

# TITAN<sup>®</sup> XL 5000 / 5000ΔE

Technical  
Information



## Gassed Bulk Emulsion



### Product Description

TITAN XL 5000 / 5000ΔE is a gassed, bulk emulsion made from TITAN 1000 G specifically designed for open pit mining operations. This base emulsion is transported as an un-sensitized emulsion. TITAN XL 5000 / 5000ΔE is formulated to inhibit sulfide-bearing ore bodies utilizing Dyno Nobel's patented DIFFERENTIAL ENERGY™ delivery systems. The product is sensitized during the borehole loading process using Dyno Nobel's innovative chemical gassing and emulsion processing technology. The process used to manufacture TITAN XL 5000 / 5000ΔE enhances water resistance and detonation performance while improving loading characteristics. Chemical gassing allows the average density of TITAN XL 5000 / 5000ΔE to be varied as required to optimize its explosive performance for best blasting results.

### Application Recommendations

- The minimum cast booster weight recommended to prime TITAN XL 5000 / 5000ΔE explosive is a 340 g (12 oz) cast booster.
- TITAN XL 5000 / 5000ΔE can be used in boreholes up to 36 m (120 ft) deep.
- **ALWAYS** double prime when bulk explosive columns exceed 6 m (20 ft). One primer should be positioned near the bottom of the hole and the second near the collar.
- **ALWAYS** ensure primers are securely positioned in the explosive column.

## Properties

SDS  
#1052T

<b>Density</b> (g/cc) Avg	1.20
The average loading density can be varied from about 1.00 to 1.25 g/cc to best match rock type and application requirements.	
<b>Energy</b> <sup>a</sup> (cal/g)	628
(cal/cc)	754
<b>Relative Weight Strength</b> <sup>a,b</sup>	0.71
<b>Relative Bulk Strength</b> <sup>a,b</sup>	1.04
<b>Velocity</b> <sup>c</sup> (m/sec)	5,200
(ft/sec)	17,100
<b>Detonation Pressure</b> <sup>c</sup> (Kbars)	81
<b>Gas Volume</b> <sup>a</sup> (moles/kg)	45.0
<b>Water Resistance</b>	Excellent
<b>Minimum Diameter</b>	
(mm)	63
(inches)	2.5
<b>Loading Method</b>	Pumped
<b>Fume Class</b> <sup>d</sup>	IME1

<sup>a</sup> All Dyno Nobel Inc. energy and gas volume values are calculated using PRODET™, a computer code developed by Dyno Nobel Inc. for its exclusive use. Other computer codes may give different values.

<sup>b</sup> ANFO = 1.00 @ 0.82 g/cc

<sup>c</sup> Confined in 150 mm (6 in) diameter at average density.

<sup>d</sup> Approved for underground use as IME Fume Class 1.

### Hazardous Shipping Description

TITAN XL 5000 is made from TITAN 1000 G bulk emulsion matrix. Refer to the TITAN 1000 G Technical Information Sheet for Hazardous Shipping Description information.

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- Do not use low grain detonating cord as downlines with TITAN XL 5000 / 5000ΔE without first consulting your Dyno Nobel representative.

## Transportation, Storage and Handling

- TITAN XL 5000 / 5000ΔE's base emulsion TITAN 1000 G can be stored for 3 months at temperatures between -18° C and 32° C (0° F and 90° F). Older product should be used first and all storage tanks should be kept clean of residual product.
- Use only pumps which have been approved by Dyno Nobel for 5.1 emulsion matrix transfer. Pump type, pump speed, worn pump parts, repeated repumping and pumping against high hose pressures can increase TITAN 1000 G viscosity and decrease shelf life.
- **ALWAYS** monitor emulsion pump performance and check pumps periodically for excessively worn parts. Design storage facilities to minimize repeated pumping.
- Transport, store, handle and use TITAN emulsions in compliance with federal, state, provincial and local laws governing bulk oxidizing liquids.

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