

TECHNICAL DATA SHEET

HiNEL® Plus- TWINDET



Description

HiNEL® Plus TWINDET is a non-electric detonator assembly consisting of a combination of a surface delay connection detonator(SDD) and a down hole delay detonator(DHD) with a consistent and accurate delay time. HiNEL® Plus TWINDET assemblies are designed for use in both open pit and underground mines. The shock tube is both abrasion resistant and high-strength and transmits the signal to detonator in order to initiate. Each end of shock tube is crimped into the detonators, and the surface detonator shell is enclosed in a connector block. Labels showing the lengths and delay times are attached on the shock tube.



Features & Benefits

The surface detonator consists of a non-electric detonator containing a delay element, a low strength Di-azo Di-Nitro Phenol (DDNP) base charge and a color-coded connector block to optimally deliver effective blasting signals whilst minimizing damages to the connectors and preventing cut-offs.

The downhole detonator consists of a non-electric detonator containing a delay element and a high strength Pentaerythritol Tetranitrate (PETN) base charge.

By adopting a 3 layer shock tube, rubber plug and triple crimping, HiNEL® Plus TWINDET Series also have enhanced tensile strength.

Usage Instructions

HiNEL® Plus TWINDET detonators enable an unlimited number of blast holes to be fired sequentially, where a constant inter-hole delay is desired. Using the “clip and slide” technique, clip each shock tube individually into connector block, ensuring that connector and the tubes are kept at right angles and there is no crossover nor tubes that lie within 300mm of connector block. HiNEL® Plus TWINDET detonators will initiate up to six standard 3.0mm shock tubes in both directions.

The downhole detonator of a HiNEL® Plus TWINDET detonator assembly should be fully enclosed within a suitable booster or primer and never be placed inside blast holes or charging hoses directly. If used inside blast holes, HiNEL® Plus TWINDET detonators should be reversed primed ensuring the downhole detonator base is pointing towards the blast hole collar.

Excessive force should not be used when handling shock tubes connected to detonators or primers. A replacement should be used if a primer becomes stuck or non-retrievable.

HiNEL® Plus TWINDET detonators are made up of a 3 layer shock tube and have enhanced tensile strength, however moisture may become present if the tubing is split or cut in any way, and this may result in a misfire. HiNEL® Plus TWINDET shock tube and connector should be protected from impact or damage. Misfires may occur if shock tube is damaged or cut. The surface detonator is not suitable for initiating detonating cord.

Recommended Sleep time of HiNEL® Plus TWINDET detonators is 2 weeks at temperatures below 40°C. Sleep time capability may be reduced at temperatures above 40°C.

Technical Data

HiNEL® Plus TWINDET		
Base Charge	DHD	PETN, #8 (730mg)
	SDD	DDNP (200mg)
Primary Charge	DHD	DDNP
Shell	Aluminum	
Outer Diameter of Shell (mm)	7.5	
Outer Diameter of Shock Tube (mm)	3.0	
Length of Shell (mm)	DHD	From 80 to 90
	SDD	59
Tensile Strength of Shock Tube	Nominal 45 kgf	
Length of Shock Tube (m)	2.4 / 3.6 / 4.8 / 6.0 / 7.2 / 9.0 / 12.0 / 15.0 / 18.0 / 21.0 / 24.0 / 30.0 / 36.0 (Custom made possible)	

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Standard Delay Range

Delay Time (ms)	Color of Shock Tube
400 (DHD)	-
425 (DHD)	
450 (DHD)	
475 (DHD)	
500 (DHD)	
550 (DHD)	
600 (DHD)	
650 (DHD)	
0 (SDD)	
17 (SDD)	Yellow
25 (SDD)	Red
42 (SDD)	White
67 (SDD)	Orange
109 (SDD)	Blue
176 (SDD)	Pink
200 (SDD)	Light blue

Grade		UN 0361 / 1.4B (470 X 295 X 315 mm) UN 0500 / 1.4S (470 X 295 X 315 mm)		
Length (m)	Each/Bundle	Each/Box	Net Weight (kg)	Gross Weight (kg)
2.4	5	75	3.5	7.5
3.6	5	75	4.0	8.0
4.8	5	75	4.0	8.5
6.0	5	75	5.0	9.0
7.2	5	75	5.5	9.5
9.0	5	75	6.0	10.5
12.0	5	60	6.0	10.0
15.0	5	60	7.0	10.5
18.0	5	45	6.0	10.0
21.0	5	45	7.0	10.5
24.0	4	36	6.0	9.5
30.0	4	36	7.0	10.5

* Based on one box (UN certified)

Hazard Classification

UN No. (Class / Division):	0360 (1.1B) / 0500 (1.4S)
Proper Shipping Name	DETONATOR ASSEMBLIES, NON- ELECTRIC for blasting
EMS	F-B, S-X (1.1B / 1.4B / 1.4S)

Packaging

HiNEL® Plus TWINDET detonators are packed in cardboard boxes. Each box contains only a single lead length and delay.

Grade		UN 0360 / 1.1B (470 X 295 X 330mm)		
Length (m)	Each/Bundle	Each/Box	Net Weight (kg)	Gross Weight (kg)
2.4	10	200	8.5	10.0
3.6	10	200	10.0	11.5
4.8	10	180	10.0	11.5
6.0	10	160	11.0	12.5
7.2	10	140	10.5	12.0
9.0	5	110	9.5	11.0
12.0	5	90	8.5	10.0
15.0	5	80	9.0	10.5
18.0	5	70	8.0	9.5
21.0	5	60	7.5	9.0
24.0	4	40	7.0	8.5
30.0	4	40	8.0	9.5

Safety

HiNEL® Plus TWINDET detonator assemblies are designed to reduce the risk of initiation by static electricity, stray electrical currents and radio wave transmissions. The surface detonator is completely enclosed within the connector block and protects against accidental initiation. As this detonator is assembled into the connector block, never attempt to disassemble in any way. As high-electrical shocks, such as lightning, may cause initiation, it is recommended that personnel evacuate to a safe distance and keep away from the blasting site. HiNEL® Plus TWINDET detonator should be isolated from energy sources including impact, heat or friction. HiNEL® Plus TWINDET Series detonators may be used in temperatures up to 70°C.

Storage

All ignition sources, such as matches and lighters, are strictly prohibited within minimum of 8 meters radius of the detonators.

HiNEL® Plus TWINDET detonators should be stored in a properly conditioned magazine of cool and dry atmosphere.

HiNEL® Plus TWINDET detonators must be used within 12 months after opening the packaging. Detonators that are older than four years should not be used.

Store in a secure magazine, access to products and storage should be restricted to authorized personnel.

Delay detonators should be used in order of manufacturing date as they deteriorate with age. Use oldest stored product first.

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