Technical Data Sheet

FORCE HTD

Non Electric, Handi Trunkline Delay (HTD) Unit

The Power of Partnership

Description

Force HTD Detonators are signal tube based detonators designed to control the millisecond delay sequence from hole to hole, across the surface of a blast.

The special design of *Force HTD* Detonators allows up to five outgoing signal tubes to be initiated and provides security of tube retention. *Force HTD* Detonators consist of alength of signal tube and a low strength delay detonator. The free end of the tubing is closed with a waterproof seal. The delay detonator is fully enclosed in a unique color coded handiblock.

Safety

Force HTD Detonators provide a high level of safety against initiation by static electricity, stray electrical currents and radio frequency transmissions.The full enclosure of the delay detonator by the handiblock guards against accidental initiation. However it contains explosive components. Care should be taken not to cause initiation by intense impact, friction or heat. The detonator is a factory assembled in the handiblock and no attempt should be made to disassemble it. The HTD detonators are not suitable for the initiation of detonating cord.

Properties

Shock tube	Green with color-coded flag tag indicating length, delay number and delay time
Handiblock	Color-coded block have six shock tube capacity
Detonator	Low strength detonator and Low Shrapnel
Water resistance	0.3 MPa
Shock tube velocity	2000 m/s

Delay Nominal Times		
Delay (ms)	Handiblock Color	Tube Color
9	Green	Green
17	Yellow	Green
25	Red	Green
33	Yellow	Green
42	White	Green
65	White	Green
100	Black	Green
200	Orange	Green

Application

Force HTD detonators function as a surface relay system, which enables an unlimited number of blastholes to be fired in sequence. This permits large well-controlled blasts to be fired, producing better results more efficiently.

Force HTD detonators are commonly used in conjunction with a delay detonator in every blasthole. The normal practice is for all in-hole detonators to have the same delay period and, as a result, the surface detonators control the firing sequence. *Force HTD* detonators are produced with arrange of delay times to match to the needs of mines, quarries and construction projects.

Handling and Initiation

Force HTD detonators can initiate up to six 3-mm shock tubes in both the directions.

Shock tubes are attached to *Force HTD* detonator with the Handiblock. Clip each shock tube into the handiblock, keeping the handiblock and tube at right angles. Ensure that the tubes are firmly hooked in place. The Handiblock should be slid down the tubes to ensure crossovers have not formed. The handiblock does not require burying, as the detonator is a low shrapnel design.

Avoid damage to the shock tube. Do not use the shock tube as a lowering line

Never pull so hard as to stretch or break shock tubing. A premature detonation may result. *Force HTD* detonator assemblies can be initiated with:

- Another Orica shock tube surface delay system
- An electric Detonator (#8 Strength)
- Detonating cord having core charge between 3,6 and 5 g PETN/meter (recommended)

Packaging

Force HTD detonators are wound in figure-eight coils. *Force HTD* detonators are packed in plastic bag and they are shipped in carton cases.

Length Range (meter)	Number of pieces per bag	Number of pieces per case
1 – 5	15	150
6 – 7	10	100
7 – 11	8	80
12 – 14	5	50
15 – 18	4	40

Storage and Handling

Product Classification

Authorized Name : *Force HTD*
Shipping Name : Detonator Assemblies, Nonelectric

UN No 0500
Class Code 1.1B, 1.4B, 1.4S
EC Type Certificate ENB/D/009/08

All regulations on the handling and use of such explosives apply.

Force HTD detonators maybe used in temperatures -30°C to +80°C.

Storage

For best results, store under moderate temperatures and dry conditions in a well ventilated, approved detonatormagazine. The temperature range should be 0° C to +50 °C and the relative humidity max. 45 %.

Force HTD detonators will remain in good working order for a minimum of 2 years from the date of manufacture if stored properly under the above conditions.

Disposal

Disposal of explosives materials can be hazardous. Methods for safe disposal of explosives may vary depending on the user's situation. Please contact a local Nobel Explosives representative for information on safe practices.

Disclaimer

The manufacturer reserves the right to modify products without prior notice. All information in this brochure is believed up-to-date at the time of publication.

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