The Complete BIAFO Product Catalogue

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FULL PRODUCT DIRECTORY

BIAFO's commercial portfolio is strategically anchored in three industrial product categories.

ABOUT OUR PRODUCTS

BIAFO manufactures Tovex® water gel explosives, powder explosives, and a full range of blasting accessories, all produced at the Hattar plant in Khyber Pakhtunkhwa.

Technical specifications, packaging formats, and custom sizing are detailed on the pages that follow.

All products are available for both domestic and export supply.

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ABBREVIATION KEY

Common terms and abbreviations used throughout this catalogue.

TERM	STANDS FOR	MEANING
ANFO	Ammonium Nitrate/Fuel Oil	Common blasting agent blend; non-cap-sensitive.
Class 1.1D/1.4B	Hazard Division	UN classification - 1.1D mass explosion hazard, 1.4B minor hazard.
g/cc	Grams/cubic cm	Standard unit for explosive density.
Gap Test	Sympathetic Distance	Max air gap (mm) for reliable sympathetic detonation.
L/kg	Litres/kg	Gas volume generated per unit mass of explosive.
MJ/kg	Megajoules/kg	Energy output generated per unit mass of explosive.
ms/hs	Milliseconds/half second	Unit of delay timing for sequenced firing.
No. 8/No. 6	Detonator Strength	Standard rating specifying required initiating strength.
PETN	Pentaerythritol Tetranitrate	High-explosive base charge used in cord and detonators.
UN No.	United Nations Number	International code for transport of dangerous goods.
VOD	Velocity of Detonation	Speed of the detonation wave through the explosive column (m/sec).

01 SUPER BLASTER®

Cap-sensitive explosive for underground and surface blasting. Optimum performance where high-strength output is required; usable for hard rock bottoms and as a booster.



1.	Gas Volume	888 L/kg
2.	Density	1.27 ~ 1.30 g/cc
3.	Energy	4.60 MJ/kg
4.	VOD (unconfined)	> 5000 m/sec
5.	Fume Class	Class 1 - underground acceptable
6.	Classification	Class 3, Div 1, UN 0241, Group 1.1D
7.	Diameter/Length	25–90mm / 200–1000mm
8.	Net Weight	25 kg per box

02 BLASTER®

Cap-sensitive explosive for underground and surface application. Medium-to-high strength performance for less hard to medium hard rock bottoms; usable as a booster.



1.	Gas Volume	915 L/kg
2.	Density	1.14 ~ 1.24 g/cc (dia. dependent)
3.	Energy	4.10 MJ/kg
4.	VOD (unconfined)	> 4000 m/sec
5.	Fume Class	Class 1 - underground acceptable
6.	Classification	Class 3, Div 1, UN 0241, Group 1.1D
7.	Diameter/Length	25–90mm / 200–1000mm
8.	Net Weight	25 kg per box

03 SUPER BREAKER®

Cap-sensitive viscous and chemically cross-linked gel for underground, surface, and mining applications. Generates a large volume of gas; designed for mining projects. Extended diameter range to 200mm for high-volume borehole loading; chub up to 15 kg on



1.	Gas Volume	937 L/kg
2.	Density	1.09 ~ 1.15 g/cc (dia. dependent)
3.	Energy	3.3 MJ/kg
4.	VOD (unconfined)	> 4400 m/sec
5.	Fume Class	Class 1 - underground acceptable
6.	Classification	Class 3, Div 1, UN 0241, Group 1.1D
7.	Diameter/Length	25–200mm / 200–1000mm
8.	Net Weight	25 kg (std.) / 30 kg (200mm dia.)

04 PRE SPLITTER®

Viscous and chemically cross-linkedge, non-aluminized, smaller diameter; designed for smooth, controlled facing and wall-formation applications.
Available in continuous coil lengths.



1.	Gas Volume	857 L/kg
2.	Density	1.0 g/cc
3.	Energy	3.8 MJ/kg
4.	VOD (unconfined)	> 2500 m/sec
5.	Fume Class	Class 1 - underground acceptable
6.	Classification	Class 3, Div 1, UN 0241, Group 1.1D
7.	Diameter/Length	25–32mm / 500–5000mm (coil)
8.	Net Weight	25 kg per box

05 COAL MINER®

Cap-sensitive and chemically cross-linked viscous gel, multipurpose, small diameter permissible Water Gel Explosive, specially designed for tough loading and shooting conditions in underground coal and rock mining. A permissible explosive offering excellent fume and smoke control for safer working environments, with very good proportionate yield.

