

# Powermite® Thermo

## High Temperature Inhibited Booster

Technical  
Information



### Description

Powermite® Thermo is an emulsion based, high detonation pressure explosive booster. The formulation is comprised of a sensitised inhibited and aluminised emulsion based mixture cast into 600g chubs in heat stable packaging.

### Application

Powermite Thermo is a booster designed for blasting use in elevated temperature and reactive ground conditions. In hot and non-reactive ground, Powermite Thermo is rated to 130°C for 48 hours, and the product may be slept at up to 150°C for 24 hours when enclosed in a seismic container. In reactive ground, Powermite Thermo should be used in accordance with procedures developed on a site-by-site basis, in consultation with Dyno Nobel and the regulatory authorities.

### Features

The explosive composition achieves high detonation pressure and provides excellent priming efficiency. Powermite Thermo will accept NONEL® and detonating cord initiation systems.

### Dangerous Goods Classification

**Product Name:** Powermite Thermo  
**Correct Shipping Name:** Explosive, Blasting, Type E  
**UN Number:** 0241  
**DG Class:** 1.1D



### Properties

Nominal Density (g/cm <sup>3</sup> ) <sup>1</sup>	1.15 – 1.21
Energy (MJ/kg) <sup>2</sup>	3.60
Typical VOD (m/s) <sup>3</sup>	5400
Relative Weight Strength % <sup>4</sup>	96
Relative Bulk Strength % <sup>5</sup>	138
Sensitivity	5g/m det cord
Detonation Pressure (GPa)	8.6
Water Resistance	Excellent

#### NOTES:

1. Values are indicative average densities only, determined under laboratory conditions by Dyno Nobel technical personnel at Dyno Nobel's Mt Thorley Technical Centre. Observed densities may differ or vary under field conditions. Nominal in hole density only.
2. All Dyno Nobel energy values are calculated using a proprietary Dyno Nobel thermodynamic code – Prodet. Other programs may give different values.
3. These results represent a range of VODs collected from numerous Dyno Nobel blast sites throughout the Asia Pacific region over a period of time. The velocity of detonation actually recorded in use is dependent upon many factors, including: the initiation system used, the product density, blasthole diameter and ground confinement. The values stated are typical of those recorded for the product in various hole diameters, densities and ground types, and may not be achievable under all circumstances.
4. Relative Weight Strength (RWS) and Relative Bulk Strength (RBS) are determined using a density of 0.82g/cm<sup>3</sup> and an energy of 3.7MJ/kg for ANFO.
5. RBS depends on the final density of the product at the time of loading.

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### Recommendations

**Use** – When inserting the detonator into the cartridge always use a wooden skewer, not the detonator, to pierce the plastic film. If initiating with detonating cord, pass the cord around the chub and tie off to ensure the primer is secured to the cord.

**Priming** – The Powermite Thermo booster is reliably initiated using a No. 8 strength detonator or a 5g/m detonating cord or greater. The Powermite Thermo primer will not be reliably initiated by cord strengths of less than 5g/m. For use at temperatures over 70°C detonating cord with the required temperature rating must be used.

**Water resistance** – The Powermite Thermo booster exhibits excellent water resistance.

**Sleep Time & Temperature Range** – The sleep time of Powermite Thermo boosters is dependent on the ground temperature and level of ground reactivity. As a guide, in non-reactive ground a sleep time of 96 hours is available at 105°C, and 48 hours at 130°C. When enclosed in a seismic container, a sleep time of 24 hours is available at 150°C. Please consult your Dyno Nobel representative for specific information about the available sleep time for your application. At all temperatures the available sleep time of the Powermite Thermo booster is limited to the lower of the recommended sleep times for the bulk product it is priming or for the other initiating system components.

**Reactive ground** – Powermite Thermo is designed for use in reactive ground conditions when used with site specific loading procedures. Please consult your Dyno Nobel representative for information about the development of suitable site specific procedures.

**Shelf life** – Powermite Thermo boosters have a recommended shelf life of one year, when transported and stored under ideal conditions.

### Packaging

Net case weight	25 kg
Case quantity	41 units
Case dimensions	540 x 336 x 240 mm

### Safe handling, transportation and storage

**First Aid** – You can find detailed first aid information on the relevant Dyno Nobel Material Safety Data Sheet. Refer to [www.dynonobel.com](http://www.dynonobel.com) for more information if required.

**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.

Remember, 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.

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