

Subtek™ Charge

Description

Subtek™ Charge bulk emulsion explosive is a primer sensitive pumped explosive which has the appearance of an opaque fluid, similar in viscosity to light grease or heavy oil. *Subtek™ Charge* has excellent water resistance as an inherent characteristic the emulsion structure.

Application

Subtek™ Charge is manufactured at the blast site from an Orica designed underground pumping unit. This combines non-explosive emulsion with sensitiser to deliver the water resistant explosive product into the blasthole. *Subtek™ Charge* is suitable for use in downholes and development headings.

Key Benefits

- The final product density of *Subtek™ Charge* can be varied to match desired product performance criteria.
- *Subtek™ Charge* pumped emulsion reduces spillage and with excellent water resistance, minimises nitrate leaching and the resultant environmental impact
- *Subtek™ Charge* provides fully coupled explosive charges to maximise blasting outcomes.
- The increased speed of charging and reduced post-blast fumes when using *Subtek™ Charge*, dramatically improves turnaround time.
- *Subtek™ Charge* reduces potential for sulphide dust explosions.
- OH&S issues around the handling and storage of packaged products is eliminated.

Recommendations for Use

Blasthole diameter

The minimum recommended hole diameter depends on the density selected. Please consult Orica Technical Services Personnel for further information.

Charging

Charging is carried out using specialized proprietary underground pumping equipment. Contact Orica Technical Service Personnel for further information.

Technical Properties

Property	<i>Subtek Charge</i>
Density (g/cm ³) ⁽¹⁾	0.7 – 1.30
Minimum Blasthole Diameter (mm)	38
Typical VOD (km/s) ⁽²⁾	4.6 – 1.30
Relative Effective Energy (REE) ⁽³⁾	
Relative Weight Strength	98
Relative Bulk Strength	147
Sleep Time	7 Days

Priming and Initiation

Subtek™ Charge can be reliably initiated using a cartridge of *Senatel™* packaged explosive or a *Pentex™* primer in conjunction with an *Exel™* detonator. The cartridge diameter of *Senatel™* packaged explosive should be appropriate to the blasthole size. Use of detonating cord with *Subtek™ Charge* is not recommended.

Sleep-Time Within Blastholes

The recommended maximum sleep time is 7 days. Sleep time is dependent on factors such as hole diameter, density, ground water conditions, initiation system and mining method. Orica Mining Services Technical Personnel should be consulted if special conditions exist.

Gassing

The gassing rate of *Subtek™ Charge* is temperature dependent. Typical gassing time is approximately 25 minutes at 20°C. Sixty minutes should be allowed between the loading and firing of the blastholes.

Ground Temperature

These products are available for use in ground temperatures 0° to a maximum of 55°C. If your application requires you to operate outside this temperature range please contact your local Orica Account Manager.



Subtek™ Charge

Storage and Handling

Product Classification

Authorised Name: *Subtek™ Charge*
 Shipping Name: Explosive, Blasting, Type E
 UN Number: 0332
 Class Code: 1.5D

Disposal

Disposal of explosive materials can be hazardous. Methods of safe disposal of explosives may vary depending on the user's situation. Please contact a local Orica representative for information on safe practices.

Safety

The post detonation fume characteristics of *Subtek™ Charge* make it suitable for underground blasting applications. Users should ensure that adequate ventilation is provided prior to re-entry into the blast area.

Subtek™ Charge 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 *Subtek™ Charge* 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.

Trademarks

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Disclaimer

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Notes:

- (1.) Nominal Density Only.
- (2.) VOD will depend on application including explosive density blasthole diameter and degree of confinement. The VOD range is based on minimum unconfined and calculated ideal.
- (3.) The "Relative Effective Energy" (REE) of an explosive is the energy calculated to be available to do effective blasting work, it is calculated using the Orica *IDeX* computer code and is relative to ANFO at a density of 0.8g/cm³.