1.	Gas Volume	860 L/kg
2.	Density	1.14 g/cc
3.	Energy	2.85 MJ/kg
4.	VOD (unconfined)	> 4400 m/sec
5.	Fume Class	Class 1 - acceptable for underground use
6.	Classification	Class 3, Division 1, UN No. 0241, Group 1.1D
7.	Water Resistance	Excellent (in packing)
8.	Net Weight	25 kg per box
9.	Available Diameter	25, 28, 32 mm
10.	Gap Test	60–63 mm



06 SEISMIC EXPLOSIVE®

Cap-sensitive viscous water gel, designed specifically for seismic exploration. Hermetically sealed for extended sleep-charge applications, with excellent resistance to water and high hydrostatic pressure.

Features:

- *High energy and high VOD produce excellent seismic pulse images*
- *Does not contain molecular explosive, like nitroglycerine*
- *Pre dominate detonation by-products are water vapours, carbon dioxide and nitrogen*
- *Consistently high performance with far less handling risk than dynamite (NG products)*
- *Totally non-toxic fume generator*
- *Excellent resistance to water; resists desensitisation under high hydrostatic pressure*

1.	Gas Volume	884 L/kg
2.	Density	1.3 g/cc
3.	Energy	4.7 MJ/kg
4.	VOD (unconfined)	> 5500 m/sec
5.	Sleep Time	30 days at 100 psi hydrostatic pressure
6.	Packing	Hard Shell: ½kg, 1kg, 2kg /Soft Shell: 28mm x 500g, 32mm x 500g
7.	Classification	Class 3, Division 1, UN No. 0241, Group 1.1D
8.	Gap Test	100 mm



07 BI-BULK

Non-cap-sensitive blasting agent. High-energy content produces higher gas expansion for improved fragmentation.



1.	Gas Volume	900 L/kg
2.	Density	0.85 g/cc
3.	Energy	4.2 MJ/kg
4.	VOD (unconfined)	> 3200 m/sec
5.	Primary Requirement	Requires booster/primer (e.g. Blaster, Super Blaster)
6.	Water Resistance	Poor; non water-resistant if exposed
7.	Diameter/Length	50–90mm/500mm; 25kg sack

08 BIO PRILL (ANFO)

Non-cap-sensitive blasting agent. Free-flowing. Intended as column charge for open-cut blasting work.



1.	Gas Volume	1050 L/kg
2.	Density	0.85 g/cc
3.	Energy	3.8 MJ/kg
4.	VOD (unconfined)	> 2500 m/sec
5.	Primary Requirement	Requires booster/primer (e.g. Blaster, Super Blaster)
6.	Water Resistance	Poor; non water-resistant if exposed
7.	Diameter/Length	50–90mm/500mm; 25kg sack

09 PLAIN DETONATOR

A small, sensitive primary explosive device used to detonate a larger secondary explosive or detonating cord. Used with safety fuse under relatively dry conditions.



1.	Tube Length	46 mm
2.	Initiating Power	No. 8 and No. 6
3.	Tube Material	Aluminium alloy
4.	Composition	PETN, AS-Compo
5.	Environmental	Stable –30°C to +60°C
6.	Classification	Class 6, Div 3, UN 0455, Group 1.4S

10 ELECTRIC DETONATOR

Instantaneous detonator, fires without delay on application of required current. Shunt-protected against unwanted current flow.



1.	Strength	No. 8 and No. 6
2.	Leg Wire Length	3.5m/5m /as per customer demand
3.	Safe Current	0.55 amps, 1 volt
4.	Firing Current	1.00 amps, 1 volt
5.	Environmental	Stable –30°C to +60°C
6.	Classification	Class 6, Div 3, UN 0255, Group 1.4B

11 SEISMIC ELECTRIC DETONATOR

Fast-functioning, high-power instantaneous cap, detonating in under 1 millisecond. Designed for geophysical explorations under severe environmental conditions.



