Exel™ Lead in Line
Czech Republic

Description
Exel™ Lead in Line is a reel-off signal tube system for initiation of blasts. Exel™ Lead in Line consists of a long length of Exel™ signal tube plus clear splices. The Exel™ signal tube is high strength, high abrasion resistant tubing which transmits the initiation signal. Used to extend the length of non-electric assemblies, Exel™ Lead in Line allows non-electric blast initiation from a safe location. It can be used at surface or underground mines, at quarries or at construction projects.

Key Benefits
- Reduce electrical hazards at blast initiation time
- Reduce blasting noise
- Provide positive blast initiation control
- Highly visible
- Easy to handle and deploy - don’t tangle

Technical Properties

<table>
<thead>
<tr>
<th>Product</th>
<th>Exel™ Lead in Line</th>
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<tbody>
<tr>
<td>Signal tube</td>
<td>Pink Exel™</td>
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<tr>
<td>Outer diameter (mm)</td>
<td>3.0±0.1</td>
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<tr>
<td>Nominal tensile strength</td>
<td>300 N at +20°C</td>
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<tr>
<td>Shock wave propagation (m/s)</td>
<td>2000 ±100</td>
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<td>Length on spool (m)</td>
<td>750 or 1500</td>
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<td>Splicing sleeve</td>
<td></td>
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<tr>
<td>- Outer Diameter (mm)</td>
<td>6.0</td>
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<tr>
<td>- Inner Diameter (mm)</td>
<td>2.8</td>
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Handling and Initiation
Avoid damage to the shock tube. Never pull so hard as to stretch or break shock tubing. A premature initiation may result.

Exel™ Lead in Line is designed to be spliced into non-electric assemblies:
- Exel™ Lead in Line should not be used in extremely wet conditions where the maintenance of dry splices cannot be guaranteed.
- Exel™ shock tube should always be cut with a sharp, single bladed cutter or knife.
- Cuts should be made clean and at right angles taking care not to crush or collapse the cut ends.
- Always make cuts and splices under clean, dry conditions and always cap open tube ends to limit the exposure to moisture. Any freshly exposed open tube ends which are not to be capped should be immediately inserted into a splice or starter. The ingress of moisture or dirt may cause firing failure.
- Push the spliced ends firmly into the splicing sleeve so they butt together in the centre
- Lay out the Exel™ Lead in Line tube from the initiation point to a safe blast firing point. Do not place any spliced joins under tension during deployment. A simple overhand knot (see figure 1) is recommended to keep tension off the splice. Additionally, wrap the signal tube several times around a rock or stake to anchor it whilst deploying. Appropriate special precautions must be taken under wet conditions as Exel™ Lead in Line spliced joints cannot be guaranteed as waterproof even when taped.

Figure 1: Use of Exel™ Lead in Line
• At the safe blast firing point, cut the Exel™ Lead in Line from the reel and connect to initiating device.

Exel™ Lead in Line can be reliably initiated with:
• Exel™ Starter
• an approved blasting machines 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™ Lead in Line is supplied on spools which hold 750 m or 1500 m of tubing. A standard cardboard outer case contains 1 or 2 of these spools and a short piece of clear plastic tube for splicing.

750 m (2 spools)
Packaging dimension: 220 x 240 x 375 mm
Gross weight: 10.0 kg

1500 m (1 spool)
Packaging dimension: 285 x 285 x 375 mm
Gross weight: 9.6 kg

Storage and Handling
Product Classification
Authorised Name: Exel™ Lead in Line
EC Type Certificate: ENB/D/009/15

Exel™ Lead in Line as produced, packaged and shipped from manufacturer, is not classified as dangerous goods and may thus be transported as general cargo.

Exel™ Lead in Line should be stored in a dry, well-ventilated magazine with the ends of the tube specially sealed or capped to prevent moisture ingress.

Exel™ Lead in Line has a maximum shelf life of 2 years but should be used within 3 months after tube sealing is broken.

As Exel™ Lead in Line is designed as a reel off, extendable product, unfired remnant product which cannot be used, should be disposed of by unreeling from the spool and by appropriate initiating. Firing of Exel™ Lead in Line on the spool may result in a fire hazard.

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
Please refer to the latest revision of the Orica Exel™ Safety Data Sheet for specific guidance.

Training
This Technical Data Sheet is for information only. The Exel™ system including the Exel™ Lead in Line should only be used by personnel who have been properly trained to use this system.

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