

Artillery Ammunition

105 MM HOW

ARTILLERY AMMUNITION

This ammunition is meant to be fired on the following gun:

M1, M2A1, M2A2, M101/101A1, M102 & M106 (USA), L10/A1, L-119 & M-119A1 (U.K.), L-5 (Italy), KH178 (South Korea), Type 75 (Japan), LG-1 & M101A1 modernised (France) and many others worldwide.

and is produced in the following three versions:

- (i) HE - Fired with normal bursting charge
- (ii) Smoke WP - Produces white smoke with incendiary effects
- (iii) Blank - Fired for ceremonial purposes and acclimatisation

DATA COMPLETE ROUND

	Weight	Length
HE	19.07 kg.	788 mm.
Smoke WP	19.77 kg.	788 mm.
Blank	3.75 kg.	372 mm.

PROJECTILE

Body material	Forged steel
Filling:	
HE	TNT, 2.23 kg.
Smoke	White Phosphorus, 1.8 kg. Tetryl Pellets, 105 gm.
Fuze (HE & Smoke)	PDM557

CARTRIDGE CASE

Body material	Drawn brass 70/30
Propellant:	
HE & Smoke	Single base, flashless & smokeless M1
Blank	WM017 Triple base propellant 660 gm.
Primer (HE, Smoke & Blank)	P-1, MK3, percussion type

PERFORMANCE

Charge	Qty. (gm.)	Velocity (m/sec.)	Max. range (metres)
Base No. 1	238.12	198	3400
+Increment No. 2	41.11	216	3900
+Increment No. 3	70.87	228	4600
+Increment No. 4	96.39	265	5700
+Increment No. 5	153.10	311	7300
+Increment No. 6	243.80	376	9000
+Increment No. 7	396.90	472	11286

Accuracy:

PE Horizontal	34.5 metres
PE Vertical	9.0 metres

PACKING

Shells and cartridges packed in rolled paper/film board container, two containers in a wooden box/steel box:

Size of box	95 x 32.3 x 19 cm 85.5 x 30.5 x 15 cm (Steel Box)
Weight of box	55 kg. (HE & Smoke) 30 kg. (Blank)
Colour & marking	Service brown with yellow/white stenciling



ARTILLERY AMMUNITION

122 MM HOW HE

This is a semi-fixed ammunition for 122mm. Howitzer, type Model 1954.



TECHNICAL DATA

Weight of complete round	27 Kg
Weight of projectile	21.76 Kg
Shell body	Forged steel 15.575 Kg
Main charge	3.6 Kg TNT
Fuze	LIU-4 Percussion Type
Cartridge case	Drawn Brass 70/30
Propelling charge	This consists of nine charge system of single base propellant
Weight of propellant charge	2.10 Kg
Primer	P-304 Percussion type or D-9

PERFORMANCE

Muzzle velocity at Full charge	515 Metres / Sec
Chamber pressure	2350 Kg/ cm ²
Maximum range	11800 Metres
Accuracy:	
Longitudinal	1 / 150 of mean range
Lateral	15 Metres

PACKING

Each round is packed in a steel box, fuze is packed separately and placed at one end of the box

Size of box	875 x 180 x 165 mm
Gross weight	38.70 Kg

ARTILLERY AMMUNITION

130 MM HE

This is a long range separate loading variable charge ammunition to be fired through Soviet M46 and Chinese type 59 and 59-1 guns.

DATA

Weight of filled projectile	33.4 kg. (as fired)
Projectile	Forged steel shell filled with 4 kg. TNT
Fuze	LIU-5
Cartridge case	Drawn brass 70/30
Propelling charge	This ammunition is fired using either a full or a reduced charge. The full variable charge has two charge zones, while the reduced variable charge has three zones
Charge weight:	
i) Reduced charge	6.7 kg.
ii) Full charge	12.90 kg.
Primer	DI-5

PERFORMANCE

Muzzle velocity	930 metres/sec.
Pressure	3150 kg/sq.cm.
Max. range	27490 metres.
Chamber pressure for performance proof tests:	
Strength	3560 ± 50 kg/sq. cm.
Charge stability	3560 ± 50 kg/sq. cm.
Detonation	3150 kg/sq. cm.

