

# MESKO



## DEMILITARIZATION



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# THE RECYCLE OF USELESS AMMUNITIONS IN “MESKO” METAL WORKS

The demilitarization of waste, outdated combat resources and ammunition in Mesko SA. The Ministry of Defense was obliged by the resolution issued by the the Cabinet to demilitarized outdated combat resources and ammunition between 2003-2014. During the period of 80 years on the market Mesko SA with its headquarters in Skar ysko-Kamienna has held an important position in country's defense system. The high quality of production, professional technical staff, logistic background and the cooperation with foreign companies may guarantee the best execution of such a specific task as the demilitarization of waste, outdated combat resources and ammunition is. Within the framework of the offset agreement concluded between the Ministry of Economy and the Lockheed Martin corporation, concern NAMMO handed Mesko the newest technology of safe and ecological demilitarization of ammunitions thanks to which the newest demilitarization line of ammunitions came into being.



The demilitarization plant for useless fighting materials

## DEMILITARIZATION LINE

Purpose:

The line is used for thermal utilization of :

- ammunition ranging from 5,56 to 35 mm.
- fuses, igniters, detonators and grenades.
- pyrotechnics such as TNT, hexogen, detonators, activators as well as nitroglycerine and nitrocellulose powders.

**without their dismantling.**

Description:

The line is composed of following devices:

- the detonating kiln
- the burning furnace
- system of purification and control of gas emission along with the steering and monitoring devices.
- system of purification of gases from mercury and heavy metals along with the installation to permanent monitoring and registration of their contents.

The technological process is automatized; the purification of exhaust gases is made with the usage of so-called “dry method” which does not contribute to production of any sewage.



Elements destined for burning  
in a detonation furnace



The residue of burning  
in a detonation furnace



A furnace used for a detonational demilitarization



Burning furnace



Tape feeding device



A monitoring and measuring station



The system of utilization meets all requirements of a regulation issued by the Minister of the Environment in 20.12.2005 Dz. U. Nr 260, poz. 2181 and the directive 2000/76/WE and it guarantees the following emission limits:

- organic carbon 10mg/m<sup>3</sup> (daily average limit)
- CO 50mg/m<sup>3</sup> (daily average limit)
- dust 10mg/m<sup>3</sup> (daily average limit)
- HCl 10mg/m<sup>3</sup> (daily average limit)
- HF 1mg/m<sup>3</sup> (daily average limit)
- SO<sub>2</sub> 50mg/m<sup>3</sup> (daily average limit)
- NO<sub>x</sub> (counted as NO<sub>2</sub>) 200 mg/m<sup>3</sup> (11%O<sub>2</sub>) (daily average limit)
- PCDD, PCDF 0,1 mg/m<sup>3</sup> (average limit during 6-8 h)
- heavy metals (Cd, Ti, Sb, As, Pb, Cr Co, Cu, Mn, Ni, V, Sn) 0.05 mg/m<sup>3</sup> (average limit during 0,5 – 8 h)

## THE SYSTEM OF MELTING EXPLOSIVES USING “DRY” METHOD



The ammunition prepared for melting TNT

### Purpose:

The installation is designed to melt TNT from the ammunition ranging from 57 to 152 mm.

### Description:

The process is carried out in fully automatized, safe and ecological way. The main advantage of “dry method” is the lack of contact with water which enables direct usage of TNT to reprocessing and sale.



A device used for melting explosives

## UNDERWATER SAW TO CUTTING VARIOUS TYPES OF AMMUNITION

### Purpose:

The saw is used for cutting various types of ammunition such as: the ammunition ranging from 57 to 203 mm, mines propellant explosives and others.

### Description:

The process of cutting is held in specially designed and safe room. The process is automatized.



A device used for under-water cutting



The cutting proces

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