NONEL® MS Series

Technical Information

Product Description

NONEL nonelectric delay detonator MS units consist of a length of red shock tube with a High Strength detonator attached to one end and the other end sealed. A J-Hook displaying the nominal time prominently is affixed near the sealed end, providing easy means of connection to detonating cord.

NONEL MS is designed to provide in-hole time for underground and surface blast applications in the mining, quarry and construction industries and can be used in combination with a detonating cord trunkline and NONEL MS Connectors™, NONEL EZTL™, detonators for maximum timing flexibility.

Features and Benefits

The NONEL MS detonator provides increased water resistance in blasting applications where saturated ground conditions exist. The shock tube exhibits excellent handling characteristics and enables longer sleep times down the hole. The NONEL MS series has a colour-coded stamped J-Hook for easy identification.

Properties

Period / Delay Time (msec)	J-Hook Colour	Period / Delay Time (msec)	J-Hook Colour
1 / 25	Red	15 /375	Crimson
2 / 50	Blue	16 / 400	Yellow
3 / 75	Brown	17 / 425	Dark Blue
4 / 100	Orange	18 / 450	Green
5 / 125	Aqua	19 / 475	Orange
6 / 150	Gold	20 / 500	White
7 / 175	Lime Green	21 / 550	Dark Red
8 / 200	Pink	22 / 600	Grey
9 / 225	Black	23 / 650	Black
10 / 250	Purple	24 / 700	Dark Brown
11 / 275	Light Blue	25 / 750	Red
12 / 300	Dark Green	26 / 800	Blue
13 / 325	Mauve	27 / 900	Brown
14 / 350	Mustard	28 / 1000	Orange

Hazardous Shipping Description

Detonator assemblies, Non-electric, 1.1B , UN0 360

Packaging

Length (m)	Units / Case	Configuration	Length (m)	Units / Case	Configuration
3.6	250	Coiled	9	120	Coiled
4.8	200	Coiled	12	90	Figure 80
6	150	Coiled	15	75	Figure 80
7.2	150	Coiled	18	60	Figure 80

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Application Recommendations

ALWAYS use the J-Hook when using a detonating cord trunkline to tie-in NONEL MS series detonators. A minimum 3.6 g/m (18 gr/ft) detonating cord trunkline is required.

ALWAYS ensure the shock tube is connected at right angles to the detonating cord trunkline and that the shock tube leads returning to the hole collar do not cross over or lay near any detonating cord trunkline. If the detonating cord touches the shock tube or is closer than 6 inches (15 cm), the shock tube may be damaged and misfires may result.

ALWAYS connect detonating cord using approved knots and tight connections. Place detonating cord hook-ups in closed loops and use with cross-ties.

NEVER cut or trim seals from the shock tube of a NONEL MS detonators. If shock tubing is cut or is suspected of being cut or damaged during loading, reprime the borehole using a new unit of the same delay period.

NEVER drive any equipment over the shock tube or detonating cord.

ALWAYS make sure that no shock tube or detonating cord is entangled or can become entangled whenever charging from a manoeuvrable basket, platform or boom or when stemming.

ALWAYS make sure that no shock tube or detonating cord can be pinched between the basket or jigs, platform or boom and the face, ribs, back or floor or while loading or stemming process. Rupturing or damaging shock tube or detonating cord may cause misfires.

ALWAYS use NONEL MS HD in hole depths greater than 18 m.

Application Recommendations (continued)

Water Resistance - The NONEL MS series provides excellent water resistance.

Temperature Range - The NONEL MS series can be safely used in temperatures ranging between -40°C and +70°C.

Shelf Life - For maximum shelf life (3 years), NONEL MS series must be stored in a cool, dry, well ventilated magazine. Explosive inventory should be rotated. Avoid using new materials before the old.

Sleep Time - The sleep time of the MS is dependent on the temperature and type of explosive in contact with the unit. Please contact your Dyno Nobel representative for further information.

Safe handling, transportation and storage

First Aid – You can find detailed first aid information on the relevant Dyno Nobel Material Safety Data Sheet. Refer to www.dynonobel.com for more information if required.

Safety - All explosives are classified as dangerous goods and can cause personal injury and damage to property if used incorrectly.

Transportation and Storage - All explosives must be handled, transported and stored in accordance with all relevant regulations. Stock should be rotated such that older product is used first.

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