

Technical Specification

POLADYN 31 ECO

NITROESTER ROCK EXPLOSIVE, WATER RESISTANT, ECOLOGICAL

GENERAL INFORMATION

1. Application in specific conditions:

- POLADYN 31 ECO is destined for use in underground mines and open pit mines as a rock explosive.
- POLADYN 31 ECO can not be used in conditions where the danger of coal dust and/or methane explosion exists.

2. Information about the allowable period of storage:

- The shelf life of POLADYN 31 ECO is:
 1. 12 (twelve) months from the date of manufacture (cartridge in paper, plastic foil)
 2. 18 (eighteen) months from the date of manufacture (cartridge in plastic tube)

3. Storage conditions:

- POLADYN 31 ECO should be stored in original package in temperature from 5°C up to 30 °C in well-ventilated places.

4. Disposal:

- Destruction of explosives wastes and explosives out of it's expiry date as well as packaging wastes can be performed only by authorized company. Explosives wastes should be destroyed by detonation in specially designed areas (e.g. military ranges) by using a charge which is at least 5% mass of destroyed explosive. Explosives wastes containing up to 5% of explosives should be destroyed by burning in specially designed areas (e.g. military ranges)

ADDITIONAL INFORMATION

1. Information about physical form and dimensions:

- Material structure: plastic
- Material colour: red
- Shielding colour: red or white
- POLADYN 31 ECO can be used in cartridges:
 - paper (diameter between 25÷38 mm)
 - plastic foil (diameter between 36÷120 mm)
 - plastic tube (diameter between 25÷39 mm)

2. Information about initiating sensitivity:

- POLADYN 31ECO detonates by detonator of minimal PETN charge 0,6 g or other blasting agent with comparable initiation ability.
- POLADYN 31 ECO detonates by detonating cord of minimal 6 g/m PETN.

3. Information about loading conditions:

- POLADYN 31ECO can be loaded to dry and wet blasting holes.

4. Information about application in humid conditions:

- POLADYN 31ECO can be used in humid conditions.
- POLADYN 31ECO can be used under water at the depths 0,2 m within 5 h.
- POLADYN 31ECO can be used in maximal hydrostatic pressure 0,3 MPa.

5. Information about application in high and low temperature:

- POLADYN 31ECO can be used in minimal temperature -20 °C.
- POLADYN 31ECO can be used in maximal temperature + 50 °C.

6. Information about technical parameters:

Density	1,40 ± 0,14 g/cm ³
Velocity of detonation (plastic tube Ø 32)	5000 m/s
Velocity of detonation (steel tube Ø 34)	6000 m/s
Velocity of detonation, min.	> 2000 m/s (Ø 25 ÷ 32 mm) > 4500 m/s (> Ø 32 mm)
Lead block test, average	380 cm ³
RWS, min.	80 % Hx
Sensitivity to impact, min.	2 J
Sensitivity to friction, min.	80 N
Transmission of detonation, min.	2 cm
Thermal stability in temperature 75 °C	48 h
Abel test, min	30 minutes
Oxygen balance	4,8 %
Specific volume of gaseous products of explosion	883 dm ³ /kg
Heat of explosion	3973 kJ/kg
Concentration of energy	5364 kJ/ dm ³
Specific energy	1001 kJ/kg

7. Certificates:

- CE Certificate – No. **0589.EXP.0601/99** issued by Bundesanstalt für Materialforschung und -Prüfung (BAM) in Berlin, with attachments.
- Classification Certificate – No. **017/IPO-BW/2009** issued by Institute of Industrial Organic Chemistry in Warsaw

8. Packaging:

- **POLADYN 31 ECO** (paper cartridges) is packed into foil bag and then into cardboard boxes. **POLADYN 31 ECO** (plastic foil and plastic tube) is packed into cardboard boxes. Cardboard boxes filled up with **POLADYN 31 ECO** are closed by using adhesive or polypropylene tape and arranged on wooden pallets. According to customer requirements it can be additionally tied up by poly propylene tape. Pallets are wrapped with stretch film.

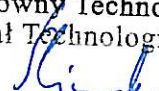
9. Transport guidelines:

- **POLADYN 31 ECO** is allowed to be transported only by authorized trucks. Cardboard boxes and pallets should be arranged side by side and secured from movement during transport. Transport of **POLADYN 31 ECO** by road, rail and sea must be performed in accordance with ADR, RID and IMDG regulations.

POLADYN 31 ECO is nitroester rock explosive with:
Proper shipping name: **BLASTING EXPLOSIVE, TYPE A**
UN Number: **0081**
Class: **1**
Classification code: **1.1D**

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