

TITAN[®] BPC

TITAN BPC 115/120/125

Technical
Information



TITAN BPC

DynoMiner Up-hole Truck

Description

TITAN BPC is an emulsion explosive that has been specifically formulated for use in underground mining for long up-hole applications where uniform density and sensitivity throughout the explosive column is critical. TITAN BPC is recommended where pre-condition blasting of the ground is required to allow for optimal cave propagation.

TITAN BPC is not effected by static head pressures or dead pressing making it ideal for use in long up-hole applications. TITAN BPC is a primer sensitive bulk emulsion designed to be loaded into the blast hole from a DynoMiner™ Uphole truck.

Dangerous Goods Classification

Product Name: TITAN BPC 115, TITAN BPC 120, TITAN BPC 125

Correct Shipping Name: Explosive, Blasting, Type E

UN Number: 0241

DG Class: 1.1D



Properties

| | TITAN BPC 115 | TITAN BPC 120 | TITAN BPC 125 |
|---|---------------|---------------|---------------|
| Density (g/cm ³) ¹ | 1.15 | 1.20 | 1.25 |
| Min Diameter (mm) | 76 | 76 | 76 |
| Energy (MJ/kg) ² | 2.6 | 2.6 | 2.6 |
| Typical VOD (m/s) ³ | 5000 - 6000 | 5000 - 6000 | 5000 - 6000 |
| RWS ⁴ | 70 | 70 | 73 |
| RBS ⁵ | 98 | 102 | 111 |

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/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.

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Recommendations

Priming Requirements – TITAN BPC is formulated to be booster sensitive and require a minimum 250g cast booster. Smaller booster types may reduce the performance of the explosive. Additional primers should be used when the column height exceeds 15 meters or where there is a risk of column disruption.

Maximum Hole Length - TITAN BPC may be used in blast holes of up to 150m in length.

Sensitisation - TITAN BPC is sensitised using glass micro balloons. TITAN BPC is not affected by static head pressure throughout the explosive column. An open cup density of $1.20 \pm 0.05\text{g/cc}$ is recommended to ensure the product is sufficiently sensitised. Higher densities may reduce the performance of explosive.

Shelf Life – TITAN BPC emulsion matrix has a shelf life of two (2) months, when transported and stored under ideal conditions.

Reactive Ground Conditions – TITAN BPC is not designed for use in conditions where reactive sulphides are present. If reactive ground conditions are suspected please contact your Dyno Nobel representative to arrange for the appropriate test work to be conducted to develop suitable site specific procedures.

Sleep Time - TITAN BPC has a maximum sleep time of 7 days in cool (<55°C), dry, non reactive ground conditions. For non ideal conditions it is essential to contact your Dyno Nobel representative to conduct appropriate testing to determine the maximum sleep time available. The sleep time will be limited to the lower sleep time of the bulk explosive or the individual components of the initiation system in the ground conditions at the time of loading. For applications where unusual or specific conditions exist please consult your local Dyno Nobel representative for advice.

Ground Temperature – TITAN BPC is suitable for use in ground with a temperature of 0°C to a maximum of 55°C. For applications in ground with temperatures outside this range, contact your Dyno Nobel representative to arrange for the appropriate test work to be conducted to determine the suitability and/or maximum sleep time of TITAN BPC in the presenting conditions.

Safe handling, transportation and storage

First Aid – You can find detailed first aid information on the relevant Dyno Nobel Safety Data Sheet. Refer to www.dynonobel.com for more information if required.

Safety - TITAN BPC matrix (explosive precursor), TITAN BPC 115/120/125 (explosive) are classified as dangerous goods and can cause personal injury and damage to property if used incorrectly.

Transportation and Storage - All Dyno Nobel emulsions matrices and 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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