13 MECHANICS AND CHEMICALS
ONE MEMBER LIMITED LIABILITY COMPANY

EXPLOSIVE PRODUCT CATALOGUE

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EXPLOSIVES

BOOSTERS

EXPLOSIVES

EMULSION EXPLOSIVE NT-13

USED IN EXPLOITING THE OPENCAST MINES

TECHNICAL SPECIFICATION

Density	1,10 ÷ 1,25 g/cm^3
Capacity of work creation by ballistic pendulum (compared with standard TNT Explosive)	≥101%
Compression ratio of leaden pillar	≥14 mm
Distance of explosive transmission	≥04 cm
Detonation speed	≥3800 m/s
Waterproofing capacity	≥12 hours
Activation	No.8 detonator and 10g/m detonating cord
Shelf life	06 months

Water-resistant

Safe for storage, transportation, and use

Environmentally friendly

PACKAGING

Packaging	Packed by Krap paper coated by parafin or PE film, jute bags
Store in a box	Carton box, 20 ÷ 24 kg/box
Cartridge	Diameter Ø32 ÷ Ø180 mm (other sizes can be produced upon request)

EMULSION EXPLOSIVE P113

USED IN NON-GRASSY AND NON-EXPLOSIVE DUSTY UNDERGROUND MINES

TECHNICAL SPECIFICATION

Density	1,10 ÷ 1,25 g/cm^3
Expansion force of a lead bomb	≥300 ml
Compression ratio of leaden pillar	14 ÷ 16 mm
Detonation speed	≥4200 m/s
Explosive propagation distance	≥6 cm
Amount of toxic gas generated	29 l/kg explosive
Shelf life	06 months

PACKAGING

Packaging	PE bag
Store in a box	Carton box, 20 ÷ 24 kg/box
Cartridge	Diameter Ø32 ÷ Ø180 mm (other sizes can be produced upon request)

- Water-resistant
- Safe for storage, transportation, and use
- Environmentally friendly

AMONIT AD1-13 EXPLOSIVE

USED TO EXPLOIT THE OPENCAST ORE AND ROCK, TO CLEAR THE TRAFFIC AND HYDRAULIC WORKS

It is suitable to dry bores and maintained by plastic pipe used for aqueous bores

TECHNICAL SPECIFICATION

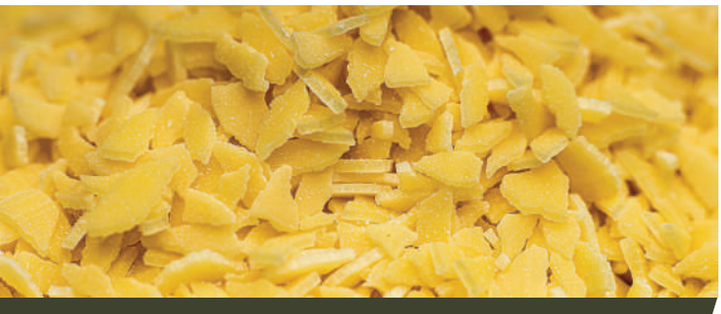
Density	0,95 ÷ 1,05 g/cm^3
Humidity	≤0,5%
Ballistic mortar test (compared to standard TNT)	120 ÷ 130%
Upsetting test according to hess	14 ÷ 16 mm
Sympathetic determination	≥04 cm
Detonation speed	3600 ÷ 4200 m/s
Activation	Sensitive to fuse No. 8
Shelf life	06 months

PACKAGING

Packaging	Paraffin-coated Kraft paper/plastic pipe
Store in a box	Carton box, 24 kg/box
Cartridge	Diameter Ø32 ÷ Ø160 mm (other sizes can be produced upon request)

TRINITROTOLUENE (TNT) EXPLOSIVE

USED AS BACKGROUND EXPLOSIVE
USED TO PRODUCE THE KINDS OF INDUSTRIAL EXPLOSIVES



Yellow/light yellow flakes

Visually free of impurities. Minimal clumping of individual flakes and occasional black specks may occur

TECHNICAL SPECIFICATION

Solidification	79,0 ÷ 80,2°C
Moisture content and volatile substances	≤0,10%
Acidity (Calculated according to acid H_2SO_4)	≤0,01%
Insoluble matters in acetone	≤0,10%
Ballistic mortar test	≥900 Nm/g
Lead block test	≥280 ml

PACKAGING

Packaging - 3 layers

INSIDE	MIDDLE	OUTSIDE
Paper bag	PE bag	PP bag

Package weight

25kg / 40kg / 50kg
(Other package weights can be produced upon request)


