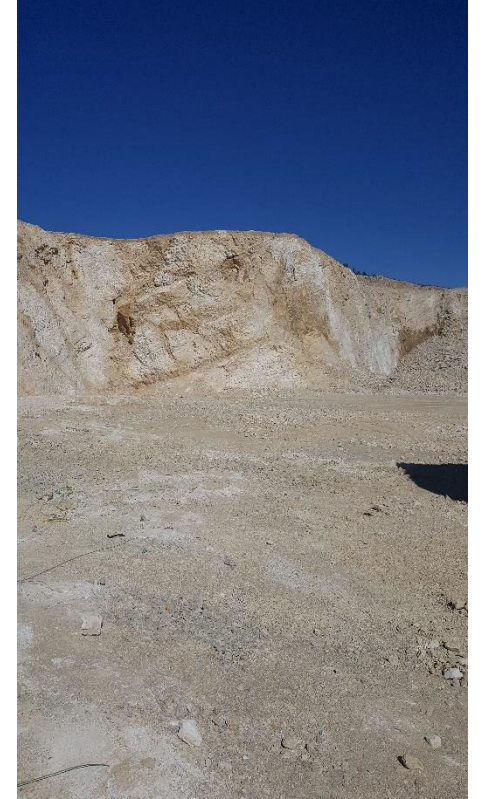




POBJEDA-RUDET d.d. Goražde



www.pobjeda.com



Economical and safety requirements of the market dictated the development of Initiating Systems, thus we are now in the possibility to offer to our customers a wide range of products and the improvement of blasting techniques will provide them the choice of the most appropriate technical and economical solutions.



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Pobjeda–Rudet d.d. is a company for production and sale of Initiating Systems for the mining, quarry and infrastructure industries.

For over 65 years, Pobjeda-Rudet d.d. has enjoyed a reputation of effective solutions, flexibility and high-quality products.

Pobjeda-Rudet d.d. has over than 200 employers, with sales in over 20 countries worldwide and production facilities located in Goražde, Bosnia and Herzegovina.

This Product Guide shows the range of our products in a way equally understandable to the trader as well to the blasting professional. It aims to get our present and future customers acquainted with advantages of different items.



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2. NON-ELECTRIC DETONATORS
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Electric Detonators

Pobjeda-Rudet d.d. produces electric detonators which are specially designed to provide the precise control necessary to produce accurate and consistent blasting results.

Pobjeda-Rudet d.d. produce a wide range of electric detonators which are recommended because of several advantages:

- Precise delay intervals
- Safety on mechanical shocks and impacts
- Safety on electrostatic discharge and stray currents
- Usage on dry and wet grounds and also on grounds with water appearance
- Short time for mining preparation
- Performing of mining safe for the staff



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Electric Detonators

TED Instantaneous Electric Detonator provides effective initiation for general purpose blasting, pipeline and utility trenching and construction operations.
CE mark: 1395-015/2010

MSED Short Delay range consists of 19 delay numbers with a time interval of 30ms between successive numbers in the range to give better Breakage and controlled vibration.
CE mark: 1395-006/2010

PSED Half-Second range consists of 13 delay numbers with a time interval of 500ms between successive numbers in the range.
CE mark: 1395-007/2010

TMED Instantaneous Methane Safe Electric Detonator are produced with copper shell for using in the mining activities which are hazardous and have risk of fire and firedamp (gas, dust, methane).
CE mark: 1395-016/2010

MMSED Millisecond Methane Safe Electric Detonators are produced with copper shell for using in mining activities which are hazardous and have risk of fire or firedamp (gas, dust, methane). The design of the detonator is fully protected from sparkling and the charge is chosen so that doesn't fire at all the mixture methane - air.
CE mark: 1395-008/2010



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Electric Detonators





Common features for electric detonators

The detonator shell is made of Aluminium or Copper. The base of the detonator shell is stamped with a number to identify the delay stage. The initiating power of these detonators is equivalent to no. 8 strength as a result of the compression of the 0.8g base charge.

The crimping of the detonator shell ensures excellent water resistant characteristics of 6 h at 0,2 MPa.

The lead wires of the detonator are copper or tinned iron and have colour insulation.

The wire coating is formed from PVC, which offers a good resistance to abrasion.

Insulated copper lead wires $\varnothing 1,30/0,6$ mm has the resistance of 0,06 Ω/m .

Insulated tinned iron lead wire $\varnothing 1,30/0,6$ mm has the resistance of 0,5 Ω/m .

Delayed action electric detonators are available in the following delay numbers:

- Short Delay series 0 to 18 inclusive
 - delay interval 30 milliseconds
- Half Second series 0 to 12 inclusive
 - delay interval 500 milliseconds.



