**Description**

Exel™ Starter is a non electric detonator assembly consisting of a coiled length Exel™ tube and Exel™ Connectadet™ SL LA with a delay of 0 ms.

Exel™ Starters are designed to provide simple connection to start a blast in quarry, open cut and underground applications. Exel™ Starter can be extended using Exel™ Lead in Line and splices to provide safe distance between the blast and point of initiation. (See TDS for Exel™ Connectadet™ SL / Exel™ Connectadet™ SL LA and Exel™ Lead in Line for further information).

**Application benefits**

Exel™ Starters are highly visible detonator assemblies with rugged, abrasion resistant tubing, which:

- Eliminate electrical hazards at blast site
- Provide positive blast initiation control
- Easy to handle and deploy - don't tangle

**Recommendations for Use and Initiation**

The Exel™ Starter is designed to reliably initiate suitably compatible low core load detonating cords with about 5 g/m. Compatibility of low core detonating cord should be checked with your Orica representative.

**Technical Properties**

<table>
<thead>
<tr>
<th>Product</th>
<th>Exel™ Starter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signal Tube</td>
<td>Pink Exel™</td>
</tr>
<tr>
<td>Outer diameter (mm)</td>
<td>3.0</td>
</tr>
<tr>
<td>Nominal tensile strength</td>
<td>300 N at +20 °C</td>
</tr>
<tr>
<td>Length (m)</td>
<td>30, 50 and 100</td>
</tr>
<tr>
<td>Shock wave propagation (m/s)</td>
<td>2000 ±100</td>
</tr>
<tr>
<td>Detonator PETN Base Charge (mg)</td>
<td>160</td>
</tr>
<tr>
<td>Lead Acid Primary Charge (mg)</td>
<td>60</td>
</tr>
</tbody>
</table>

Exel™ Starter is not designed to initiate shock tube and detonating cord in the same connector block at the same time. Misfires can result. Consult your Orica representative for further information.

If the connector block unit needs to be opened up after the lid has been closed, it can easily be made by taking the free end of a tube under the cover and then move it upwards. Knife or other sharp tools should be avoided.

Exel™ Starter can be reliably initiated with:

- an approved blasting machine for shock tube initiation, e.g. Exel™ Start DS2 or Exel™ Start HN1
- electric (e.g. Dynadet™), non-electric (e.g. Exel™ MS) or electronic detonators (e.g. uni tronic™ 600 or i-kon™ II)

**Packaging**

Exel™ Starters detonators are packed into plastic or aluminium bags inside cardboard cases. All units within a case have the same tube length and 0 ms delay.

<table>
<thead>
<tr>
<th>Tube length (m)</th>
<th>Qty per bag 1.4S</th>
<th>Qty per box 1.4S</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>50</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>100</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>
Storage and Handling

Product Classification

Authorised Name: Exel™ Starter
Proper Shipping Name: Detonator assemblies, non-electric
Classification: 1.4S
UN No: 0500
EC Type Certificate: ENB/D/009/16

Exel™ Starter detonators should be stored in a cool, dry detonator magazine. Stacks of cases should be no more than 2 metres high.

Exel™ Starter detonators should be used in temperatures from -45 °C up to 50 °C. Exel™ Starter detonators have a shelf life of 2 years.

Disposal

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

Safety

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

Exel™ Starter 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™ system including the Exel™ Starter should only be used by personnel who have been properly trained to use this system.

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Orica Sweden AB
Gyttorp
713 82 Nora
Sweden
Phone: +46 587 85000
Fax: +46 587 25345
Email: info.gyse@orica.com

Emergency Telephone Number
Within Sweden: +46 20 850001
Outside Sweden: contact local representative