# TECHNICAL DATA SHEET HiDETO<sup>®</sup> Plus



# **Description**

*HiDETO<sup>®</sup> Plus* detonators are electric detonators widely used in both open pit and underground mines.



## **Features & Benefits**

*HiDETO<sup>®</sup> Plus* detonators are equipped with insulation type ignition system to be suitably anti-static. Labels showing the lengths are attached on the leg wires.

*HiDETO<sup>®</sup> Plus Series* detonators have a base charge of grade #8 to improve the reliability of ignition of explosives. By adopting PVC leg-wire sheath and triple crimping, *HiDETO<sup>®</sup> Plus* detonators also have enhanced tensile strength.

## **Usage Instructions**

*HiDETO<sup>®</sup> Plus* detonators should be fully enclosed within a suitable booster or primer and never be placed inside blastholes or charging hoses directly.

If used inside blast holes, *HiDETO<sup>®</sup> Plus* detonators should be reversed primed ensuring the detonator base is pointing towards the blasthole collar.

Recommended Sleep time of *HiDETO<sup>®</sup> Plus* detonators is 2 weeks at temperatures below 40°C. Sleep time capability may be reduced at temperatures above 40°C.

## **Technical Data**

|                                 | HiDETO <sup>®</sup> Plus |  |
|---------------------------------|--------------------------|--|
| Base Charge                     | PETN, #8 (820 mg)        |  |
| Primary Charge DDNP             |                          |  |
| Shell                           | Aluminum, Copper         |  |
| Outer Diameter of Shell (mm)    | 7.5 (AI), 7.3(Cu)        |  |
| Outer Diameter of Leg-wire (mm) | 1.2                      |  |
| Length of Shell (mm)            | 55                       |  |
| Length of Leg-wire (m)          | 2.5                      |  |

# **Standard Delay Range**

| M       | MS                    |     | LP                    |                        |
|---------|-----------------------|-----|-----------------------|------------------------|
| No.     | Delay<br>Time<br>(ms) | No. | Delay<br>Time<br>(ms) | Color of the Leg Wires |
| #0 (ID) | 0                     | -   | -                     | Orange                 |

# **Standard Resistance**

| Length of the | Electric Resistance per One Shot |  |  |
|---------------|----------------------------------|--|--|
| Leg-wire (m)  | (per unit)                       |  |  |
| 2.5           | 0.98 ~ 1.57 Ω                    |  |  |

# Packaging

HiDETO® Plus detonators are packed in cardboard boxes.

| Grade  | UN 0030 / 1.1B (545 X 335 X 275 mm) |           |      |                    |      |                      |  |
|--------|-------------------------------------|-----------|------|--------------------|------|----------------------|--|
| Length | Each/<br>Inner                      | Each/ Wei |      | Net<br>Weight (kg) |      | Gross<br>Weight (kg) |  |
| (m)    | Вох                                 | Вох       | AI   | Cu                 | AI   | Cu                   |  |
| 2.5    | 150                                 | 750       | 16.0 | 19.0               | 19.0 | 22.0                 |  |

| Grade  | UN 0456 / 1.4S (545 X 335 X 275 mm) |                   |     |     |      |                      |  |
|--------|-------------------------------------|-------------------|-----|-----|------|----------------------|--|
| Length | Each/<br>Inner                      | Ne<br>Each/ Weigh |     |     |      | Gross<br>Veight (kg) |  |
| (m)    | Box                                 | Вох               | AI  | Cu  | AI   | Cu                   |  |
| 2.5    | 50                                  | 250               | 5.5 | 6.5 | 14.5 | 15.5                 |  |

\* Based on one box (UN certified)

# Hazard classification

| UN No. (Class / Division): | 0030 (1.1B) / 0456 (1.4S) |  |
|----------------------------|---------------------------|--|
| Proper Shipping Name       | DETONATORS,               |  |
|                            | ELECTRIC for blasting     |  |
| Ems                        | F-B, S-X (1.1B / 1.4S)    |  |

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## Safety

*HiDETO® Plus* detonators have a high safety profile against initiation by static electricity, stray electrical currents and radio wave transmissions. However, as high-electrical shocks such as direct lightning may cause initiation, it is recommended that all work be stopped during lightning weather and workers be kept away from the blasting site. *HiDETO® Plus MS/LP Series* detonators may be used in temperatures up to 70°C.

## **Instructions for Handling & Usage**

Never mix *HiDETO<sup>®</sup> Plus* detonators with other producer's electric detonators as mixing may cause partial blasting or misfires due to the resistance difference between the products.

After connecting the leg-wires, check whether the electric circuit of connections is properly closed. If the circuit is open, detonators may misfire.

The table below details the proper currents range of electric detonator in the blasting circuit.

| Pattern                   |          | All fire current<br>(DC standard) |                |  |  |
|---------------------------|----------|-----------------------------------|----------------|--|--|
|                           |          | Standard Current                  | Recommended    |  |  |
|                           | 1 each   | 1.0 Amp                           | 1.0 Amp        |  |  |
| Simultaneous              | 50 each  | 3.0 Amp                           | 2~4 Amp        |  |  |
| Detonating                | 100 each | 4.5 Amp                           | 4~5 Amp        |  |  |
|                           | 200 each | 6.5 Amp                           | 5~8 Amp        |  |  |
| Series-parallel           |          | 3.0 Amp/Series                    | 2~4 Amp/Series |  |  |
| (based on series 50 each) |          | 3.0 Amp/Series                    | Z~4 Amp/Series |  |  |

## Storage

All ignition sources, such as matches and lighters, are strictly prohibited within minimum of 8 meters radius of the detonators.

*HiDETO<sup>®</sup> Plus* detonators should be stored in a properly conditioned magazine of cool and dry atmosphere.

*HiDETO<sup>®</sup> Plus* detonators must be used within 12 months after opening the packaging. Detonators that are older than four years should not be used.

Store in a secure magazine, access to products and storage should be restricted to authorized personnel.

Use oldest stored product first.

#### **Disclaimer**

The information in this Technical Data Sheet is believed to be correct as of the date issued but subject to periodic review.

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