NONEL® MS Connector

Nonelectric Surface Delay Detonator

Product Description
NONEL MS Connector units are bi-directional units that consist of a 46 cm (18 in) length of orange shock tube with a detonator crimped to each end. The detonators are housed in a color-coded plastic connector block designed to facilitate easy attachment to detonating cord. Color-coded delay tags display the nominal firing time prominently.

NONEL MS Connector units are used to provide surface delay time between individual or multiple boreholes for blasting applications in which detonating cord is used as the primary initiation system in today’s mining, quarrying and construction industries.

Application Recommendations
For detailed application recommendations, ALWAYS request a copy of Dyno Nobel’s Product Manual: NONEL® and PRIMACORD® from your Dyno Nobel representative.
• ALWAYS use Primacord 4 (3.6 g/m; 18 gr/ft) coreload detonating cord or higher with the NONEL MS Connector detonator. If your blasting application requires a lower coreload trunkline, contact your local Dyno Nobel representative for special instructions.
• ALWAYS protect the NONEL MS Connector block and shock tube from impact or

Properties

<table>
<thead>
<tr>
<th>Delay Time (msec)</th>
<th>Connector Block Color</th>
<th>Delay Time (msec)</th>
<th>Connector Block Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Green</td>
<td>65</td>
<td>Purple</td>
</tr>
<tr>
<td>17</td>
<td>Yellow</td>
<td>67</td>
<td>Blue</td>
</tr>
<tr>
<td>25</td>
<td>Red</td>
<td>100</td>
<td>Pink</td>
</tr>
<tr>
<td>35</td>
<td>Black</td>
<td>109</td>
<td>Black</td>
</tr>
<tr>
<td>42</td>
<td>White</td>
<td>200</td>
<td>Blue</td>
</tr>
<tr>
<td>50</td>
<td>Orange</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Net Explosive Content per 100 units
0.1140 kg
0.2513 lbs

Hazardous Shipping Description
Detonator assemblies nonelectric, 1.4B UN0361 PG II
NONEL® MS Connector

Application Recommendations (continued)

damage. The surface connectors contain detonators and are subject to detonation caused by abuse such as impact. Shock tube which has been cut, ruptured or damaged may cause misfires.

• NEVER drive any equipment over NONEL MS Connector blocks, detonating cord or shock tube.
• ALWAYS trim excess lengths of detonating cord from the NONEL MS Connector block after completing the connection of each block to the detonating cord. Tails of detonating cord lying across or adjacent to the shock tube between the connector blocks will interfere with the functioning of the assembly and may cause misfires.
• ALWAYS use in-hole delays to minimize the chance of surface cutoffs with NONEL MS Connectors.
• NEVER connect NONEL MS Connector units to detonating cord trunklines until all boreholes have been primed and loaded and the blast site has been cleared of personnel and equipment.
• To connect the NONEL MS Connector unit to a detonating cord trunkline, cut the trunkline at the point where the surface delay is needed. Attach the NONEL MS Connector detonator between the cut ends using the NONEL MS Connector blocks. Only one end of the trunkline is attached to each NONEL MS Connector block so that the shock tube attached to each block completes the connection between the trunkline ends.

Transportation, Storage and Handling

• NONEL MS Connector units must be transported, stored, handled and used in conformity with all federal, state, provincial and local laws and regulations.
• For maximum shelf life (3 years), NONEL MS Connector units must be stored in a cool, dry, well ventilated magazine. Explosive inventory should be rotated. Avoid using new materials before the old. For recommended good practices in transporting, storing, handling and using this product, see the booklet “Prevention of Accidents in the Use of Explosive Materials” packed inside each case and the Safety Library Publications of the Institute of Makers of Explosives.

Packaging

<table>
<thead>
<tr>
<th>Quantity / Case</th>
<th>Case Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td>B</td>
</tr>
</tbody>
</table>

• Case weight varies by delay; see case label for exact weight.

Case Dimensions

B  41 x 30 x 21 cm  16 x 12 x 8 ⅜ in

Product Disclaimer Dyno Nobel Inc. and its subsidiaries disclaim any warranties with respect to this product, the safety or suitability thereof, or the results to be obtained, whether express or implied, INCLUDING WITHOUT LIMITATION, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND/OR OTHER WARRANTY. Buyers and users assume all risk, responsibility and liability whatsoever from any and all injuries (including death), losses, or damages to persons or property arising from the use of this product. Under no circumstances shall Dyno Nobel Inc. or any of its subsidiaries be liable for special, consequential or incidental damages or for anticipated loss of profits.