# Exel<sup>™</sup> Connectadet<sup>™</sup> SL



## Description

Exel<sup>™</sup> Connectadet<sup>™</sup> SL is a non-electric surface connector initiation system developed to give the greatest possible flexibility when providing hole-by-hole initiation sequences in blasting applications with a constant in-hole delay. The system is based on a series of eight delays ranging from

0 ms to 176 ms. Exel<sup>™</sup> Connectadet<sup>™</sup> SL from Orica Sweden use the NPED (Non Primary Explosives Detonator) technology and are therefore free of lead azide.

Exel<sup>™</sup> Connectadet<sup>™</sup> SL can be used in quarries, surface coal operations, open pit and underground mines and construction projects in a variety of blast designs and configurations ranging from simple in line sequence to multiple rows and decks.

Exel<sup>™</sup> Connectadet<sup>™</sup> SL is normally used together with Exel<sup>™</sup> MS in-hole detonators.

Exel<sup>™</sup> Connectadet<sup>™</sup> SL range are fitted with pink Exel<sup>™</sup> tube.

# **Application benefits**

Exel<sup>™</sup> Connectadet<sup>™</sup> SL surface connectors are highly visible colour coded detonator assemblies with rugged, abrasion resistant tubing, which:

- Eliminate electrical hazards at blast site,
- Eliminate the need for detonating cord trunk lines,
- Provide excellent, flexible blast control,
- Provide quick and easy connection of 1 to 7 Exel™ tubes,
- Allow pre-blast changes to blast design,
- Allow quick and easy hook-up verification.

#### **Technical Properties**

Product	Exel™ Connectadet™ SL
Signal tube	Pink Exel™
- Outer diameter (mm)	3.0
- Nominal tensile strength	300 N at +20°C
- Length (m)	2.4 – 15.0
- Shock wave propagation (m/s)	2000 ±100
Detonator	
- PETN Base Charge (mg)	160
- Shell material	Al
Connector block	7 tube capacity

### Availabe Delay Times

Nominal Delay Time* (ms)	Max Devia- tion** (ms)	Colour
3	2	Green
9	2	Pink
17	2	Yellow
25	2	Red
42	3.3	White
67	4.0	Blue
109	4.7	Black
176	6.0	Orange
	Time* (ms)   3   9   17   25   42   67   109	Time* (ms)     tion** (ms)       3     2       9     2       17     2       25     2       42     3.3       67     4.0       109     4.7

\*Including 6 m shock tube \*\* rk according to EN 13763-16

### **Recommendations for Use and Initiation**

Exel<sup>™</sup> Connectadet<sup>™</sup> SL surface connectors provide out-of- hole delays in non-electric blast patterns. For that purpose 1 to 7 Exel<sup>™</sup> tubes are connected as follows:

• Take the SL connector between the thumb and the forefinger with the slit in upright position.





Take the tubes to be connected with the other hand and put them one by one into the slit.

 Connect the SL unit as close to the blasthole as possible. Avoid tangling and too tight stretching of shock tubes between blast holes.



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When all tubes are in position, close the SL unit by pressing your thumb on the top of the cover. The lock is closed properly when the snap fit is in the second position on the cover, accompanied by a characteristic sound.

- Shrapnel from the mini-detonator or the plastic SL connector block could damage Exel<sup>™</sup> tubes in close proximity, which are not directly initiated by the unit. Always maximise the safety distance between the SL unit to adjacent Exel<sup>™</sup> tubes. The SL block must be covered with sand, stemmingor rocks to prevent any shrapnel damage to adjacenttubes.
- The Exel<sup>™</sup> tubes are to be connected to the SL block on the detonator side of the flag tag and the end seal. If there is a risk for the tube to be pulled out from the unit, it should be locked by a knot on the tube.



If the Exel<sup>™</sup> Connectadet<sup>™</sup> SL needs to be opened after it has been closed, it can easily be done by taking the free end of a tube under the cover and then move it upwards. The use of knifes or other sharp tools should be avoided.

Exel<sup>™</sup> Connectadet<sup>™</sup> SL surface connectors are designed to reliably initiate suitably compatible low core load detonating cords with about 5 g/m. Compatibility of low core load detonating cord should be checked with your Orica representative.

Exel<sup>™</sup> Connectadet<sup>™</sup> SL surface connectors can be reliably initiated with:

- Exel<sup>™</sup> Starter
- an approved blasting machines for shock tube initiation, e.g. Exel<sup>™</sup> Start DS2 or Exel<sup>™</sup> Start HN1
- electric (e.g. Dynadet<sup>™</sup>), non-electric (e.g. Exel<sup>™</sup> MS) or electronic detonators (e.g. uni tronic<sup>™</sup> 600 or i-kon<sup>™</sup>)

#### Packaging

 $\operatorname{Exel}^{\operatorname{IM}}$  Connectadet<sup>TM</sup> SL surface connectors are packed into plastic or aluminium bags inside cardboard cases. All units within a case have the same tube length and delay.

Tube length (m)	Qty per bag (1.4S)	Qty per box (1.4S)
2.4	10	120
3.6	10	100
4.8	10	100
6.0	10	90
7.8	10	70
9.0	10	60
10.2	10	60
12.0	10	50
15.0	5	40

Other tube lengths may be available upon request. Please ask your local Orica representative for further information.

#### Storage and Handling Product Classification

Authorised Name:Exel™ Connectadet™ SLProper Shipping Name:Detonator assemblies,non-electric UN No:0500Classification:1.4SEC Type Certificate:0589.EXP.2783/18

Exel<sup>™</sup> Connectadet<sup>™</sup> SL surface connectors should be stored in a dry detonator magazine licensed for explosives. Stacks of cases should be no more than 2 meters high.

Exel<sup>™</sup> Connectadet<sup>™</sup> SL may be used in temperatures from -45 °C up to 50 °C. Exel<sup>™</sup> Connectadet<sup>™</sup> SL surface connectors have a shelf life of 3 years.

#### Disposal

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

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#### Safety

Avoid damage to the shock tube. Never pull so hard as to stretch or break shock tubing. A premature initiation may result.

Exel<sup>™</sup> Connectadet<sup>™</sup> SL surface connectors provide a high level of safety against initiation by static electricity, electrical stray currents and radio frequency transmissions. However, they contain sensitive explosives, which can initiate under intense impact, friction or heat. As with all explosives these detonators must be handled and stored with care.

#### Training

This Technical Data Sheet is for information only. The Exel<sup>™</sup> system including the Exel<sup>™</sup> Connectadet<sup>™</sup> SL should only be used by personnel who have been properly trained to use this system.

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