SAFETY
HÃY NGHĨ ĐẾN AN TOÀN TRƯỚC KHI HÀNH ĐỘNG


3T
FIRST

BULK EMULSION EXPLOSIVE IN PACKAGES AN1-13

SERVED AS THE PRIMARY EXPLOSIVE IN OPEN-PIT COAL MINING OR QUARRYING OPERATIONS

Not sensitive to detonators. For proper activation, a booster is required

Water resistance

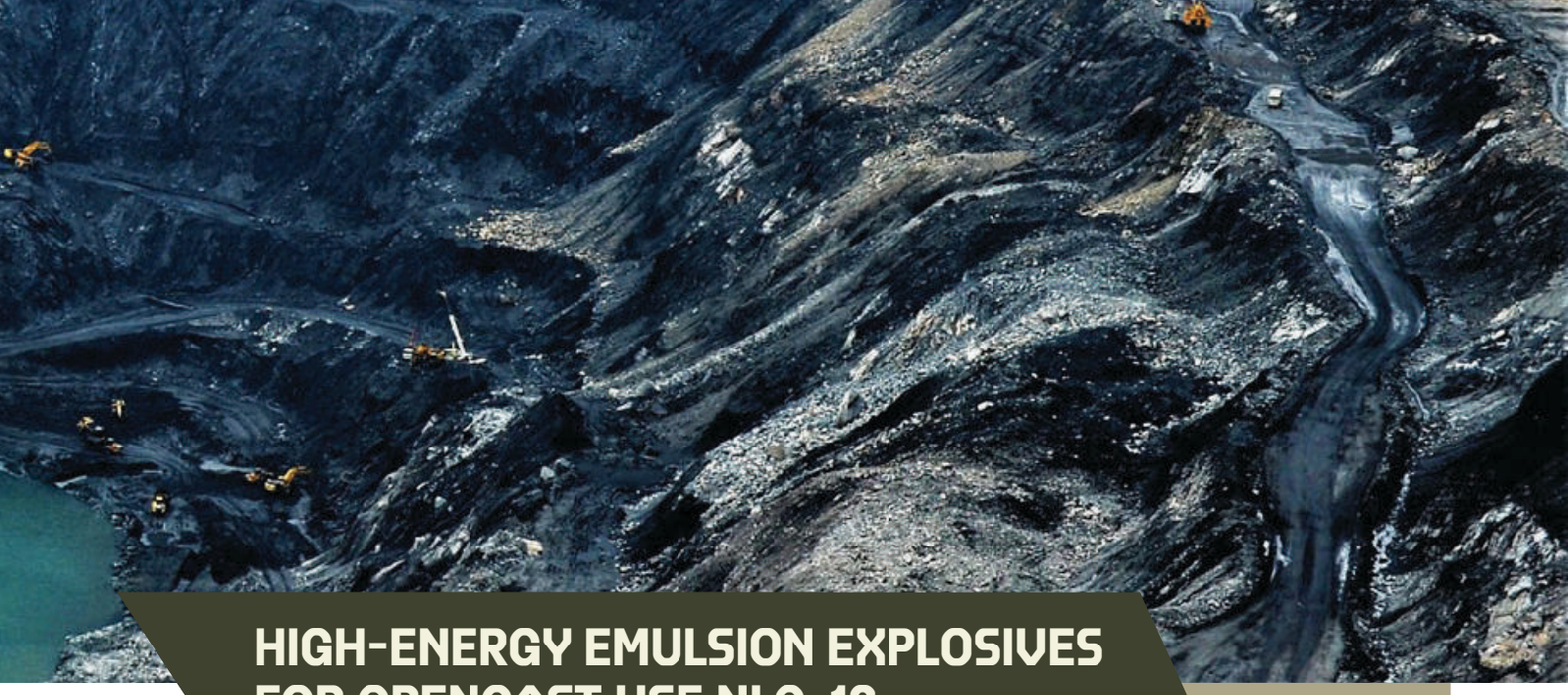
Can be directly loaded into water-filled boreholes, filling the borehole volume, and all borehole surfaces are in good contact with the explosive

TECHNICAL SPECIFICATION

Basic components	Nitrate-based compounds and mineral oil
Density	1,08 ÷ 1,29 g/cm^3
Detonation speed measured in hole	≥4000 m/s
Water resistance duration (Water depth of 1.0 meter)	≥4 hours
Activation	Detonator

PACKAGING

Packaging	PE cartridges, PP bags
Store in a box	Carton boxes/PP bags
Cartridge	Various sizes and weights to accommodate different borehole diameters, as per customer requirements.