Electric detonators

The detonators have a label on one of the wires that indicate the product name, delay number and length of the lead wires.

Detonator Type	Wire Colours	
Instantaneous Electric Detonator TED	Red	White
Instantaneous Methane Safe Electric Detonator TMED	Red	Green
Millisecond Electric Detonator MSED	Red	Yellow
Millisecond Methane Safe Electric Detonators MMSED	Green	White
Half-Second Electric Detonator PSED	Blue	White

The length of lead wires depends on the customers request.

The fuseheads in Electric detonators have the following electrical characteristics:

	Normal sensitive TYP A	Non-sensitive TYP B
Fusehead Resistance	1.4-2.0 Ω	0.4-0.6 Ω
Safety fire current	0.18 A	0.65 A
Single fire current	0.35 A	0.90 A
Serial fire current	1.00 A	3.20 A
Firing impulse	0.80/3.00 mJ/ Ω	8.0/16.00 mJ/ Ω
Resistance to static electricity	12000/300 V/pF	18000/500 V/pF



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Electric Detonators

The protective sleeve of non-inflammable and anti-static material beside the electric detonators structure itself performs the task of protecting the fusehead from undesirable electrostatic discharge. In this way, our electric detonators are completely safe against discharge of very high voltage and capacity static charges which is very important for the safety.

Transport informations

Electric detonators are classified as 1.4B.

The UN number for transportation is UN 0255.

Upon request these detonators can also be packed as 1.4S.

The UN number for transportation is UN 0456.



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Non-Electric Detonators

Pobjeda-Rudet d.d. produces non-electric detonators for surface blasting, tunnel underground blasting and construction sites where the risk of ignition of the explosive air-methane or air-coal dust mixtures does not exist.

Pobjeda-Rudet d.d. offers a wide range of Non-electric detonators which we are recommended because of several advantages:

- Wide range of delay time variability
- High Initiation Strength
- Provide a high level of safety against initiation by static electricity, stray electrical currents and radio frequency transmissions
- Variety of available lengths ensures tidy efficient blast layout
- Excellent Water Resistance
- Low packaging weight facilitates manual handling and stacking in magazines



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Non-Electric Detonators

BIHNEL MS is recommended for use in surface applications and quarrying where millisecond timing is required (steps 25 ms). Available delay range is from 0 ms to 500 ms.

BIHNEL LP for use in long delay timing required in underground production allows various periods applicable to underground development blasting mainly tunnels. Available delay range is from 0 to 9000 ms (steps 100 ms, 200 ms, 500 ms and 1000 ms). The „J-hook“ connector provides fast and easy connection to detonating cord.

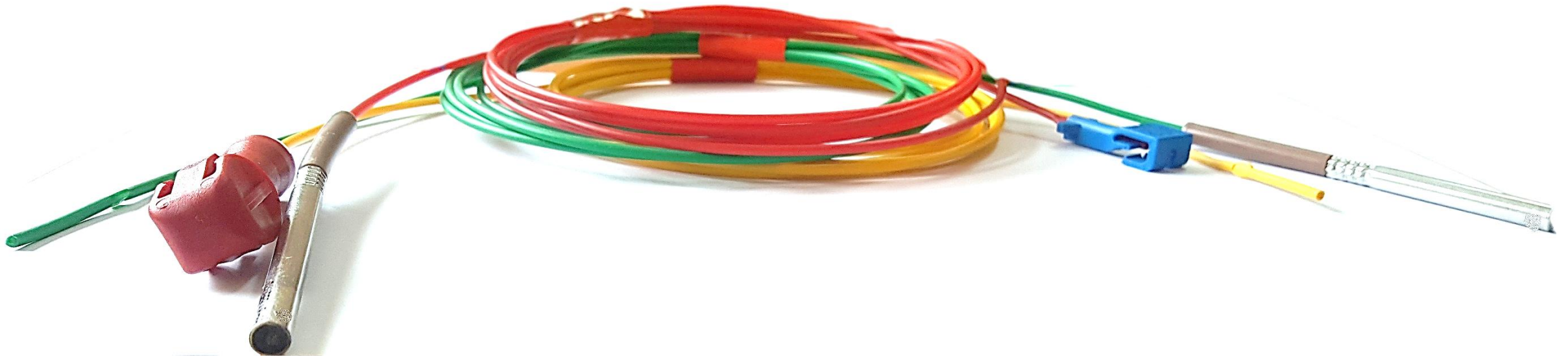
BIHNEL SL is a millisecond non-electric surface detonator with enough power to initiate shock tubes, which has the aim to connect rows of a same shot and boreholes of a same row to reach the desired sequence. Available delay range is 0 ms, 17 ms, 25 ms, 33 ms, 42 ms, 67 ms, 109 ms, 176 ms and 200 ms. This unit is designed for initiation of shock tubes only.

