



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  
INITIATOR  
EXPLOSIVE

# 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.

al. Krakowska 110/114, 02-256 Warsaw, Poland  
 e-mail: [info@ilot.lukasiewicz.gov.pl](mailto:info@ilot.lukasiewicz.gov.pl) / [www.ilot.lukasiewicz.gov.pl](http://www.ilot.lukasiewicz.gov.pl)