

76mm Gun M1, M1A1, M1A1C, and M1A2

Carriage and mount:	Medium tank M4 series in Mount M62
Length of Chamber (to Rifling):	22.46 inches
Length of Rifling:	133.54 inches
Length of Chamber (to projectile base):	20.7 inches
Travel of Projectile in Bore:	20.7 inches (square base projectiles)
Length of Bore:	135.3 inches (square base projectiles)
Depth of Breach Recess:	156.00 inches, 52 calibers
Length of Muzzle to rear face of Breach:	7.75 inches
Additional length, Muzzle Brake, etc.:	11.6 inches , Muzzle Brake M2 on M1A1C and M1A2
Overall length:	163.75 inches (M1 , M1A1), 175.4 inches (M1A1C and M1A2)
Diameter of Bore:	3.00 inches
Chamber Capacity:	142.6 cubic inches, (APC M62), 140.50 inches (HE M42A1)
Weight Tube: (without muzzle brake)	870 pounds (M1), 940 pounds (M1A1)
Weight, complete (without muzzle brake)	1,141 pounds (M1), 1,206 pounds (M1A1C), 1,231 pounds (M1A2)
Weight muzzle brake M2:	62 pounds
Total Weight:	1,140 pounds(M1), 1,268 pounds (M1A1C), 1,293 pounds (M1A2)
Type of Breechblock:	Semiautomatic sliding wedge.
Rifling:	28 grooves, unifom right hand twist, one turn in 40 calibers (M1/A1/A1C) or 32 calibers (M1A2)
Ammunition:	Fixed
Primer:	Percussion
Weight Complete Round in pounds:	APC M62 24.80, HVAP M93 18.91, HE M42A1 24.24, HC BI M88 smoke 13.43
Weight, Projectile in pounds:	APC M62 15.44, HVAP M93 9.40, HE M42A1 15.00, HC BI M88 smoke 7.38
Maximum Powder Pressure:	43,000 psi
Maximum Rate of Fire:	20 rounds a minute
Muzzle Velocity:	APC M61 2,600 ft/sec, HVAP M93 3,400 ft/sec, AP M79 2,600 ft/sec, HE M42A1 2,700 ft/sec
Muzzle Energy of Projectile:	APC M62 724 ft-tons, HVAP M93 703 ft-tons, AP M79 703 ft-tons, HE M42A1 650 ft-tons
$KE=1/2MV^2$ Rotational energy is neglected and valuse are based on long tons (2,240 pounds)	
Maximum Range (independent of mount):	M62 16,100 yards, M93 13,100 yards, M79 12,770, M42A1 14,200, M88 2,000 yards

Gun Penetration Tables

Shell Name	500 Yards	1000 Yards	1500 Yards	2000 yards
APC M62 Projectile (APCBC/HE-T)	3.7 inches	3.5 inches	3.2 inches	3.0 inches
	93mm	88 mm	82mm	75mm
HVAP M93 Shot(AP-T)	6.2 inches	5.3 inches	4.6 inches	3.9 inches
	157mm	135mm	116mm	64mm
AP M79 Shot (AP-T)	4.3 imches	3.6 inches	3.0 inches	2.5 inches
	109mm	92mm	76mm	64mm

Penetrations values are for thje M1A1 gun. A slight increase for APC is obtained with the M1A2 at longer ranges

Penetration chart tests used Homogeneous Armor at 30 degrees obliquity

Chart created by the Sherman tank site with data from Hunnicutt's Sherman book and various technical manuals.

WWW.THESHERMANTANK.COM

Notes: