

AMMUNITIONS

25 mm.....	Ammunition
35 mm.....	Anti-Aircraft Ammunition
40 mm.....	Grenade Launcher Cartridges
60 mm.....	Mortar Ammunition
81 mm.....	Mortar Ammunition
120 mm.....	Mortar Ammunition
105 mm.....	Tank Guns & Howitzer Ammunition
155 mm.....	Gun & Howitzer Ammunition
8 in.....	Howitzer Cannons Ammunition
	Fuzes for Ammunition
4.5 lb. & 25 lb.....	Aircraft Practice Bombs
2000 lb.....	MK 84 GP Aircraft Bombs
500 lb.....	MK82 GP Aircraft Bombs
	Penetrator Bomb
	Propelling Charges
	Demolition Blocks
	Hand Grenades



MAKİNA ve KİMYA ENDÜSTRİSİ KURUMU
MECHANICAL and CHEMICAL INDUSTRIES CORPORATION

meeting point of technology and experience

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MKE AMMUNITION FACTORY KIRIKKALE

MKE Ammunition Factory is the oldest factory which was founded in the Republic Period. It has been one of the main suppliers of the Turkish Armed Forces with different types of ammunitions and it continues its production activities within three major production divisions called as Projectile, Fuze and LAP departments.

MKE Ammunition Factory mainly produces beginning from Launcher Grenades, Mortar Ammunition, Gun Ammunition, Howitzer Ammunition, Rocket Warheads, Aircraft Bombs, Hand Grenades, Fuzes, Demolition Blocks and to Propelling Charges.



Ammunition

25 mm

TECHNICAL SPECIFICATIONS

	M793 TP-T	M792 HEI-T	M791 APDS-T
Length	Max. 219.2 mm	Max. 219.2 mm	Max. 223 mm
Weight	~500 g	~500 g	~500 g
Diameter	25 mm	25 mm	25 mm
Projectile	Steel, 1215	Steel, 1018	Pusher (Al), Penetrating assbly. (Tungsten), Sabot (Plastic)
Projectile Color	Body color is blue, marking is black	Body color is yellow, marking is black, red band	Body color is black, marking is white
Filler	-	AXM-001 filler, min. 29 g	-
Detonator	M115 Percussion	M115 Percussion	M115 Percussion
Propellant Type	Double base	Double base	Single base
Propellant Weight	~0.089 kg (It is readjusted again for each propellant lot by shooting)	~0.089 kg (It is readjusted again for each propellant lot by shooting)	~0.096 kg (It is readjusted again for each propellant lot by shooting)
Net Explosive	0.095 kg/shot	0.127 kg/shot	0.102 kg/shot
Net Explosive	0.210 Lb	0.280 Lb	0.225 Lb
Fuze	-	M758 self-destruct (If it doesn't crush any target, it will burst after 6.2 s)	-
Cartridge Case	10B30 steel	10B30 steel	10B30 steel
Range	~6000 m (at 650 mlyem rising)	If it doesn't crush any target, it will burst between 3800 - 4500 m	~17500 m (at 746 mlyem rising)
Muzzle Velocity	1100±25 m/s	1100±25 m/s	1345±20 m/s
Packing	55 rounds / hermetic box 20 hermetic boxes / pallet		
Packing Dimensions	134.5x106.5x87.2 cm		
Packing Volume	1250000 cm ³		
Shooting and Storage	-54±3 °C, +62±3 °C		
Weapon to be used	M242, KBA, M811, GAV-12		



Anti-Aircraft Ammunition

35 mm

TECHNICAL SPECIFICATIONS

	HE-I MSD 020	TP-T ULD 034	MOD356 Practice
Weight	1570 g	1570 g	1490 g
Length	387 mm	387 mm	387 mm
Fuze	KZD 242	Dummy fuze	Dummy fuze
Filler	Hexal	-	-
Primer	WK ZSD 263	WK ZSD 263	-
Propellant	NC.01.T.35. OE.M.SMS	NC.01.T.35. OE.M.SMS	- -
Muzzle velocity	1175 m/s	1175 m/s	-
Maximum Range	11000 m	11000 m	-
Effective Range	6000 m	6000 m	-
Weapon to be used	KDP (353 MK) gun	KDP (353 MK) gun	KDP (353 MK) gun