BIHNEL DUAL is a combination of BIHNEL SL and BIHNEL MS. Is used in the same way as the two detonators of which it is composed. The benefits of Dual Delay detonators include faster handling, easier connections and decrease of excessive shock tube during connecting, thus making it easier to overview the connections on the blast site.



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Non-Electric Detonators





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Non-Electric Detonators

PRODUCT SPECIFICATION

Product Type	Non-electric Detonators
Product Name	BIHNEL MS
Detonator Shell	Aluminium
Base Charge	PETN
Lead Colour	Green
Delay Time	0 – 500 ms (steps 25 ms)
Temperature Range (use) °C	- 30°C to +40°C
Shelf Life	2 years
Lead Tube Length	Per request
UN Number	0267
UN Class	1.4B
UN Description	Detonators, non-electric, for blasting
CE Mark	1395-010/2010

PRODUCT SPECIFICATION

Product Type	Non-electric Detonators
Product Name	BIHNEL LP
Detonator Shell	Aluminium
Base Charge	PETN
Lead Colour	Red
Delay Time	0 – 9000 ms
Temperature Range (use) °C	- 30°C to +40°C
Shelf Life	2 years
Lead Tube Length	Per request
UN Number	0267
UN Class	1.4B
UN Description	Detonators, non-electric, for blasting
CE Mark	1395-011/2010



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Non-Electric Detonators

PRODUCT SPECIFICATION

Product Type	Non-electric Detonators
Product Name	BIHNEL DUAL
Detonator Shell	Aluminium
Base Charge	PETN
Lead Colour	Green; Yellow; Red
Delay Time	17/500; 25/500; 42/500
Temperature Range (use) °C	- 30°C to +40°C
Shelf Life	2 years
Lead Tube Length	Per request
UN Number	0267
UN Class	1.4B
UN Description	Detonators, non-electric, for blasting
CE Mark	1395-014/2010

PRODUCT SPECIFICATION

Product Type	Non-electric Detonators
Product Name	BIHNEL SL
Detonator Shell	Aluminium
Base Charge	PETN
Lead Colour	Yellow
Delay Time (ms)	0; 17; 25; 33; 42; 67; 109; 176; 200
Temperature Range (use) °C	- 30°C to +40°C
Shelf Life	2 years
Lead Tube Length	Per request
UN Number	0500
UN Class	1.4S
UN Description	Detonator assemblies, non-electric, for blasting
CE Mark	1395-013/2010



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Non-Electric Detonators

Surface connectors are available
in delay times and block colours as follows:

DELAY TIME	COLOUR OF BLOCK
0 ms	Green
17 ms	Yellow
25 ms	Red
33 ms	Grey
42 ms	White
67 ms	Blue
109 ms	Black
176 ms	Orange
200 ms	Brown

Detonators must be stored in an approved warehouse located to conform to laws and regulations. The storage place should be well built, well air-conditioned, clean, dry, fire resistant and securely locked when not in use. Detonators should never be stored in the same magazine with other explosives.



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Blasting Caps

Blasting caps (symbol DK) are used to cause a complete detonation of standard high explosives, this being the only way to obtain a destructive effect of explosives and a maximum velocity of detonation. To be used only in dry surface and underground mines.

PRODUCT SPECIFICATION		
Product Type	Blasting Caps	
Product Name	DK-8	DK-6
Detonator Shell	Aluminium Copper	Aluminium
Base Charge	PETN	
Temperature Range (use) °C	- 20°C to +25°C	
Shelf Life	1 year	
Shell Diameter	7.2 mm	
Shell Length	40 mm; 42 mm	35 mm
UN Number	0029	
UN Class	1.1B	
UN Description	Detonators, non-electric, for blasting	
CE Mark	1395-009/2010	1395-006/2009



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Detonating Cord Relays

When blasting with detonating cord, often occurs the need of having a time delay between the shots in order to prevent the vibrations from explosion. Such delay is obtained by means of detonating cord relays which are introduced into the single branches of detonating cord.

PRODUCT SPECIFICATION	
Product Type	Detonating Cord Relays
Product Name	UDŠ-PR 13; UDŠ-PR 20; UDŠ-PR 40; UDŠ-PR 50
Delay Time	13 ms; 20 ms; 40 ms; 50 ms
Detonator Shell	Aluminium
Temperature Range (use) °C	- 20°C to +40°C
Shelf Life	1 year
UN Number	0029
UN Class	1.1B
UN Description	Detonators, non-electric, for blasting
CE Mark	1395-018/2010



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