TECHNICAL DATA SHEET

Senatel™ Pulsar™

USA & Canada

Description

Senatel™ Pulsar™ packaged explosive is a water resistant, maximum strength, robust detonator sensitive emulsion explosive. The explosive is orange in color with a firm putty-like consistency.

Application

Senatel™ Pulsar™ can be used in priming applications as a high-density column explosive. Senatel™ Pulsar™ semi-rigid, film cartridges readily split during tamping to maximize coupling and bulk strength within a blasthole.

In addition to our standard product, we offer Senatel™ Pulsar™ XL in a tri-laminated film for extreme conditions.

Key Benefits

- Senatel™ Pulsar™ is a maximum energy emulsion formulation with high pre-compression resistance. This gives excellent blast results in the toughest ground even with tight drilling patterns as found in shaft sinking and other extreme blasting environments.
- Displays excellent fragmentation and heave in the most difficult and demanding applications
- Saves loading time and controls powder factor
- Senatel™ Pulsar™ is highly water resistant, to minimize leaching and reduce environmental impact.
- OH&S issues around the handling and storage of nitroglycerin are eliminated.
- The packaging and emulsion color of Senatel™ Pulsar™ provides high visibility in a range of environments.
- Packaged in PMP, easy to tamp plastic film or high strength, tear resistant Valeron film cartridges ideal for rugged, medium sized boreholes.

Technical Properties

Senatel™ Pulsar™ 65 x 400 mm (2 ½ x 16 in.)		
Cartridge Density		1.23 g/cc
Typical Velocity of Detonation[1]		4,500 m/s[3] 14,700 ft/s
Water Resistance		Excellent
Fume Class		2
Relative Effective Energy (REE) [2]	Relative Weight Strength (RWS)	123
	Relative Bulk Strength (RBS)	180

Recommendations for Use

Priming and Initiation

An Orica high strength electric, electronic, or non-electric detonator can reliably initiate Senatel™ Pulsar™ at temperatures greater than -15°C (5°F). Use of detonating cord with Senatel™ Pulsar™ is not recommended. Detonating cord will adversely affect the performance of Senatel™ Pulsar™ and could result in misfires. Consult an Orica representative before attempting to use with detonating cord.

Charging

In small diameter blastholes maximum energy per meter of blasthole can be achieved by tamping the explosive with a wooden tamping rod appropriate to the hole diameter. No metal instrument should be used to tamp explosives. The primer cartridge containing a detonator must not be tamped.

Sleep-Time within Blastholes

In dry blastholes, given the explosives packaging is undamaged, Senatel™ Pulsar™ may be charged and fired several months later. If the explosives packaging are damaged, the sleep-time

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in a blasthole is influenced by the extent of damage to the packaging and by the nature of any water present. Even with full length slitting of cartridges, the explosive will give good performance after two weeks immersion.

Packaging

Senatel™ Pulsar™ is packaged in white plastic film to clearly differentiate it from booster sensitive packaged explosives. Senatel™ Pulsar™ is available in PMP and Valeron film packed into 25 kg (55 lb) fiberboard cartons. Standard cartridge sizes are as follows:

Size		Nominal Count Per Case	Film Type
mm	inches		
32 x 200	1 ¼ x 8	147 (±5)	PMP
32 x 400	1 ¼ x 16	72 (±2)	PMP
40 x 300	1 ½ x 12	64 (±2)	Valeron
50 x 200	2 x 8	52(±1)	Valeron
50 x 400	2 x 16	26	Valeron
60 x 400	2 ¼ x 16	20	Valeron
65 x 400	2 ½ x 16	16	Valeron
75 x 400	3 x 16	12	Valeron

Storage and Handling

Product Classification

Authorized Name: Senatel™ Pulsar™
Correct Shipping Name: Explosive, blasting type E
UN No: 0241
Classification: 1.1D

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

Storage

Store Senatel™ Pulsar™ in a suitably licensed magazine for Class 1.1D explosives. The cases should be stacked in the manner designated on the cases.

Senatel™ Pulsar™ has a storage life of up to 12 months from manufacture date in a well ventilated, approved magazine, even in hot and humid extremes.

Senatel™ Pulsar™ is best stored at temperatures above -15°C (5°F). This is especially important in cold weather "load and shoot" worksites where there is insufficient inhole warm-up time.

For recommended good practices in transporting, storing, handling, and using this product, refer to the "Always and Never" booklet packed inside each case.

Transport

Senatel™ Pulsar™ should be transported between -40°C (-40ºF) and +40°C (104ºF).

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

The post detonation fume characteristics of Senatel™ Pulsar™ make the product suitable for surface blasting applications. Users should ensure that adequate ventilation is provided prior to re-entry into the blast area.

Senatel™ Pulsar™ can be initiated by extremes of shock, friction or mechanical impact. As with all explosives, Senatel™ Pulsar™ should be handled and stored with care and must be kept clear of flame and excessive heat.

Disclaimer

Senatel™ Pulsar™

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USA: Chemtrec 1-800- 424-9300

Mexico: 01-800- 002-1400

Notes:

(1.) 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.

(2.) 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.

(3.) Unconfined at 5ºC (41ºF).