Grenade Launcher Cartridges Low Velocity

40 mm

TECHNICAL SPECIFICATIONS

	TP-T Target Practice Tracer	MKE MOD 63 GE Tear Gas	MKE MOD60 HE
Complete round length	~100 mm	~106 mm	~100 mm
Complete round weight	~220 g	~230 g	~230 g
Tracer	Visible for min. 1.5 s at flight	-	-
Filler	-	CS (Lachrymatory agent)	TNT or Comp B
Muzzle Velocity	75±5 m/s	75±5 m/s	75±5 m/s
Maximum Range	~400 m	~400 m	~400 m
Packing	24 cartridges foam seperator 3 foam seperators T46 metal box 20 T46 metal boxes wooden pallette	24 cartridges foam seperator 3 foam seperators T46 metal box 20 T46 metal boxes wooden pallette	72 cartridges and 12 bandoliers wooden box
Weapon to be used	M79,M203, T40	M79,M203, T40	M79,M203, T40





Mortar Ammunition

60 mm

TECHNICAL SPECIFICATIONS

	M49A2HE	MKE MOD 257 Target Practice	MKE MOD 256 Training
Complete round weight	~1421 g	~1421 g	~1365 g
Complete round length	~243 mm	~243 mm	~243 mm
Fuze	AZDM 111 A2 or K510	AZDM 111 A2, AZDM 111 A5 or K510	AZDM 111 A2 (dummy)
Filler	TNT	Sorel cement	Sand+wood shavings
Ignition Cartridge	M5A1	M5A1	M5A1 (empty)
Primer	M32	M32	M32 (empty)
Muzzle Velocity	~158 m/s	~158 m/s	-
Maximum Range	~1814 m	~1814 m	-
Propellant	M3A1	M3A1	-
Packing	One round / fiber container 10 containers / wooden box		
Packing Dimensions	32x47x23 cm		
Packing Volume	34592 cm ³		
Weapon to be used	60 mm Commando Mortar		



Hand Grenades

TECHNICAL SPECIFICATIONS

	MKE MOD 56 RIOT CONTROL	MK2 DEFENCE	MK2 PRACTICE	MK2 MOD 44 DEFENCE	MK2 MOD 46 PRACTICE
Weight	264 g	640 g	565 g	640 g	565 g
Lenght	175 mm	120 mm	120 mm	120 mm	120 mm
Filler	OC	TNT or Comp B	-	TNT or Comb B (35 g)	-
Fuze	MKE MOD57	M204A2 or M204A2T1	M205A2 or M205A2T1	MKE MOD 45 or MKE MOD45B1	MOD47 or MOD47B1

Mortar Ammunition

81 mm

TECHNICAL SPECIFICATIONS

	HE-Long Range MKE MOD 214	Target Practice Long Range MKE MOD238	Illuminating M301 A2
Complete round weight	~4820 g	~4820 g	~4863 g
Complete round length	~500 mm	~500 mm	~571 mm
Fuze	AZDM 111 A2, AZDM 111 A5 or K510	AZDM 111 A2, AZDM 111 A5 or K510	DM 93
Filler	TNT	Sorel Cement	Illuminating material
Explosive Type	-	-	-
Primer	M34	M34	M34
Propellant	M8 Leaf propellant blocks	M8 Leaf propellant blocks	M8 Leaf propellant blocks
Ignition Cartridge	MKE MOD30	MKE MOD30	MKE MOD30
Muzzle Velocity	~330 m/s	~330 m/s	~173 m/s
Maximum Range	~5800 m	~5800 m	~2100 m
Wooden Box Dimensions	24.6x63.1x26.6 cm	24.6x63.1x26.6 cm	34.3x70.2x16.2 cm
Wooden Box Volume	41290 cm ³	41290 cm ³	39007 cm ³
Weapon to be used	TOSAM UT-1 and 81 mm UT-1 Mortar	TOSAM UT-1 and 81 mm UT-1 Mortar	M1 and M29 Mortars
Packing	One round / fiber container 10 containers / wooden box 24 wooden boxes / palette		

