECHNICAL DESCRIPTION

Non-electric, millisecond delay detonators.

### ADVANTAGES

- 900 mg base charge of PETN to ensure strong initiation energy under even the most extreme conditions.
- Delay composition encased in a zinc jacket to prevent performance loss due to transient pressure from nearby detonating holes.
- Equipped with a tear-proof delay tag that lists DSC, delay time, delay period and length of the detonator.
- Manufactured with bright yellow shock tubing for high visibility.

## STANDARD PACKAGING

 <b>IN-HOLE MS DETONATORS</b>				
Length		Coil Style	Quantity	NEQ Grams
(ft)	(m)			
12	3.7	Fast 8	70	70
16	4.9	Fast 8	70	70
20	6.1	Fast 8	60	60
30	9.2	Fast 8	60	60
40	12.2	Fast 8	50	50
50	15.3	Fast 8	40	40
60	18.3	Fast 8	40	40
80	24.4	Fast 8X	30	30
100	30.5	Fast 8X	20	20
120	36.6	Fast 8X	20	20
130	39.7	Spool	10	10
150	45.8	Spool	10	10
160	48.8	Spool	10	10
180	54.9	Spool	10	10
200	61.0	Spool	10	10

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

### SHELF LIFE, STORAGE & DISPOSAL

- For optimum accuracy, use within three years from date of manufacture under good storage conditions.
- 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.

### TRANSPORT - UN CLASSIFICATION

Shipping Name: Detonator Assemblies, Non-Electric  
 Class & Division: 1.1B, 1.4B (depending on case count)  
 ID Number: UN 0361

### US DOT REFERENCE NUMBER

EX-2012070727  
 EX-2012081113

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