



Łukasiewicz
Institute
of Aviation



The production process of the NPI electric detonator is safer and no lead particles, which are harmful to living organisms, are generated during its operation

NPI
NON PRIMARY
EXPLOSIVE
INITIATOR

CHARACTERISTICS

Engineers from Lukaszewicz – Institute of Aviation have developed an innovative technology of an electric detonator "NPI" (Non Primary Explosive Initiator). The NPI is a state-of-the-art electrical initiator of the detonation process, which does not contain a charge of primary explosives. The unique action mechanism allowed to eliminate compounds such as lead azide and lead styphnate from its fire chain.



KEY FEATURES

- Eliminating primary explosives from the production process.
- Increased safety of production and transportation of detonator components.
- Ability to manufacture in non-specialized production facilities.
- Possible to used where ERG-type electric detonators are currently used.



TECHNICAL DATA

| Parameter | Value |
|---------------------------|---|
| Type | instantaneous |
| Shell | aluminum with or without cumulative cavity* |
| Wires | steel or copper* |
| Secondary charge | PETN* |
| Electric match resistance | 1,0 ÷ 1,4 [Ω] |
| No-Fire current | 0,18 A/5 min. [A] |
| Firing current | 1 [A] |
| Max. non-firing pulse | 0,8 [mJ/] |
| Min. firing pulse | 18,2 [mJ/] |
| Wires length | 1* [m] |
| Storage temperature | from -10 °C to 45°C |
| Operating temperature | from -30°C to 50°C |

* customizable



Collaboration on the project with the Military Institute of Armament Technology



The Lukaszewicz Research Network – Institute of Aviation

offers a wide range of specialized research, engineering services and products. We provide comprehensive solutions, ranging from dedicated analyzes, simulations, engineering design, through the selection, testing and certification of materials and structures, to rapid prototyping and additive manufacturing.

at. Krakowska 110/114, 02-256 Warsaw, Poland

e-mail: info@ilot.lukasiewicz.gov.pl / www.ilot.lukasiewicz.gov.pl