	HE M43 A1 B1	Target Practice MKE MOD273
Complete round weight	~3253 g	~3253 g
Complete round length	~338 mm	~338 mm
Fuze	AZDM 111 A2, AZDM 111 A5 or K510	AZDM 111 A2, AZDM 111 A5 or K510
Filler	TNT	Sorel cement
Explosive Type	-	-
Primer	M34	M34
Propellant	M1A1 supplementary propellant	M1A1 supplementary propellant
Ignition Cartridge	MKE MOD29	MKE MOD 29
Muzzle Velocity	~213 m/s	~213 m/s
Maximum Range	~3000 m	~3000 m
Wooden Box Dimensions	25x47x21 cm	25x47x21 cm
Wooden Box Volume	24675 cm ³	24675 cm ³
Weapon to be used	M1 and M29 Mortars	M1 and M29 Mortars
Packing	One round / fiber container 10 containers / wooden box 24 wooden boxes / palette	





Mortar Ammunition

120 mm

TECHNICAL SPECIFICATIONS

	HE MKE MOD 209	TP MKE MOD 228	SMOKE HC MKE MOD 250	ILLUMINATING MKE MOD 236 A1	PRACTICE MKE MOD 227
Complete round weight	-18000 g	-18000 g	-18000 g	-17000 g	-17000 g
Complete round length	~827 mm	~827 mm	~827 mm	~827 mm	~827 mm
Fuze	M557 or VT7250	M557	VT 7250	DM93	M73 (Dummy)
Filler	TNT	Sorel cement	HC	Illuminating material	Sand+wood shavings
Muzzle Velocity	~365 m/s	~365 m/s	~365 m/s	~365 m/s	
Maximum Range	~8180 m	~8180 m	~8180 m	~8180 m	
Ignition Cartridge	MOD 37	MOD 37	MOD 37	MOD 37	MOD 37 (Empty)
Propellant	Leaf Propellant, max 10 propellant increments				
Packing Dimensions					
w/ M557	32x96,4x19,9 cm	32x96,4x19,9 cm	32x96,7x23 cm	32x96,7x23 cm	32x96,4x19,9 cm
w/ VT 7250 Fuze	32x96,7x23 cm				
Packing Volume					
w/ M557 Fuze	61390 cm ³	61390 cm ³	71170 cm ³	71170 cm ³	61390 cm ³
w/ VT 7250 Fuze	71170 cm ³				
Weapon to be used	TOSAM HY-12 and 120 mm HY1-12 Rifled Mortars				
Packing	1 round/fiber container 2 fiber containers wooden box				



Tank Guns & Howitzer Ammunition

105 mm

TECHNICAL SPECIFICATIONS

	HE MKE MOD 233	TP MKE MOD 234	HE M1	APFSDS-T	TPFSDS-T PRACTICE
Complete round weight	-24505 g	-24125 g	-19000 g	-18000 g	-18000 g
Complete round length	-1028 mm	-1028 mm	-790 mm	-928 mm	-928 mm
Filler	TNT	Sorel cement	TNT	-	-
Fuze	M557	M73 (dummy)	M557	-	-
Propellant	M1	M1	M67 Dualgrain	M30	-
Muzzle velocity	683 ±8 m/s	683 ±8 m/s	~465 m/s	1485 ±15 m/s	-
Firing range	-	-	-	-5000 m	-5000 m
Effective range	-	-	-	-2000 m	-
Maximum range	-11000 m	-11000 m	-11000 m	-	-
Packing	1 round / fiber container, 2 fiber containers / wooden box, 12 wooden boxes / palette				
Weapon to be used	Leopard 1/M48T5 tanks with L7A3 cannon, M48A5 tank with M68 cannon	Leopard 1/M48T5 tanks with L7A3 cannon, M48A5 tank with M68 cannon	M101/M101A1 howitzers with M2A1/M2 A2 cannons, M52/M52A1 howitzers with M49 cannon	Leopard 1/M48T5 tanks with L7A3 cannon, M48A5 tank with M68 cannon	Leopard 1/M48T5 tanks with L7A3 cannon, M48A5 tank with M68 cannon





