

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.

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.

Technical Properties

Property	Subtek Charge				
Density (g/cm ³) ⁽¹⁾	0.8	0.9	1.0	1.1	1.2
Minimum Blasthole Diameter (mm)	38	38	38	38	42
Typical VOD (km/s) ⁽²⁾	4.5	4.9	5.3	5.7	6.2
Relative Effective Energy (REE) ⁽³⁾					
Relative Weight Strength	72	78	85	92	98
Relative Bulk Strength	72	89	106	127	147
Sleep Time	7 Days				

Recommendations for Use

Blasthole diameter

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

Priming and Initiation

Subtek™ Charge™ can be reliably initiated using a cartridge of Senatel™ packaged explosive 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.

Charging

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

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 30 minutes at 30°C. Sixty minutes should be allowed between loading and firing blastholes at 25°C

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: 0241
 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 pyretic 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 pyretic 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.

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