1.	Strength	No. 8
2.	Leg Wire Length	01m ~ 30m /as per customer demand
3.	Detonation Time	< 1 millisecond
4.	Water Resistance	Excellent — 100 psi, 24 hrs tested
5.	Electro-Static Safety	Safe up to 15kV – 300 PF
6.	Classification	Class 6, Div 3, UN 0456, Group 1.4S

12 ELECTRIC DELAY INITIATION SYSTEM

High-precision delay detonators in two series — Millisecond (period 1–20) and Half Second (period 1–10). Equal timing accuracy improves fragmentation and reduces vibration.



1.	Strength	No. 8 and No. 6
2.	Leg Wire Length	3.5m/5m/ as per customer demand
3.	Delay Series	MS: 25–500ms HS: 500–5000ms
4.	Firing Current	1.00 amp, 1 volt
5.	Environmental	Stable –30°C to +60°C
6.	Classification	Class 6, Div 3, UN 0456, Group 1.4S

13 NON-ELECTRIC DELAY INITIATION SYSTEM

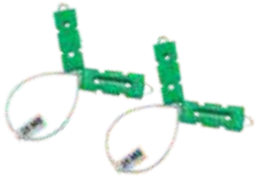
Non-electric delay detonators in two series — Millisecond and. Used in open-cut and underground mines, tunnels, shaft sinking, and demolition.



1.	Base	No. 8
2.	Delay Series	MS: 25–500ms · HS: 500–5000ms
3.	Components	Thermo Tube + delay cap, factory-assembled
4.	Signal Speed	1150 ± 50 m/sec
5.	Classification	Class 6, Div 3, UN 0255, Group 1.4B

14 TWO WAY DELAY RELAYS

Accurate delay timing between rows of blast holes, using detonating cord as primary initiation. Four delays available, 25 - 50ms.



1.	Strength	No. 8
2.	Delay Range	25 & 50 ms
3.	Use	Bidirectional, with delay tag indicating timing
4.	Environmental	Stable –30°C to +60°C
5.	Classification	Class 6, Div 3, UN 0255, Group 1.4B

15 BIAFO CORD

Flexible detonating cord with a uniform PETN core, covered in polypropylene tape and protective yarns, finished with LDPE/PVC coating.



1.	Core Charge	10–12 g/m (69 & 40 g also available)
2.	Diameter	5 ± 0.2mm
3.	Breaking Strength	55 kgf min (tested: 100 kgf)
4.	Detonating Velocity	6000 m/s min (tested: 7000 m/s)
5.	Waterproofness	72hr immersion, complete detonation
6.	Classification	Class 6, Div 2, UN 0065, Group 1.1D

16 SAFETY FUSE

Flexible cord with a black powder core, covered in protective yarns and LDPE coating. Initiated with hot object or open flame.



1.	Core Charge	Black powder (5.4–6.2 g/m)
2.	Diameter	4.0–4.5 mm
3.	Burning Rate	90–120 sec/m
4.	Breaking Strength	55 kgf min (tested: 100 kgf)
5.	Waterproofness	1m depth, 2hr immersion, keep both ends dry
6.	Classification	Class 6, Div 1, UN 0361, Group 1.4B

17 THERMOTUBE

Thin-walled plastic tube internally lined with reactive material that transmits a low energy signal to initiate delay detonators. Unlike conventional shock tubes that produce a shock wave, Thermotube uses a high temperature pyrotechnic. Non-classified for international transport.

- *Used in conjunction with non-electric initiators*
- *Recommended initiation: Detonator Cap No.06,08*
- *Cannot be used in explosive atmospheres of coal dust and/or methane*

1.	Outside Diameter	3.00mm (±0.15mm)
2.	Inside Diameter	1.20mm (±0.10mm)
3.	Propagation Speed	1150 ± 50 m/s
4.	Breaking Strength	> 150N min at 20°C
5.	Storage/Application	-30°C to 50°C
6.	Spool Length/Warranty	3,000m (±0.5%) · 36 months



18 ELECTRONIC DETONATOR

Fully programmable high-strength detonators with an integrated circuit board. Each unit is individually programmed via handheld logger-blaster to precise millisecond timing.



