Description
Centra™ Extend bulk system is a high energy range of explosives specifically designed to meet the needs of surface quarrying and construction.

Centra™ Extend is one of the quarry industry’s most energetic and reliable explosive products with proven reliability in the most difficult blasting applications. It is not applicable in ground containing reactive sulphides.

Application
Centra™ Extend is designed for small diameter surface quarry and construction applications to increase explosive energy in dry and dewatered conditions. The Centra™ Extend system complements the Orica Mining Services Centra™ Gold wet hole product range.

Key Benefits
- Centra™ Extend is manufactured and delivered with precise control at a rate to enhance your productivity compared to traditional quarry blasting.
- Centra™ Extend is an energetic explosive with proven reliability in the most difficult blasting applications.
- The increased energy of Centra™ Extend enables pattern expansion resulting in reduced drilling and quarrying costs.
- Centra™ Extend maximizes energy and promotes muckpile movement.
- Centra™ Extend range is available in a range of densities to maximize fragmentation or muckpile movement.
- Centra™ Extend provides fully coupled explosive charges to maximize blasting outcomes.
- The high productivity of the Centra™ Extend range means faster delivery and turnaround of shots.
- OH&S issues around the handling and storage of packaged products is eliminated.

Technical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Percent Emulsion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density (g/cc) (1)</td>
<td>20  30  35  40</td>
</tr>
<tr>
<td>Minimum Blasthole Diameter (inch/Mm)</td>
<td>4.0  4.0  5.0  5.0</td>
</tr>
<tr>
<td>Water resistance</td>
<td>Poor  Fair  Fair  Fair</td>
</tr>
<tr>
<td>Delivery System</td>
<td>Augered</td>
</tr>
<tr>
<td>Recommended Pentex™ Primer for minimum hole diameter (2)</td>
<td>16 oz. Pentex™ Primer</td>
</tr>
<tr>
<td>Typical VOD (3)</td>
<td>m/s  4,000  4,000  4,000  4,100</td>
</tr>
<tr>
<td></td>
<td>ft/s  13,000  13,000  13,000  13,500</td>
</tr>
<tr>
<td>Relative Effective Energy (REE) (4)</td>
<td>RWS  105  108  111  118</td>
</tr>
<tr>
<td></td>
<td>RBS  123  136  149  176</td>
</tr>
<tr>
<td>Sleep time</td>
<td>Dependent on ground conditions</td>
</tr>
</tbody>
</table>

Recommendations for Use

Priming and Initiation
Centra™ Extend is a booster sensitive emulsion and must be in direct contact with an appropriately sized Pentex™ booster. The use of detonating cord may adversely affect the performance of the Centra™ Extend series and could result in misfires. Consult an Orica Technical Representative before attempting to use with detonating cord.

Charging
Centra™ Extend is delivered by Orica Mobile Manufacturing Units (MMU™). Centra™ Extend is manufactured on the MMU™ and delivered into blastholes on demand.

Sleep-Time within Blastholes
The recommended maximum sleep time is 1 month. Sleep time is dependent on factors such as hole diameter, density, ground
water conditions and initiation system. An Orica Technical Representative should be consulted if special conditions exist.

**Ground Temperature**

These products are available for use in ground temperatures 32°F (0°C) to a maximum of 131°F (55°C). If your application requires you to operate outside this temperature range please contact an Orica Technical Representative.

**Storage and Handling**

**Product Classification - Canada**

- Authorized Name: Centra™ Extend 20
- Centra™ Extend 30
- Centra™ Extend 35
- Centra™ Extend 40

**Correct Shipping Name:** Explosive, blasting, type E

- **UN No:** 1.5D
- **Classification:** 0332

**Product Classification - USA**

- Authorized Name: Centra™ Extend 20
- Centra™ Extend 30
- Centra™ Extend 35
- Centra™ Extend 40

- **Proper Shipping Name:** Ammonium Nitrate Emulsion
- **UN Number:** 3375
- **Classification:** 5.1

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

**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**

Centra™ Extend is relatively insensitive to accidental initiation by shock, friction or mechanical impact under normal conditions of use. Detonation may occur from heavy impact or excessive heating, particularly under conditions of confinement.

Explosives based on Ammonium Nitrate such as the Centra™ Extend may react with pyritic materials in the ground and create potentially hazardous situations. Orica accepts no responsibility for any loss or liability arising from use of the product in ground containing pyritic or other reactive material.

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Orica’s North America headquarters can be reached at:

- **Tel:** +1 303 268 5000
- **Fax:** +1 303 268 5250

**Emergency Telephone Numbers**

For chemical emergencies (24 hour) involving transportation, spill, leak, release, fire or accidents:

- **Canada:** Orica Canada emergency response 1-877-561-3636
- **USA:** Chemtrec 1-800- 424-9300

Notes:
TECHNICAL DATA SHEET

Centra™ Extend System
USA & Canada

(1.) Nominal density only.

(2.) Where ground movement is likely or charge lengths are in excess of 20 feet (6.1 meters) Orica recommends the use of insurance primers.

(3.) The actual VOD depends on the conditions of use including the diameter of the hole and the degree of confinement. VODs can be higher in holes greater than 4 inches (102mm).

(4.) The “Relative Effective Energy” (REE) of an explosive is the energy calculated to be available to do effective blasting work. All energy values are calculated using the IDEx™ computer code owned by Orica for the exclusive use of its companies. Energy values are based on standard ANFO with a density of 0.84 g/cc and a cut-off pressure of 100Mpa. Other computer codes may give different values.