HIGH-ENERGY EMULSION EXPLOSIVES FOR OPENCAST USE NLC-13

MAIN EXPLOSIVES IN MINING AND QUARRYING WORKS IN OPENCASTS

High detonation speed, strong power, and serves as the main explosive in coal and rock mining operations in open pits

Water resistance

Can be directly loaded into water-filled boreholes or used for underwater blasting

TECHNICAL SPECIFICATION

Density	1,10 ÷ 1,35 g/cm^3
Detonation speed	≥5500 m/s
Ballistic mortar test (compared with standard TNT)	≥115%
Upsetting test according to Hess	≥16 mm
Explosive transmission distance	≥06 cm
Activation	No.6 detonator and 10g/m detonating cord
Water resistance duration	≥12 hours
Shelf life	06 months

PACKAGING

Cartridge	Various sizes and weights to accommodate different borehole diameters, as per customer requirements.

ANFO EXPLOSIVES AF-13

SERVED AS THE MAIN CHARGE IN OPEN PIT MINING AND QUARRYING IN LIMESTONE QUARRIES, IN ROAD CONSTRUCTION AND MINING SITES

TECHNICAL SPECIFICATION

Density	0,85 ÷ 0,90 g/cm^3
Detonation speed	3000 ÷ 4500 m/s
Lead block test	300 ÷ 330 ml
Upsetting test according to Hess	≥ 15 mm
Activation	Primer
Shelf life	03 months

PACKAGING

Packaging	PP bags

Used in large-scale construction projects where there are no water or moisture problems during drilling

