

Tank & Anti-Tank Ammunition

Tank Ammunition

105 mm HE/TK P1A1



This is a general purpose high explosive round. It can be fired from 105mm L7 series rifled tank gun fitted on many current MBTs such as Leopard, Vickers,

MK 1&3, M60 (Manufactured under license in USA as M68), early M1, updated M 48, Merkava and re-gunned T-54 series and T-69.

Performance

Muzzle velocity	683 ±15 m/s
Average chamber pressure	1800 kg/cm ²
Max Range	10400 m
Dispersion:	
PE/Range	1/190 m (max)
PE Lateral	15 m (max)
Accuracy at 1000 m:	
SD (Vertical)	0.36 meters
SD (Horizontal)	0.36 meters

Technical Data

Length of Complete Round	1020 mm (Approx)
Weight of Complete Round	24.21 Kg
Shell Body	Forged Steel 12 Kg (Approx)
Fuze	PDM 557 percussion type
Length of Projectile	490 mm
Weight of Projectile	14.94 Kg (with fuze)
Weight of Filling	TNT 2.04 Kg
Cartridge Case	Drawn Brass 70 / 30
Propelling Charge	M1-MP
Weight of Propellant	3 ± 0.10 Kg
Primer	Electric type L20-A1

Packing

Each round is placed in a chip board container and further packed in a steel box.

Size of box	118 x 21 x 19 cm
Gross weight	46.9 kg (Approx)
Colour & marking	Service brown with yellow / white stenciling

Tank & Anti Tank Ammunition

105 mm APFSDS P1A1



APFSDS (Armour Piercing Fin-Stabilized Discarding-Sabot) is a Kinetic Energy Fin Stabilized Round and can be fired from 105mm L7 series rifled tank gun fitted on many current MBTs such as Leopard, Vickers, MK 1&3, M60 (Manufactured under license in USA as M68), early M1, updated M 48, Merkava and re-gunned T-54 and T-69 series.

Performance

Muzzle velocity	1490 m/s
Average chamber pressure	4340 kg/cm ²
Effective Range	3500 meter
Accuracy at 1000 m:	
SD (Vertical)	0.3 m
SD (Horizontal)	0.3 m
Penetration	300 mm, against RHA target at zero obliquity, confirming to DEF-STAN 95-13/2

Technical Data

Length of Complete Round	946 mm
Weight of Complete Round	18.91 Kg
Projectile	Tungsten Alloy core with discarding sabot and fin stabilization
Length of Projectile	486 mm
Weight of Projectile	6.12 Kg
Cartridge Case	Drawn Brass 70/30
Propelling Charge	Triple base multi tubular NQ/M .046
Weight of Propellant	5.62 Kg (Nominal)
Primer	Electric Type L20 A1
Penetrator (Tungsten Alloy)	Density 17.4 ± 0.15 gm/cm ³

Packing

Each round placed in a chip board container and further packed in a steel box:

Size of box	105 x 20 x 19 cm
Gross weight	37.75 Kg (Approx)
Colour & marking	Service brown with yellow / white stenciling

125 mm HE FS TK



This is a general fin stabilized round with High Explosive and can be fired from 125 mm smooth bore tank guns, T-80 UD (Ukraine), Al Khalid (Pakistan), PT-01 (Poland), T-85 (China) or equivalent.

Performance (at full charge)

Muzzle velocity	850 m/s
Chamber pressure	3500 kg/cm ² (Approx)
Max Range	10000 m
Accuracy at 1000 meters:	
SD (Vertical)	0.3 m
SD (Horizontal)	0.3 m

Technical Data

Length of Complete Round	1106 mm
Weight of Complete Round	34 Kg (approx)
Shell Body	Forged Steel
Fuze	DRH-05, PD type
Length of Projectile	700 mm
Weight of Projectile	23 Kg
Weight of Filling	TNT 3.051 Kg
Case	Semi combustible cartridge case with Steel base and cover
Propelling Charge	Consist of single base propellant in tubular bundle and granular form, 14/19, (16/1.35 Tubular)
Primer	Electric Percussion No. DJD-2

Packing

Charge structure is packed in fiber glass sealed humidity proof container and projectile is packed in steel box. Fuze is packed separately and is placed at one end of the same steel box.

Size of box	67 x 44 x 25.5 cm
Gross weight of box	59 Kg
Colour & marking	Service brown with yellow / white stenciling

Tank & Anti Tank Ammunition

125 mm APFSDS/T



APFSDS (Armour Piercing Fin-Stabilized Discarding-Sabot) is a Kinetic Energy Fin Stabilized Round and can be fired from 125mm smooth bore tank guns, T- 80 UD (Ukraine), Al Khalid (Pakistan), PT-91 (Poland) and T-84 (China) or equivalent.

Performance

Muzzle velocity	1730 ± 5 m/s
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Chamber pressure at 21°C	4850 ± 50 kg/cm ²
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Effective Range	2000 m
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Accuracy at 1000 m:

SD (Vertical)	0.3 m
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SD (Horizontal)	0.3 m
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Penetration	460 mm, against RHA target at zero obliquity, confirming DEF-STAN 95-13/2
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Technical Data

Length of Complete Round	1086 mm
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Weight of Complete Round	21.47 Kg
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Projectile	Tungsten Alloy core with discarding sabot and fin stabilization
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Length of Projectile	555 mm
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Weight of Projectile	7.37 Kg
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Penetrator (Tungsten alloy)	Dual density: Tail ≥ 17 gm/cm ³ , Head ≥ 17.5 gm/cm ³
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Main Cartridge Case:

Case	Semi combustible cartridge case with steel base and cover
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Propelling Charge	16/19 Single base granular
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Weight of Propellant	6 Kg
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Primer	Electric/Percussion Primer No. 2
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Secondary Cartridge Case:

Case	Semi combustible with projectile
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Propellant Charge	Granular 16/19 2.50 Kg and Tubular 19/1-25 0.8 Kg
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Packing

Main Charge Structure and Secondary Charge Structure are packed separately in fiber glass sealed humidity proof container then are packed in a steel box.

Size of box	82 x 50 x 26 cm
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Gross weight	53 Kg (Approx)
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Colour & marking	Service brown with yellow /white stenciling
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Tungsten Alloy Penetrators & Rod



POF has established capacity for producing Single/Double Density Tungsten Alloy Cores (Penetrators) of all types. At present following type of penetrators are being produced:

Caliber	Density (gm/cm ³)	Specification	Penetration
100mm APFSDS	17.4 (Approx)	W91.5NE	300 mm Min
105mm APFSDS	17.4 (Approx)	W91.5NE	300 mm Min
125mm APFSDS	17-18 (Approx)	WMB-101 JTS	460 mm Min

Tungsten Alloy Rods	Ø = upto 35 mm	Density Range
(W+Ni+Fe or W+Ni+Cu)	L = upto 800 mm	17-18 gm/m ³ (Approx)

Strict Quality Control following International Quality Management System yields Penetrators of highest quality.

Each Penetrator is checked for internal flaws and surface cracks applying latest Internationally accepted Ultrasonic Flaw Detection and Dye Penetration Inspection methods.

Important dimensions are checked with electronic probes and compared with Master Standard reference by means of a projector.