

# TITAN® 7000

## Gassed Emulsion

Technical  
Information



### Description

TITAN® 7000 gassed emulsion is water resistant and designed to be pumped from a bulk underground delivery truck. The TITAN 7000 system uses the specialised 'charging vehicle' for applications in up and down-holes. The truck is equipped with a dedicated boom and patented hose retraction unit.

### Advantages

The TITAN 7000 emulsion has been specifically formulated to provide excellent up-hole retention. The emulsion has been developed for blast holes with diameters of 35-102mm and up to 30m in length. TITAN 7000 emulsion can be loaded to variable densities of 0.8 – 1.25g/cc for tailoring to specific geological conditions.

### Hazardous Shipping Description

Explosive, Blasting, Type E 1.1D UN 0241



## Properties

Density (g/cm <sup>3</sup> ) <sup>1</sup>	0.8 – 1.25
Rec. Min. Diam. (mm)	35 mm
Energy (MJ/kg) <sup>2</sup>	2.92
Water Resistance <sup>3</sup>	Excellent
Recommended Maximum Sleep Time <sup>4</sup>	30 days
RWS <sup>5</sup>	0.79
RBS (1.05g/cm <sup>3</sup> ) <sup>5</sup>	1.01
RBS (1.15g/cm <sup>3</sup> ) <sup>5</sup>	1.11
RBS (1.25g/cm <sup>3</sup> ) <sup>5</sup>	1.20

### Typical Velocities of Detonation

Product	Hole Diameter (mm)	Density (g/cm <sup>3</sup> )	Booster	VoD (m/s)
TITAN 7000G	102 mm	1.10	400HDP	5000 <sup>5</sup>

#### NOTES:

1. In hole density is dependant on hole depth and loading rate.
2. All Dyno Nobel energy values are calculated using a proprietary Dyno Nobel thermodynamic code – Prodet. Other programs may give different values.
3. Water resistance is determined using laboratory testing methods.
4. Under normal conditions in dry, stemmed, non-reactive (pyritic) blast holes, TITAN 7000G may be slept for a period of up to 30 days. The sleep time may be limited to the recommended sleep time of the initiating system. For applications where unusual or specific conditions exist please consult your local Dyno Nobel representative.
5. RWS and RBS determined using a density of 0.82g/cm<sup>3</sup> and an energy of 3.7MJ/kg for ANFO.
6. VOD recorded using a continuous VOD method, in unconfined conditions. VOD for non-ideal explosives is a function of borehole diameter, product density and confinement conditions. These figures are indicative only and represent the unconfined conditions used in the test. Typically the product will shoot at higher VODs as the borehole diameter and confinement increase.
7. VOD recorded using a continuous VOD method, on a customer site. The VOD recorded is indicative of the conditions at that site, and will vary due to variations in confinement from site to site.

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### Application Recommendations

**Priming Requirements** - TITAN 7000 emulsion is formulated to be booster sensitive and requires a minimum 250g Ringprime<sup>®</sup> booster. 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 7000 emulsion matrix has a minimum shelf life of three (3) months, when transported and stored under ideal conditions.

**Sleep Time** - Testing has established that the sleep time for TITAN 7000 gassed emulsion exceeds one (1) month. For applications where unusual conditions exist please consult your local Dyno Nobel representative.

**Reactive Ground Conditions** - TITAN 7000 emulsion is not designed for use in reactive (pyritic) ground conditions. For applications in reactive ground conditions please consult your local Dyno Nobel representative.

**Ground Temperature** - TITAN 7000 emulsion is suitable for use in ground with a temperature of 0°C to a maximum of 55°C. For application in ground at higher temperatures, please consult your local Dyno Nobel representative.

### Safe handling, transportation & 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. ® DYN0, GROUNDBREAKING PERFORMANCE, POWERMITE, NONEL and the Packaged Explosives and Explosion device are registered trademarks of the Dyno Nobel / Incitec Pivot Group. © Dyno Nobel Asia Pacific Pty Limited 2012. Reproduction without permission strictly prohibited.