EXPLOSIVE MIXTURE TR

MIXTURE OF TNT EXPLOSIVES
AND RDX EXPLOSIVES,
INCLUDING 3 DIFFERENT TYPES

PACKAGING

Packaging - 3 layers

INSIDE	MIDDLE	OUTSIDE
Paper bag	PE bag	PP bag

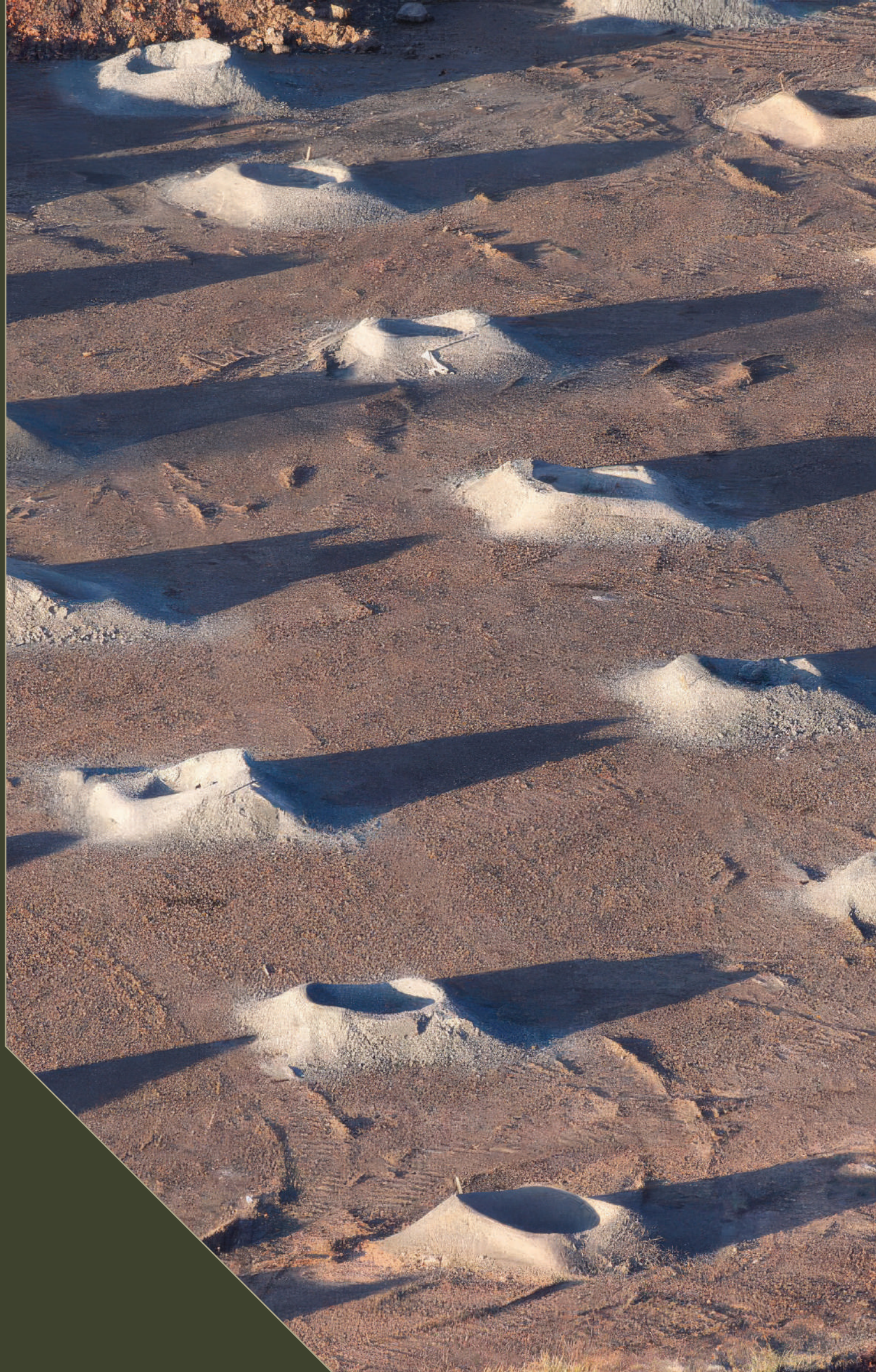
Package weight

25 ± 0,2 kg

TECHNICAL SPECIFICATION

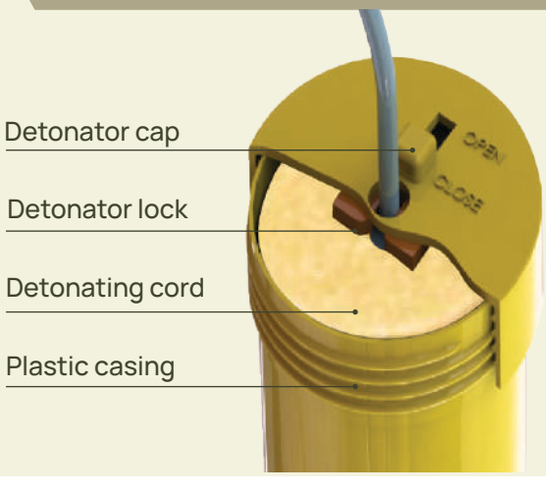
TECHNICAL SPECIFICATION	TR-40	TR-50	TR-60
Composition, %			
- RDX explosive - TNT explosive - Addititives	60±2 40±2 0÷5	50±2 50±2 0÷5	40±2 60±2 0÷5
Moisture and volatile substances	≤0,2%	≤0,2%	≤0,2%
Upsetting test according to hess	≥20 mm	≥20 mm	≥20 mm
Ballistic mortar test (compared to standard TNT),	≥125%	≥120%	≥115%
Detonation speed at density of 16. g/cm',	≥7200 m/s	≥7200 m/s	≥7200 m/s
Impact sensitivity by cast method	≤44%	≤44%	≤44%
Shelf life (years)	05	05	05

BOOSTERS



PRIMER MNTC-13

USED TO INITIATE DETONATION IN INSENSITIVE INDUSTRIAL EXPLOSIVES



ADVANTAGES

- Rigid and durable structure
- High water resistance
- Easy and quick fuzing operation
- Long shelf life
- High visibility on the jobsite
- Competitive price
- Central fuzing enhances the explosive power of each charge

TECHNICAL SPECIFICATION

Density	≥1,35 g/cm^3
Detonation speed measured in bore hole	6500 ÷ 7200 m/s
Lead block test	≥285 ml
Upsetting test according to Hess	≥15,5 mm
Activation	No.8 detonator
Water resistance (at a depth of 1 meter)	48 hours
Shelf life	05 years

INSTRUCTIONS

01

INSERT THE DETONATOR FULLY INTO THE EXPLOSIVE CHARGE

02

CLOSE THE DETONATOR CAP

PRECAUTIONS FOR USE AND TRANSPORTATION

Booster explosives must be transported in a protective container. Avoid dropping or rough handling.

At least one unit must be used for detonation in all cases. Do not break or damage the product.

When inserting the detonator into the booster and when loading the booster into the borehole, do not cut or break the detonator. Do not drop the booster.

The industrial explosive column in the borehole must be continuous and uninterrupted.