1.	Delay Programming	Individual, millisecond precision
2.	Max Detonators/Fire	500 units
3.	Max Lead-in + Harness	3,000 m
4.	Storage Temperature	0°C to +50°C
5.	Warranty/Shelf Life	Maximum 3 years from MFG date
6.	Delay-time range	01 ms ~ 30,000 ms
7.	UN Number	UN 0511
8.	Classification	Detonators, electronic, programmable for blasting · 1.1B

Applications
Quarrying | Mining | Demolition | Specialist blasting. Complex firing patterns transferred via computer software. Improved vibration control, fragmentation optimization, and blast design flexibility.

19 DUAL DETONATOR INITIATING SYSTEM

The dual delay detonator is a non-electric initiation system designed for use in a wide range of blasting applications, including underground mining (excluding coal mines), tunneling, open-pit mining and quarrying operations. It provides safe, reliable and accurate initiation for controlled blasting activities.

- *In-hole detonator: crimped to one end, colour-coded by delay time, housed in a plastic connector body.*
- *Out-hole (surface) detonator: short-period delay crimped to the other end, also colour-coded.*
- *Connector block: accepts up to 5*



1.	Surface Delay Range	25 ~ 125 ms
2.	In-hole Delay Range	25–500 ms
3.	UN No./Group	UN 0361 · Class 1.4B
4.	Shelf Life	3 years minimum from manufacture

20 SURFACE DELAY DETONATORS INITIATING SYSTEM

Trunk-line surface delay detonator designed for initiating shock tube / thermotube. Used for surface connection in the blasting network to achieve large-scale hole-by-hole blasting. Connects quickly to high-precision delay shock tube or thermotube detonators through plastic connector blocks to form a delay detonating system, and can reduce blasting risk and improve blasting effect and operating efficiency.

Features:

- *Construction: transparent thermotube with a delay detonator crimped onto one end; the other end is sealed and marked with the specific delay time.*
- *The detonator sits in a plastic connector body, colour-coded by delay and labelled with the delay time.*
- *Each connector slot holds up to 5 shock tubes / thermotubes, placed in one by one.*
- *Tail-ends should be knotted to prevent pull-out.*

1.	Surface Nominal Delay	25, 50, 75, 100 ms
2.	Connector Colour	Yellow, Red, Green, Blue
3.	Initiating Power	Can initiate 5 shock tubes passed through the plastic connector
4.	Tube Length	3 m, or as required by customer
5.	Packing	300 per box, or as per length demanded by end-user
6.	Storage Temperature	0 °C to +50 °C (store indoors)
7.	Shelf Life	3 years minimum from manufacture
8.	Classification	Class 6, Div 3, UN 0361, Group 1.4B (Detonators, non-electric, for blasting)



21 LEAD-IN LINE

Reel of thermotube/shock tube with a detonator encased in a plastic connector block, used to extend the blast to a safe initiation point. One end of the tube is crimped into an instantaneous detonator, which includes a rubber sleeve crimped on one end. On end-user requirement, a short-period delay detonator can be used instead, with a tag indicating the delay period.

Features:

- *Reduced noise versus detonating cord.*
- *Positive initiation control.*
- *Tubing is spooled for easy unwinding.*
- *Opaque-colour thermotube, UV (ultraviolet) protected*
- *The free end is sealed; for initiation with a non-electric blasting machine, the sealed portion has to be cut.*



1.	Nominal Delay	0 ms, or as per requirement
2.	Connector Colour	Light blue, or as per delay time
3.	Tube Length	500 m per spool, or as per end-user demand (length marked on spool)
4.	Packing	4 units per case
5.	Storage Temperature	0 °C to +50 °C (store indoors, tube end closed or sealed)
6.	Shelf Life	3 years minimum from manufacture
7.	Classification	Class 6, Div 3, UN 0361, Group 1.4B
8.	Applications	Quarrying, Construction, Trenching, Open Pit, Civil

BIAFO INDUSTRIES LIMITED | **Manufacturer of Commercial Explosives and Blasting Accessories**

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