



# Technical Data Sheet

## Superpower 90<sup>®</sup> emulsion explosives

Safety • Quality • Reliability



### Description & Application

SUPERPOWER 90 packaged emulsion explosive is a robust, high strength, detonator sensitive explosive. The explosive is off-white in colour with a firm putty-like consistency. Products are sensitized through chemical gassing / micro-spheres / combination of both.

SUPERPOWER 90 is a water resistant packaged explosive designed for priming applications and as a column explosive in surface and underground mining and general blasting. The high detonation velocity and the robust nature of SUPERPOWER 90 make it an ideal primer for the initiation of ANFO columns.

### Key Benefits

SUPERPOWER 90 delivers excellent fragmentation with improved digability.

Post blast fumes are reduced with SUPERPOWER 90 improving turnaround time in underground mines.

SUPERPOWER 90 is highly water resistant, which minimises leaching and reduces environmental impact.

### Packaging

SUPERPOWER 90 is packaged in white plastic film with product name & other details highlighted in Blue colour. Each case contains 25kg of product with standard cartridge sizes and counts.

### Recommendations for Use

#### Blasthole Depth

SUPERPOWER 90 is suitable for use in holes of any practical depth provided contained water does not exceed 20m depth.

### Technical Properties

Diameter mm	Nominal length mm	Nominal Mass gm	Cartridge/Box
25	200	125	200
32	200	200	125
40	300	390	64
50	240	500	50
50	450	1000	25
60	460	1560	16
80	480	2780	9
90	420	2780	9

Other diameter / Grammage combinations can be offered on request.

Nominal Density	1.20 ± 0.05 g / cc
Relative Effective Energy (REE) <sup>1</sup>	
Relative Weight Strength	118%
Relative Bulk Strength To ANFO@ 0.85 g/cc	166%
Minimum Velocity of Detonation	3.5 Km / Sec

### Charging

In small diameter blastholes the maximum energy per metre of blasthole can be achieved by tamping the explosive with a wooden tamping rod appropriate to the hole diameter.

No metal instrument should be used to tamp explosives. The primer cartridge containing a detonator must not be tamped.

### Priming and Initiation

SUPERPOWER 90 can be initiated with the use of either an electric No.8 or a SUPREME nonelectric detonator (minimum No.8 strength). SUPERPOWER 90 can also be initiated with detonating cord of 6g and above charge-weight.



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### Reactive Ground & Ground Temperature.

Reactive Ground – **SUPERPOWER 90** is not suitable for ground containing reactive sulphides. Elevated Temperature – **SUPERPOWER 90** is suitable for use in ground temperatures of 0° up to 55°C.

If case application requires to operate outside this temperature range, please contact your Solar sales or technical representative for further information.

### Disposal

Disposal of explosive materials can be hazardous. Methods for safe disposal of explosives may vary depending on the user's situation. Please contact a Solar representative for information on safe practices.

### Safety

The post detonation fume characteristics of **SUPERPOWER 90** make it suitable for both underground and surface blasting applications. Users should ensure that adequate ventilation is provided prior to re-entry into the blast area.

**SUPERPOWER 90** can be initiated by extremes of shock, friction or mechanical impact. As with all explosives, **SUPERPOWER 90** should be handled and stored with care. **SUPERPOWER 90** does not burn easily, but it must be kept clear of flame and excessive heat.

Explosives based on Ammonium Nitrate such as **SUPERPOWER 90** may react with sulphides in the ground and create potentially hazardous situations. Solar accepts no responsibility for any loss or liability arising from use of the product in ground containing sulphides or other reactive material.

### Sleep Time within Blastholes

In dry blastholes, given the explosives packaging is undamaged, **SUPERPOWER 90** may be charged and fired several days later (provided the product remains within its recommended shelf life).

If the explosives packaging is damaged, the sleep-time in a blasthole is influenced by the extent of damage to the packaging and by the nature of any water present. Even with full length slitting of cartridges, the explosive will give good performance after two weeks immersion.

### Storage and Handling

#### Product Classification

Authorised Name : **SUPERPOWER 90**  
Shipping Name : Explosive, Blasting, Type E  
UN No : 0241  
Class Code : 1.1D

Shelf Life under good storage conditions is 1 Year. All regulations pertaining to the handling and use of such explosives apply.

#### Notes :

1. REE is the Effective Energy relative to ANFO at a density of 0.85g/cc. ANFO has an effective energy of 2.30 MJ/kg. Energies quoted are based on ideal detonation calculations with a 100MPa cut-off pressure. Non-ideal detonation energies are also available on request; these take account of blasthole diameter, rock type and explosive reaction behaviour.
2. VOD will depend on application including explosive density, blasthole diameter, temperature and degree of confinement. The minimum VOD quoted is based on unconfined test firing data and calculated ideal.

### Disclaimer

Use of these products by any one who lacks adequate training, experience & supervision may kill or injure. Solar Industries India Limited shall not be liable for any damage, whatever its nature may be, and including incidental consequential and indirect damage caused to buyers or third parties, directly or indirectly arising from or relating to the supply, use, processing, storage, sale or distribution of the products, arising after delivery unless caused by Solar Industries India Limited during manufacturing.

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