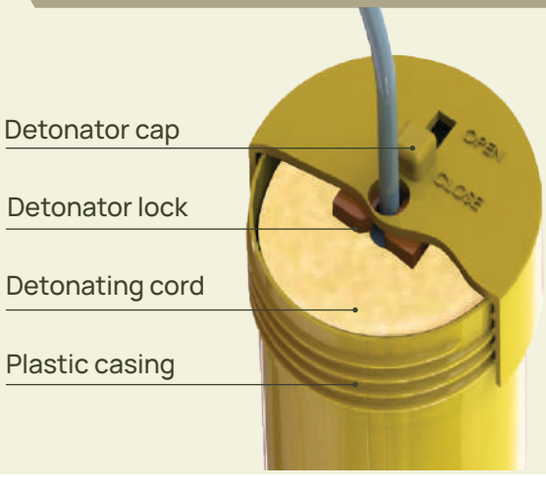
PACKAGING	Type 175 g	Type 400 g
Cylindrical Booster		
Diameter (casing excluded)	ø35 mm	ø52 mm
Diameter (casing included)	ø37 mm	ø54 mm
Length	132 mm	132 mm
Detonator hole		
Hole diameter	7,8 mm	7,8 mm
Hole length	90 mm	90 mm

SHELF LIFE

Expiration date	10 years from the date of manufacture
Storage method	The product must be packaged in boxes and must be protected from sunlight, rain, moisture, shock, and rough handling.
Operating temperature	-20°C ÷ 50°C
Storage temperature	-20°C ÷ 50°C

PRIMER MN-13

USED TO INITIATE DETONATION FOR INSENSITIVE INDUSTRIAL EXPLOSIVES AND IN MINING OPERATIONS



ADVANTAGES

- Rigid and durable structure
- High water resistance
- Easy and quick fuzing operation
- Long shelf life
- High visibility on the jobsite
- Competitive price
- Central fuzing enhances the explosive power of each charge

TECHNICAL SPECIFICATION

Density	≥ 1,6 g/cm^3
Detonation speed measured in bore hole	≥ 7200 m/s
Lead block test	≥ 20 mm
Activation	No.8 detonator
Shelf life	05 years

INSTRUCTIONS

01

INSERT THE DETONATOR FULLY INTO THE EXPLOSIVE CHARGE

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CLOSE THE DETONATOR CAP

PRECAUTIONS FOR USE AND TRANSPORTATION

Booster explosives must be transported in a protective container. Avoid dropping or rough handling.

At least one unit must be used for detonation in all cases. Do not break or damage the product.

When inserting the detonator into the booster and when loading the booster into the borehole, do not cut or break the detonator. Do not drop the booster.

The industrial explosive column in the borehole must be continuous and uninterrupted.

PACKAGING	Type 175 g	Type 400 g
Outer diameter	ø37 mm	ø54 mm
Length	122 mm	122 mm
Quantity per carton	140 units	60 units
Net weight per carton	24,5 kg	24 kg

SHELF LIFE

Expiration date	5 years from the date of manufacture
Storage method	The product must be packaged in boxes and must be protected from sunlight, rain, moisture, shock, and rough handling.
Operating temperature	-20°C ÷ 50°C
Storage temperature	-20°C ÷ 50°C

TNT BOOSTER

TNT BOOSTER IS TNT CAST CHARGE, MANUFACTURED FOLLOWING SPECIFICATIONS OF MIL-DTL-249D AND QCVN 12:12/2022/BCT BY CASTING AND PRESSING PROCESSES

TECHNICAL SPECIFICATION

Apprearance	Charge shape
Color	Light yellow to yellow
Solidification point	80,2°C
Moisture and volatile matter content	≤0,07%
Acidity (calculated by H_2SO_4 acid)	≤0,01%
Impurities insoluble in acetone (Benzene/Toluene)	≤0,1%
Density	1,35 ÷ 1,61 g/cm^3
Sodium	≤0,01%
Diameter - Type 400g - Type 175g	 90 ÷ 120 mm 70 ÷ 100 mm
Thickness - Type 400g - Type 175g	 30 ÷ 40 mm 20 ÷ 30 mm
Shelf life	Minimum 20 years

PACKAGING

	Box Dimensions	Packs/box	Boxes/bag	Net weight
Type 400g	423(L) x 321(W)x 200(H) mm	10	06	24 kg
Type 175g	425(L) x 343(W)x 202(H) mm	14	10	24,5 kg

TR-H MIXTURE BOOSTER

AVAILABLE IN 3 TYPES:
TR-H40, TR-H50, TR-H60

Used for large-scale blasting projects where water or moisture is not a concern during drilling

PACKAGING

	Type 175g	Type 400g
Diameter (without casing)	34±3	50±3
Diameter (with casing)	37±3	54±3
Length	122±4	122±4

TECHNICAL SPECIFICATION

Density	≥ 1,6 g/cm^3
Lead block test	≥ 20 mm
Detonation velocity	≥ 7200 m/s
Activation	No.8 detonator
Impact sensitivity (Kast method)	≤ 24%
Shelf life	05 years

13 MECHANICS AND CHEMICALS
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