

MORTAR BOMBS



Ammunition for 60 mm mortars

Purpose

The 60 mm mortar bombs of NATO standard are intended for fire from the 60 mm Ultralight Commando Mortar ANTOS and from 60 mm mortar ANTOS-LR. The following mortar bombs are manufactured for 60 mm mortars:

- 60 mm HEF,
- 60 mm HEI,
- 60 mm SMK,
- 60 mm ILL,
- 60 mm ILL IR,
- 60 mm JUMP (TRAIN):.

Mortar bombs are delivered to the customer with filled both primary and additional charges and it is stored in water-proof plastic case. Mortar bombs are packed in a wooden case, each case contains 10 pieces of mortar bombs.



60mm HEF and HEI

Bomb body is filled with TNT explosive for the HEF bomb (standard high-explosive) or with HTX blasting explosive with thermo-baric effects for the HEI. All these bombs are equipped with the nose fuse PDSQ according to NATO standards.

Characteristics	60-HEF	60-HEI
Mass of mortar bomb (g)	1420±20	
Explosive	TNT	HTX
Mass of explosive (g)	214±2	268±2
Detonation velocity (m.s-1)	6850	7020
Detonation pressure (GPa)	19.2	21.1
Effective fragments over 0,5 g	> 350	> 350
Lethal radius (2 effective fragments per m2)	8.5	11.8
Overpressure at 3 m distance (kPa)	50	71
TNT equivalence in pressure (%)	100	141 – 174
TNT equivalence in pulse (%)	100	157 - 170
Distance to reach equivalent pulse	1.00	1.27 – 1.66
UN Number	0321	
Classification Code	1.2 E	
Weight of packing box with 10 pieces of bomb (kg)	20±1	

Vojenský technický ústav, s.p.
branch VTÚVM
Dlouhá 300
763 21 Slavičín, Czech Republic

CRN 24272523
VAT No. CZ24272523

Tel.: 577 304 623
Fax: 577 341 252
E-mail: infovtvm@vtusp.cz





60mm ILL and ILL-IR

60 mm ILL flare emitted light in visible part of spectrum. Light emission of the ILL-IR bomb flare is suppressed in visible part of spectrum and its maximum light emission is in the area of 800 to 900nm.

Mortar bomb mass	1,15 kg ± 0,02 kg
Flare mass	0,15 kg ± 0,02 kg
Mortar bomb length	267 mm ± 3 mm
Flare luminous intensity (ILL)	min. 100.000 Cd
Flare luminous intensity (ILL-IR)	min. 52 W. sr ⁻¹
Period of flare ejection from bomb ignition	7,5 s ± 1,2 s
Illumination time	min. 20 s
Height of flare ejection	min. 200 m
UN Number	0254
Classification Code	1.3G
Mass of container incl. 10 mortar bombs	20 kg ± 1 kg



60mm SMK

60 mm mortar bomb SMK (SMOKE) is determined for marking of location on terrain (enemy position, object of interest) in distance under mortar range via smoke cloud created by mortar bomb explosion. Construction is based on 60 mm HEF/HEI mortar bombs but instead explosive composition contents smoke made one based on red phosphorus.

Mortar bomb mass	1,42 kg ± 0,02 kg
Smoke made composition mass	200 g ± 15 g
Mortar bomb length	293 mm ± 3 mm
Time of smoke cloud duration (windless conditions)	min. 15 s
UN Number	0015
Classification Code	1.2G
Mass of container incl. 10 mortar bombs	20 kg ± 1 kg



60mm TRAIN (JUMP)

60 mm training mortar bomb JUMP (TRAIN) is determined for initial training of mortar gunners especially for weapon and ammunition preparation before firing, loading, aiming and shooting practise. Mortar bomb JUMP is inert and has rubber fuse mock-up.

60 mm mortar bomb JUMP is reusable. Bomb is ejected from mortar barrel by means of 9 mm TEMPO 6 ANTOS cartridge inserted into ammunition chamber of stabilizer carrier after bomb fin stabilizer unscrewing. After shooting the bomb shall be cleaned, fin stabilizer shall be unscrewed and spent cartridge shall be removed by tongs or screwdriver. The shooting can be repeated after new cartridge inserting.

Mortar bomb average mass	1290 g ± 30 g
Mortar bomb length	285 mm ± 3 mm
Range of fire from mortar ANTOS (65° elevation)	12 m
Range of fire from mortar ANTOS-LR (65° elevation)	5 m
Rejected cartridge (is not part of 60 mm JUMP)	9 mm TEMPO 6 ANTOS
Mass of container incl. 10 mortar bombs	20 kg ± 1 kg