Gun & Howitzer Ammunition

155 mm

TECHNICAL SPECIFICATIONS

	HE ER MOD 274	HE M101	HE M107
Weight w/Lifting Plug	~45350 g	~43125 g	~42927 g
Length w/ Lifting Plug	~950 mm	~681 mm	~681 mm
Fuze	M582A1, M564, M557, M739, M739A1, AS7250	M557	M557, M572, M739
Filler	TNT	TNT	TNT
Muzzle velocity	~945 m/s	640 ±13 m/s	~684-695 m/s (different howitzers)
Maximum Range	~39000 m	-	~18100-18500 m (different howitzers)
Weapon to be used	FIRTINA and PANTER Howitzers	M2 howitzer M2 cannon	M109A1, M109A1B1, M109A2, M109A3, M198, PANTER and FIRTINA Howitzers



Howitzer Cannons Ammunition

8 in

TECHNICAL SPECIFICATIONS

Weight (Lifting Plug)	-91106 g
Length (Lifting Plug)	-872 mm
Filler	TNT
Fuze	M557
Muzzle Velocity	-594 m/s
Maximum Range	-16800 m
Weapon to be used	M2, M2A1, M2A1E1, M47



Fuzes for Ammunition

TECHNICAL SPECIFICATIONS

	KZD 242	AZDM 111 A2	M 557	M 572
Weight	46 g	201 g	975 g	1010 g
Caliber	35 mm	60 mm and 81 mm	105 mm through 203 mm	105 mm through 203 mm



Aircraft Practice Bombs

4.5 Lb. & 25 Lb.

TECHNICAL SPECIFICATIONS

	4.5 Lb MK 106 MOD1	25 Lb MK 76 MOD 2	25 Lb BDU 33 D/B
Weight	2041 g	11339 g	11339 g
Length	495 mm	575±2.5 mm	575±2.5 mm



MK 84 GP Aircraft Bombs

2000 Lb

TECHNICAL SPECIFICATIONS

	MK84 PRACTICE	MK84 DEMOLITION
Weight	~884 kg	~884 kg
Length	3797 mm	3797 mm
Filler	Sorel cement	TNT



MK 82 GP Aircraft Bombs

500 Lb

TECHNICAL SPECIFICATIONS

	MK82 MOD1	PRE-FRAGMENTED BOMB	PRACTICE BOMB
Weight	239 kg	245 kg	234 kg
Length	2268±11 mm	2280 mm	2268±11 mm
Fuze	M904 and M905	AB 104 LAPT980	Dummy
Filler	TNT	TNT	Sorel cement

Demolition Blocks

TECHNICAL SPECIFICATIONS

	1/2 lb	1 lb.	2.5 lb.
Weight	~250 g	~500 g	~1150 g
Dimensions	49x93x49mm	49x176 x49mm	59x300x59 mm
Filler	TNT	TNT	Comp C4
Packing	100 pcs/ wooden box	50 pcs/ wooden box	20 pcs/wooden box 24 wooden boxes/palette
Packing dimensions	30x62x25cm	30x62x25cm	34,5x70,4x18,5cm



