Description
ANFO is a free flowing (loose poured) mixture of ammonium nitrate prill and fuel oil, formulated to be oxygen balanced, for use in dry blastholes.

Application
ANFO is suitable for use where the blastholes are dry and will remain dry until firing. ANFO can be used as a column charge in mining or quarrying and for general blasting work. Incorrect application of ANFO may result in elevated levels of undesirable post blast fume.

ANFO is not suitable for ground containing reactive sulphides.

Key Benefits
- ANFO loads easily and completely fills the blasthole, delivering maximum energy.
- Consistent high quality gives reliable blast performance.
- High productivity for large blasts where the MMU™ may be replenished on bench using the Orica Reload™ System.

Recommendations for Use

Blasthole Depth
ANFO is considered suitable for use in blasthole depths of up to 80 metres, depending on hole diameter, product density and confinement. Please contact an Orica Technical Representative for further information.

Priming and Initiation
The minimum primer for ANFO is a Pentex™ H booster in conjunction with an Exel™, unitrionic™ or i-kon™ detonator. Use of detonating cord with ANFO is not recommended.

Charging
ANFO is part of the range of bulk explosives delivered by Orica’s Mobile Manufacturing Units (MMU™). ANFO is manufactured on the MMU™ and augered or blowloaded into blastholes on demand.

Technical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>ANFO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density (g/cm³)</td>
<td>0.8</td>
</tr>
<tr>
<td>Minimum Blasthole Diameter (mm)</td>
<td>76</td>
</tr>
<tr>
<td>Maximum Blasthole Depth (m)</td>
<td>80</td>
</tr>
<tr>
<td>Maximum Charge Length (m)</td>
<td>75</td>
</tr>
<tr>
<td>Hole Type</td>
<td>Dry</td>
</tr>
<tr>
<td>Delivery System</td>
<td>Augered / Blowloaded</td>
</tr>
<tr>
<td>Recommended Pentex™ Booster for minimum hole diameter</td>
<td>76-102mm</td>
</tr>
<tr>
<td></td>
<td>&gt;102</td>
</tr>
<tr>
<td>VOD (km/s)</td>
<td>2.5-4.8</td>
</tr>
<tr>
<td>Relative Effective Energy (REE)</td>
<td>100</td>
</tr>
<tr>
<td>Relative Weight Strength</td>
<td>100</td>
</tr>
<tr>
<td>Relative Bulk Strength</td>
<td></td>
</tr>
<tr>
<td>Sleep Time</td>
<td>42 Days</td>
</tr>
</tbody>
</table>

Sleep-Time Within Blastholes
In dry blastholes the maximum recommended sleep time for ANFO is 42 days. However, sleep time is dependent on factors such as hole diameter, density, confinement, ground water conditions and initiation system.

An Orica Technical Representative should be consulted if special conditions exist.

Reactive Ground and Ground Temperature
Reactive Ground (4) – ANFO is not suitable for use in ground containing reactive sulphides

Elevated Temperature (4) - ANFO is suitable for use in ground temperatures of 0º up to 55ºC.

If your application requires you to operate outside this temperature range please contact an Orica Technical Representative for further information.
PRODUCT QUALITY
Orica's bulk explosives are manufactured and loaded using an ISO9001 accredited quality process.

STORAGE AND HANDLING
Product Classification
Authorised Name: ANFO
Proper Shipping Name: Explosive, Blasting, Type B
UN No: 0082
Classification: 1.1D

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 Representative for information on safe practices.

SAFETY
ANFO 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.

More product safety information can be found in the product Safety Data Sheet.

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EMERGENCY TELEPHONE NUMBERS
Within (country): 1800 033 111
Outside (country): 61 3 9663 2130

NOTES:
(1.) Nominal density only.
(2.) The actual VOD depends on the conditions of use including the diameter of the hole and the degree of confinement. The range quoted refers to unconfined minimum diameter up to calculated ideal VOD.
(3.) REE is the Effective Energy relative to ANFO at a density of 0.8 g/cm³. ANFO has an effective energy of 2.30 MJ/kg. Energies quoted are based on ideal detonation calculations with a 100MPa cut off pressure.
(4.) Reactive ground and elevated temperature as defined in the Australian Explosives Industry Safety Group (AEISG) Code of Practice for Elevated Temperature and Reactive Ground.

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