

Non-electric detonators

NONEL SURFACE



Description

Nonel surface is a non-electric initiation system, developed to provide the user with simplicity, flexibility and safety. The system is based on a combination of in-hole detonators and surface connector units. The in-hole detonator is intended to initiate the explosive inside the drill hole. It consists of a NPED (i.e. Non-Primary Explosives Detonator) with a suitable length of Nonel tube. The strength is that of a No.8 plain detonator. The function of the surface connector unit is to further transmit the initiation shock wave in the Nonel-tube at the connection points on the surface. It consists of a suitable length of Nonel-tube and a plastic connector block which contains a mini detonator with or without delay. Each surface connector is able to initiate a maximum of eight (8) Nonel-tubes (either surface connectors or in-hole detonators).

Technical data

In-hole detonator

Type:	NPED
Strength:	No.8
Explosive content:	1 gr. (PETN/RDX)
Shell material:	Aluminum
Shell Diameter:	7.5 mm
Shell Length:	85-93 mm, depending on the delay time and the composition

Tube

Type:	Nonel tube 3L
Diameter:	3 mm



Application

All drill holes in a round are usually charged with detonators that have the same delay time. The initiation sequence is then determined on the surface with the aid of the delays in the surface connector units. The long delay time of the in-hole detonator as compared to that of the surface connector, enables all blast holes to be activated before any rock displacement begins, thus eliminating the risk of misfire.

Another great advantage of the **Nonel tunnel** system is that the explosive column is initiated effectively from the bottom. The shock wave is enclosed inside the Nonel-tube thus not causing axial initiation of the column charge. This gives full exploitation of the explosive energy and minimizes flyrocks. Vibrations and airborne waves are significantly reduced and better rock fragmentation is achieved. The Nonel system can be used to all surface, smooth-blasting, pre-splitting and trench blasting operations. For tunnels and underground blasts, **Nonel tunnel should be used.**

Product range and Packaging

To meet the varying demands on initiation system delay times for different kinds of blasting operations, there are 5 different basic delays for the in-hole detonators and 6 different delays for the surface connector units.

Detonel In-hole detonators	
Designation	Delay time (ms)
DH 400	400
DH 425	425
DH 450	450
DH 475	475
DH 500	500

Detonel Surface connector units		
Designation	Delay time (ms)	Colour
DS0	2	Green
DS17	17	Yellow
DS25	25	Red
DS42	42	White
DS67	67	Blue
DS109	109	Black

Storage

Nonel detonators should be handled, stored and used according to the national laws and regulations. They are packed in bags for protection against moisture. Storage temperature below +50°C is highly recommended. Provided that storage conditions are appropriate, it is recommended to use Nonel detonators within 12 months. Product shelf life can be further extended after examined by the supplier.

In-hole detonators DH400-DH500	
tube length (m)	packing 1.4B Qty/box
4.8	100
7.8	80
10.2	60
12.0	50
15.0	40
18.0	35
21.0	25
24.0	25
27.0	20

Surface connector DS0-DS109	
tube length (m)	packing Qty/box
3.6	100
4.8	90
6.0	80
7.8	70
10.2	50

Product classification

Commercial Name:	Nonel surface
Technical Name:	Detonator assemblies, non-electric
UN-number:	0361, 0500
Division/Compatibility Group:	1.4B, (1.4S at request)