Propelling Charges

TECHNICAL SPECIFICATIONS

	40 lb. M3A1 MKE MOD83	15 lb. M2A4 MKE MOD84 TYPE 1	15 lb. M2A4 MKE MOD84 TYPE 2	15 lb. M2A4 MKE MOD84 TYPE 3	15 lb. M2A4 MKE MOD84 TYPE 4
Cone Material	Steel	Aluminum	Copper	Glass	Steel
Body Material	Composite	Composite	Composite	Composite	Composite
Diameter	~245 mm	~182 mm	~182 mm	~182 mm	~182 mm
Total height (w/base)	~750 mm	~408 mm	~408 mm	~408 mm	~408 mm
Complete round weight	~18500 g	~7660 g	~9060 g	~7710 g	~8360 g
Main charge	Comp B	Comp B	Comp B	Comp B	Comp B
Main charge weight	~12500 g	~5800 g	~5800 g	~5800 g	~5800 g
Booster	Comp C4	Comp C4	Comp C4	Comp C4	Comp C4
Booster weight	~75 g	~75 g	~75 g	~75 g	~75 g
Performance (On reinforced concrete)					
Hole Depth	~1500 mm	~1300 mm	~1600 mm	~950 mm	~1100 mm
Hole Diameter	~89 mm	~450 mm	~300 mm	~450 mm	~300 mm
Packing	1 pcs of demolition charge and its base wooden box	2 pcs of demolition charge and its base wooden box	2 pcs of demolition charge and its base wooden box	2 pcs of demolition charge and its base wooden box	2 pcs of demolition charge and its base wooden box
Packing dimensions	41,6x53,5x52cm	35,6x47,5x25cm	35,6x47,5x25cm	35,6x47,5x25cm	35,6x47x25cm

	MK23 MODO EXROD MKE MOD85	MK23 MODO EXROD MKE MOD86
Cone Material	Copper	Copper
Body Material	Plastic (ABS)	Plastic (ABS)
Diameter	~45 mm	~80 mm
Total lenght	~110 mm	~150 mm
Main charge	Comp C4	Comp C4
Main charge weight	~65 g	~415 g
Hole Diameter	~7 mm	~15 mm
Packing	2 pcs of Demolition Charge and their bases plastic container 42 plastic containers wooden box	2 pcs of Demolition Charge and their bases plastic container 16 plastic containers wooden box
Packing dimensions	43,5x66x29,2cm	45,3x63,4x38cm



Penetrator Bomb

TECHNICAL SPECIFICATIONS

Platforms	F-4E/2020, F-16
Weight	-870 kg
Length	-2600 mm
Diameter	-457 mm
Explosive	PBX-110 & PBX-109
Guidance	HGK, GBU-10 E/B
Penetration	Min 2.1 m, 35 MPa (5000 psi) reinforced concrete
Fuze	Augmenting charge: ONUR-1 MOD4 Follow through bomb FMU-152 A/B 3" hard target fuzes
Storage Life	10 years

Targets

Buried hard targets

- Munition depots
- Underground petrochemical depots
- Bunkers
- Aircraft Shelters
- Command / Control Centers

Surface Targets

- Aircraft runways
- Dams
- Bridges
- Critical Buildings

Area Targets

- Radar antennas
- Stationary Air Defense Missile Sites
- Industrial Facilities
- Parked aircrafts







MKE POWDER FACTORY KIRIKKALE

MKE Powder Factory consists of Nitrocellulose, powder (cylindrical and ball), plastify lacquer and ether plants. The main duty of the factory is to produce different kinds of powder for artillery ammunitions, mortars, rifles and pistols for Military Defence Industry. In addition; hunting propellants, different kinds of nitrocellulose, plastifized lacquer and ether are produced for market.

The powder produced as a single-base, double base and triple base is used for artillery; small and medium calibre ammunition, hunting and sport ammunition, small arms, heavy weapons ammunition. The Ball Powder Production Plant with the capacity of 750 ton/year has been produced since 2006 with different types of ball powder. (5,56 mm; 7,62 mm; 12,7 mm 20 mm and Hunting)

Additionally, four types of nitrocellulose (Gun, Cotton, Rocket, Dynamite and Lacquer) have been produced according to the standards.

Case Cartridge combustible production line in the M60A1 Tank Modernization Program started to production in 2010. MKE Powder Factory is a leader in production of powder and nitrocellulose. Engineering, Research and Development activities are continued in the factory. All of the factory products are produced according to military standards. ISO 9001 : 2000 certificate confirms the highest level of the quality management system applications.