# Shock★Star MS

### PRODUCT INFORMATION BROCHURE

**SHOCK\*STAR MS** series in-hole delays are available in a sequence of 31 delays from instantaneous (0 ms) to 1,000 ms.

They are designed to be used as down-hole detonators for the initiation of cast boosters and high explosives.

In-hole delays can be equipped with a J-hook\* for compatibility with detonating cord initiation or can be initiated by another electric or non-electric detonator.



### **BENEFITS**

- 720 mg base charge.
- Excellent delay time accuracy ensures greater than 99% probability of in-sequence initiation.
- Manufactured with yellow shock tubing for easy differentiation from surface detonators when inspecting the connected blast pattern.
- High impact protection.

### **PROPERITES**

Delay sequence

Delay #	0	1	2	3	4	5	6	7
Nominal delay (ms)	0	25	50	75	100	125	150	175
Delay #	8	9	10	11	12	13	14	15
Nominal delay (ms)	200	225	250	275	300	325	350	375
Delay #	16	17	18	19	20	21	22	23
Nominal delay (ms)	400	425	450	475	500	550	600	650
Delay #	24	25	26	27	28	29	30	
Nominal delay (ms)	700	750	800	850	900	950	1,000	

 $<sup>\</sup>mbox{\ensuremath{^{\ast}}}\mbox{\ensuremath{\text{This}}}\mbox{\ensuremath{\text{product}}}\mbox{\ensuremath{\text{dose}}}\mbox{\ensuremath{\text{not}}}\mbox{\ensuremath{\text{come}}}\mbox{\ensuremath{\text{with}}}\mbox{\ensuremath{\text{J-hook}}}\mbox{\ensuremath{\text{attached}}}.$ 



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### STANDARD TECHNICAL DESCRIPTION

DETONATOR				
Detonator shell material	Aluminum			
Base charge	720 mg			
Water pressure resistivity	0.3 MPa / 7 days			
Temperature range for application	from -30 °C to +60 °C			
Shelf life (storage conditions)	2 years (-30 °C to +40 °C, R.H. max. 65%) in original, sealed package			
Label marking	Delay #, Detonator type, Delay ms, ST length, Order number			
SHOCK TUBE				
Velocity of detonation	2,000 ± 100 m/s			
Color	Yellow			



### STANDARD PACKAGING DETAILS

STANDARD PACKAGING DETAILS										
Shock tube length (m)	MS 1.1B	UN 0360		MS 1.4S UN 0500						
	Lasso	Fig 69	Shock tube length (m)	Lasso	Fig 69					
	Units / Box		19.19.11 (11.1)	Units / Box						
4.8	100	100	4.8	80	80					
6	100	100	6	70	70					
7.2	80	90	7.2	55	50					
9	80	80	9	50	50					
12	60	60	12	40	45					
15	40	40	15	35	30					
18	35	35	18	25	20					
21	30	30	21	25	20					
24	30	30	24	20	20					
30	30	30	30	15	15					

SHOCKS\*TAR MS detonators are packaged in cardboard carton of outer dimension 385x235x282 mm.

Contact your local Austin Powder representative for further information.

### Disclaimer of Warranties and Limitations of Liabilities

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