Exel™ Bunchdet Detonators Open Cut Mining
Australia

**Description**
The Exel™ Bunchdet Detonator is a highly reliable signal tube based connector system. It is designed to initiate detonating cord only, where temperatures exceed those of normal commercial blasting applications.

Exel™ Bunchdet detonators consist of a length of pink Exel™ signal tube sealed at one end with a waterproof seal, with the other end crimped to a low strength detonator. The non-electric detonator is housed in a white plastic connector stamped with the delay time and warning "use with det. cord only". A white unmarked plastic J-hook connector provides a rapid and secure method of attaching the signal tube to detonating cord.

**Application**
At temperatures in excess of 55°C, and where the operating temperature recommendations for the in hole application of Exel™ based systems are exceeded, Cordtex™ Pyrocord™ and 40 RDX LS detonating cords may be used in conjunction with Sentatel™ Pyromex™ packaged explosive (primer) in the blasthole. Bunchdet is used to reliably initiate these products while providing equivalent timing to a conventional in hole delay.

**Technical Properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signal Tube</td>
<td>Pink Exel™</td>
</tr>
<tr>
<td>Outer Diameter</td>
<td>3 mm</td>
</tr>
<tr>
<td>Nominal Tensile Strength</td>
<td>45 kgf</td>
</tr>
<tr>
<td>Length</td>
<td>1 &amp; 6 m</td>
</tr>
<tr>
<td>Standard delay</td>
<td>600 ms</td>
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</tbody>
</table>

An Exel™ Connectadet™ surface delay is used in conjunction with Bunchdet, to provide the required surface delay. This provides compatibility with Exel™ based initiation systems on larger shots where not all blast holes may require treatment for hot ground blasting conditions.

**Recommendations for Use**
Exel™ Bunchdet Detonators can be reliably initiated by Exel™ Connectadet™ and Exel™ Trunkline Delay (TLD) surface connectors. Hook-up with Exel™ Connectadet™ Detonators is the simplest and provides substantial time savings over using TLD’s. Not needing to bury the Connectadet™ blocks allows for easy checking, minimising the chance of error.

Exel™ Bunchdet Detonators can also be initiated by detonating cord which has a core charge between 3.6 and 5.0 g/m PETN. For initiation the detonators should be connected to detonating cord trunklines using the J-hook.

If initiating with detonating cord, clip each J-hook to the detonating cord trunkline, keeping the cord and signal tube at right angles. Pull the end of the signal tube through its Jhook until the tube is straight and taut between the connection and the blasthole collar. Ensure that no signal tubes cross over or lie within 200mm of the detonating cord.
When initiating with detonators or detonating cord always ensure that connections are made at least 500mm from the detonator to ensure sufficient run up distance is allowed to ensure reliable initiation of the detonator. Only use under approved procedures for high temperature/hot ground blasting.

Packaging
Exel™ Bunchdet detonators are packed into sealed "barrier bags" which are contained within an outer cardboard case. There are a total of 200 Bunchdet detonators per case. A case has dimensions 0.60 x 0.32 x 0.22 m and weighs 12 kg gross.

Storage and Handling
Product Classification

<table>
<thead>
<tr>
<th>Authorised Name</th>
<th>Proper Shipping Name</th>
<th>UN No</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exel™ Bunchdet Detonators</td>
<td>Detonator assemblies non-electric for blasting</td>
<td>0360</td>
<td>Class 1.1B</td>
</tr>
</tbody>
</table>

All regulations pertaining to the handling and use of such explosives apply.

Store Exel™ Bunchdet detonators in a cool, dry detonator magazine licensed for Class 1.1B explosives. Stacks of cases should be no more than 2 metres high. Exel™ Bunchdet detonators should be used within 12 months of opening the sealed "barrier bag". Detonators deteriorate with age, and should be used in order of manufacturing date (oldest first). Batches of detonators more than 4 years old should not be used.

Safety
A high level of safety against initiation by static electricity, stray electrical currents and radio frequency transmissions is guaranteed when using Exel™ Bunchdet detonators. However, the detonator contains sensitive explosive components. Care should be taken to avoid accidental initiation by intense impact, friction or heat. The Exel™ Bunchdet detonator is factory assembled into the connector block and no attempt should be made to disassemble it.

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