

TITAN® 7000i

Gassed Emulsion

Technical
Information



Description

TITAN® 7000i gassed emulsion has been specifically designed for use in underground mines where mildly¹ reactive ground conditions exist.

TITAN 7000i gassed emulsion is a primer sensitive bulk emulsion designed to be pumped from the DynoMiner™ Uphole loading truck, which is equipped with a dedicated boom and patented hose retraction unit. TITAN 7000i has excellent water resistance.

Advantages

TITAN 7000i has been specifically formulated to provide excellent up-hole retention in mildly reactive ground. The emulsion has been developed for blasthole diameters of 35-102mm and up to 40 m in length, allowing for a single product for both production and development charging. TITAN 7000i can be gassed to variable densities of 0.8 – 1.25 g/cm³ allowing for tailoring of the product for specific geological conditions.

Hazardous Shipping Description

Explosive, Blasting, Type E, 1.1D, UN 0241



Properties

Density (g/cm ³)	0.8 – 1.25
Recommended Minimum Diameter (mm)	35 mm
Energy (MJ/kg) ²	2.93
Water Resistance ³	Excellent
Recommended Sleep Time	See Following Page
Relative Weight Strength (RWS) ⁴	0.79
Relative Bulk Strength (RBS) (1.05 g/cm ³) ⁴	1.01
Relative Bulk Strength (RBS) (1.15 g/cm ³) ⁴	1.11
Relative Bulk Strength (RBS) (1.25 g/cm ³) ⁴	1.20

Typical Velocities of Detonation (VoD)

Product	Hole Diameter (mm)	Density (g/cm ³)	Booster	VoD ⁵ (m/s)
TITAN® 7000i	102 mm	1.10	400HDP	5300
	45 mm	1.15	150HDP	4500
	38 mm	1.10	150HDP	4000

NOTES:

- The degree of reactivity is determined by Dyno Nobel standard laboratory reactive ground tests.
- All Dyno Nobel energy values are calculated using a proprietary Dyno Nobel thermodynamic code – Prodnet. Other programs may give different values.
- The water resistance rating is determined by laboratory methods, and provides an indication of this parameter relative to other products.
- RWS and RBS are relative to ANFO, and determined using a density of 0.82g/cm³ and an energy of 3.7MJ/kg for ANFO.
- VOD recorded using a continuous VOD method. VODs were measured in PVC pipes at the nominal densities stated.

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Recommendations

Priming Requirements – TITAN 7000i gassed emulsion is formulated to be booster sensitive. Minimum primer requirements for production and development blasting are a 250g RINGPRIME[®] booster and a 32mm x 200mm POWERMITE[®] RiGHT cartridge respectively. Smaller booster types may reduce the performance of the explosive. Double priming is recommended if hole dislocation is expected to disrupt the emulsion column.

Shelf Life – TITAN 7000i emulsion matrix has minimum shelf life of three (3) months, when transported and stored under ideal conditions.

Reactive Ground Conditions – TITAN 7000i has been specifically designed for use in mildly reactive (pyritic) ground conditions. For applications in reactive ground conditions please consult your local Dyno Nobel representative to undertake the appropriate test work prior to the development of suitable site specific procedures.

Sleep Time – In **reactive** ground, the sleep time will be dictated by the specific site procedures developed in consultation with the Australian Explosives Industry Safety Group (AEISG) Code of Practice for Elevated Temperatures and Reactive Ground and your local Dyno Nobel representative and regulatory authority. In **non-reactive** ground the maximum sleep time is 30 days.

Ground Temperature – TITAN 7000i is suitable for use in ground with a temperature of 0°C to a maximum of 55°C.

Safe handling, transportation and storage

First Aid - Detailed first aid information regarding this product is contained on the relevant Dyno Nobel Material Safety Data Sheet.

Safety - All explosives are classified as dangerous goods and can cause personal injury and damage to property if used incorrectly.

Transportation and Storage - All explosives must be handled, transported and stored in accordance with all relevant regulations. Stock should be rotated such that older product is used first.

Product Disclaimer The explosive products discussed in this document should only be handled by persons with the appropriate technical skills, training and licences. While Dyno Nobel has made every effort to ensure the information in this document is correct, every user is responsible for understanding the safe and correct use of the products. If you need specific technical advice or have any questions, you should contact your Dyno Nobel representative. This information is provided without any warranty, express or implied, regarding its correctness or accuracy and, to the maximum extent permitted by law, Dyno Nobel expressly disclaims any and all liability arising from the use of this document or the information contained herein. It is solely the responsibility of the user to make enquiries, obtain advice and determine the safe conditions for use of the products referred to herein and the user assumes liability for any loss, damage, expense or cost resulting from such use. © DYNO, GROUNDBREAKING PERFORMANCE, TITAN, RINGPRIME, POWERMITE and the Person and Pipe device are registered trademarks of the Dyno Nobel / Incitec Pivot Group. © Dyno Nobel Asia Pacific Pty Limited 2016. Reproduction without permission strictly prohibited.