PACKING

Each round packed in a steel box:	
Size of box	93.5 x 37.5 x 22.5 cm.
Weight of box	78.42 kg.
Colour & marking	Service brown with yellow/white stenciling



ARTILLERY AMMUNITION

155 MM HOW HE M 107



DATA

Weight of projectile	43.2 kg. (as fired)
Weight of filling	6.62 kg. TNT
Fuze	PDM 557 or MTSQ 582A1
Propelling charge	Single base propellant M1
Green bag	M3A1
White bag	M4A2
Charge 8	M119A2
Primer	Percussion type MK 2A4 or M-82

PERFORMANCE (CHG-8, GUN M-198)

Muzzle velocity	684 metres/sec.
Pressure	2214 kg/sq. cm.
Range	18000 metres
Chamber pressures for performance proof tests:	
Strength	2870 ± 50 kg/Sq. cm.
Charge stability	2870 ± 50 kg/Sq. cm.
Detonation	2560 kg/Sq. cm.

PACKING

8 shells packed in a pallet.
Propellant charge supplied in plastic or steel container.

Colour & marking	Service brown with yellow/white stenciling
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ARTILLERY AMMUNITION

203 MM HOW HE M 106

DATA

Weight of shell	91 kg.
Weight of filling	16.5 kg. of TNT
Fuze	PDM 557 or MTSQ
Propelling charge	Single base, single perforated
Green bag	M1 (1-5)
White bag	M2 (5-7)
Primer	Percussion type M-82

PERFORMANCE

Muzzle velocity	594.4 metres/sec.
Pressure	2658 kg/sq. cm.
Range	16,800 metres
Chamber pressures for performance proof tests:	
Strength	3040 ± 80 kg/Sq. cm.
Charge stability	3040 ± 80 kg/Sq. cm.
Detonation	2658 kg/Sq. cm.

PACKING

6 shells packed in a pallet.
Propellant charges supplied in steel container.

Colour & marking	Service brown with yellow/white stenciling
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Artillery Ammunition

QF 25 PDR MK 2/1

This ammunition is meant to be fired through 25 PDR field guns MK-4 and is produced in the following three types:

(i) HE (ii) Smoke (iii) Blank



DATA

Cartridge case:

This is made of drawn brass 70/30 and is filled as below:

(i) HE and Smoke:

Primer	No.11 MK 4/3
Normal charge	Triple base flashless propellant NQ 018 & NQ 050, weight 852 gm.
Super charge	Triple base flashless propellant NQ/S 134-040, weight 1253 gm.

(ii) Blank:

Primer	No.1 MK2
Charge	Gun powder G 12, weight 454 gm.

Shell filling:

HE	TNT
Smoke	HC (Four different colours of smoke are also available).

Fuze:

HE	PDM 557 M
Smoke	221-B

Weight/Length (approx.)	HE	Smoke	Blank
Complete round weight (kg.)	14	9	3.5
Cartridge case length (mm.)	293	293	293
Projectile weight (kg.)	11.4	5.8	-
Projectile length (mm.)	435	445	-

PERFORMANCE

Charge	Muzzle velocity (metre / second)	Range (metre)
Base charge 1	-	3300
Charge 2	307	6000
Charge 3	457	10000
Super charge	541	12000

PACKING

Inner

Cartridges & shells sealed individually in polythene bags & plastic containers

Outer

- 8 cartridge cases packed in a wooden box.

Size of box	60 x 32 x 38 cm.
Weight of box	30 kg.
- 4 shells packed in a wooden box.

Size of box	48 x 21 x 20 cm.
Weight of box	52 kg. for HE and 44 kg. for smoke
Colour & marking	Service brown with yellow/white stenciling