

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 (65mm x 170mm) 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. 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®, DigiShot Plus®, and detonating cord initiation systems.

Properties

Nominal Density (g/cm ³) ¹	1.12 – 1.18
Energy (MJ/kg) ²	3.44
Typical VOD (m/s) ³	5000
Relative Weight Strength % ⁴	93
Relative Bulk Strength % ^{4,5}	130
Sensitivity	8.6 g/m cord
Detonation Pressure (GPa)	7.7
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 measured for the 65 mm x 170 mm product. The velocity of detonation actually recorded in use is dependent upon many factors, including the initiation system used and product density.
4. Relative Weight Strength (RWS) and Relative Bulk Strength (RBS) are determined using a density of 0.82g/cm³ and an energy of 3.7MJ/kg for ANFO.
5. RBS depends on the final density of the product at the time of loading.

Hazardous Shipping Description

Explosive, Blasting, Type E 1.1D UN 0241



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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 booster is secured to the cord.

Priming – The Powermite Thermo booster is reliably initiated using a No. 8 strength detonator or a 8.6 g/m detonating cord or greater. The Powermite Thermo primer will not be reliably initiated by cord strengths of less than 8.6 g/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. 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 12 months, when transported and stored under ideal conditions.

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 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.

Packaging

Net case weight	24.4 kg
Case quantity	40 units
Case dimensions	540 x 336 x 240mm

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.

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