Description
Carrick II Detonators are low incendive, short delay detonators approved for use in underground coal mines. They are an electric delay detonator, containing a sleeved fusehead, a delay element (except for 0 delay), a priming composition and a tetryl base charge inside a cylindrical copper shell. A pair of copper leg-wires, covered by PVC insulation, are soldered to the fusehead and crimped into the detonator shell with a PVC closure plug. A T&T label indicating the detonator delay number and the length of wires is attached on the leg wires. The leg-wires are kept shorted by a twist at a bared section near the free ends.

Carrick II Detonators are distributed in Australia by Orica.

Application
Carrick II Detonators are especially designed to be used in gaseous environments like those found in underground coal mines. Carrick II Detonators are compatible with all permitted types of explosives. Carrick II Detonators can be used in wet conditions under moderate heads of water, if adequate precautions are taken to insulate leg-wire connections.

Recommendations for Use
Carrick II Detonators should only be used by personnel who have been correctly trained in the handling and use of explosives. Carrick II Detonators contain sensitive components and must be handled with care and respect at all times. Carrick II Detonators used inside blastholes should always be secured inside suitable primers, which fully enclose the detonator shell to protect it from abrasion or impact damage during charging. Carrick II Detonators are tested for continuity and resistance after assembly, but each unit should be checked before use, as required by local Statutory Regulations.

An approved circuit tester and a suitable container, to enclose the detonator, should be used when testing detonators. The resistance of the circuit should be measured using an approved tester to confirm that the exploder or firing equipment available can supply sufficient energy to reliably initiate all detonators in the circuit. Single series connections are recommended to simplify hook-up and avoid the need to "balance" parallel circuits.

Carrick II Detonators are supplied with the leg-wires shorted together and should remain this way until final hook-up. Before touching bare leg wires, operators should make contact with an effective earthed point to disperse any static electrical charges which may have accumulated during charging. After joining the detonator leg-wires together, the

<table>
<thead>
<tr>
<th>Delay Detonator</th>
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<tbody>
<tr>
<td>Shell</td>
<td>Copper</td>
</tr>
<tr>
<td>Base Charge</td>
<td>0.4 g Tetryl</td>
</tr>
<tr>
<td>Fusehead</td>
<td>Low intensity N34 TB</td>
</tr>
<tr>
<td>Fusehead resistance</td>
<td>1 ohm</td>
</tr>
<tr>
<td>No fire current (I0)</td>
<td>0.26 A</td>
</tr>
<tr>
<td>All fire current (I1)</td>
<td>0.8 A</td>
</tr>
<tr>
<td>Minimum firing energy</td>
<td>3 mJ / ohm</td>
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<table>
<thead>
<tr>
<th>Leg Wires</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Conductor</td>
<td>Copper</td>
</tr>
<tr>
<td>Diameter</td>
<td>0.57mm</td>
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<tr>
<td>Insulation</td>
<td>PVC</td>
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<tr>
<td>Resistance</td>
<td>0.14 ohm/m</td>
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<tr>
<td>Colours</td>
<td>Pink and orange</td>
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<tr>
<td>Length</td>
<td>3.6 m</td>
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<table>
<thead>
<tr>
<th>Delay Times</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Delay #</td>
<td>0</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>0</td>
</tr>
<tr>
<td>Delay #</td>
<td>4</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>100</td>
</tr>
<tr>
<td>Delay #</td>
<td>8</td>
</tr>
<tr>
<td>Time (ms)</td>
<td>200</td>
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</tbody>
</table>
bare connections should be insulated to minimise the possibility of current leakage from the circuit. Reasonable care should be taken to prevent damage to the leg-wires during handling. If the plastic insulation is damaged in a way which exposes the wire core within, misfires may result due to current leakage to earth.

Carrick II Detonators are compatible with all types of permitted explosives. For security the leg wires should be "half-hitched" around the primer cartridge to prevent separation during charging. Carrick II Detonators can be safely used in the vicinity of radio frequency transmitters in accordance with the "safe distances" specified in Australian Standard 2187, Part 2 - 2006.

Packaging
Carrick II Detonators are packed into inner cardboard cartons. Each inner carton contains 40 detonators. All detonators within a carton have the same delay. Ten inner cartons are enclosed in an UN certified outer fibreboard case. External case dimensions are 430mm x 400mm x 320mm.

Storage and Handling
Carrick II Detonators should be stored in a cool, dry magazine licensed for Class 1.1B explosives. The shelf life of Carrick II detonators is 2 years from the date of manufacture.

Product Classification
Authorised Name: ELECTRIC DETONATORS CARRICK II
Proper Shipping Name: DETONATORS, ELECTRIC for blasting
UN No: 0456, 0030 or 0255
Classification: 1.4S, 1.1B or 1.4B

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

Storage
Carrick II Detonators should be stored in a cool, dry magazine licensed for Class 1.1B explosives. The shelf life of Carrick II detonators is 2 years from the date of manufacture.

Disposal
Disposal of explosive materials can be hazardous. Methods of safe disposal of explosives may vary depending on the user’s situation. Please contact an Orica Technical Services Representative for information on safe practices.

Safety
Carrick II Detonators incorporate a polyethylene sleeve around the fusehead to minimise the possibility of static discharge between the fusehead and the detonator shell.

Carrick II Detonators are supplied in tight coils with the ends of the leg-wires shorted. This configuration safeguards against accidental initiation by stray currents or radio frequency transmissions. However Carrick II detonators used in the vicinity of radio frequency transmitters must comply with the “Safe distances” specified in Australian Standard 2187, Part- 2 2006.

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Emergency Telephone Numbers
Within (country): 1800 033 111
Outside (country): 61 3 9663 2130