



5.56 X 45 MM

BALL FMJ M855/ SS109 - 4,0 g (62 gr)

5.56 x 45 mm FMJ

The cartridge consists of case, primer, gunpowder and bullet. It is applicable in extreme polar or desert conditions, contributing to the versatility of its use.

5.56 x 45 mm – FMJ bullet

The FMJ (Full Metal Jacket) bullet weighs 4.0 g (62 gr) and has a lead core with a steel penetrator, enhancing its penetration capability. The jacket is made of CuZn10, providing strength and uniformity in ballistic performance.

5.56 x 45 mm – case

The caliber 5.56 x 45 mm CuZn30 case is intended for inserting the powder charge, primer and bullet.

SPECIFICATIONS

Technical Specification

CARTRIDGE

Caliber	5.56 x 45 mm, SS109
Weight	max 12.40 g
Length	max 57.40 mm

BULLET GRAIN

Type	FMJ, Ball
Weight	4.00 g ± 0.1 g (62 grain)
Length	max 23.4 mm
Material	Jacket - CuZn10; Core - Lead, Perforating - steel tip
Extraction	≥ 200 N

CASE

Length	max 44.7 mm
Material	CuZn30

PRIMER

Type	Boxer, non-corrosive, non-toxic
Propellant	Smokeless Powder (Double Base)
Waterproof	Sealant applied

The 5.56 x 45 mm, SS109, Ball, produced in ATS AMMO is compliant with NATO STANAG 4172 requirements. It complies with the requirements of the NATO manuals AC/225(LG/3-SG/1)D/8 and PFP(NAAG-LCG/1-SG/1) WP(2010)0002. The ammunition can be fired from all NATO nominated 5.56 mm weapons: assault rifles – FNC, M16A2, H&K G36, BERETTA AR70/90, L85A2; Light machine gun – MINIMI.

ELECTRONIC PRESSURE AND VELOCITY (KIAG 6215)			
Ammunition Temperature	+21°C ± 2°C	+52°C & -54°C	
Velocity (at 24 m, m/s)	$V = 919 \pm 10 \text{ m/s}$	Max Velocity Difference between +52°C/ -54°C and 21°C samples +50m/s and -80m/s	
Standard Deviation	$\leq 12 \text{ m/s}$	No requirement	
Max Corrected Mean Case Mouth Pressure, MPa	$XCP + 3SD \leq 445 \text{ Mpa}$	Max case mouth difference between +52°C/ -54°C and 21°C samples is not +55 Mpa or -110 Mpa $XCP + 3SD \leq 445 \text{ Mpa}$	
Min Corrected Mean Port Pressure, MPa	$XPP - 3SD \leq 103 \text{ Mpa}$	Max port pressure difference between +52°C/ -54°C and 21°C samples is $\pm 15 \text{ Mpa}$ $XPP - 3SD \geq 103 \text{ Mpa}$	
Action Time (ms)	No requirement	Max Mean Action Time + 5 SD for -54°C sample $\leq 3 \text{ ms}$	
Muzzle Energy (at 24 m, J)	$\leq 1480 \text{ J}$	No requirement	
Precision (at 183 m)	$HSD \leq 46 \text{ mm}$ and $VSD \leq 46 \text{ mm}$ or $Mr \leq 46 \text{ mm}$		
Precision (at 550 m)	$HSD \leq 200 \text{ mm}$ and $VSD \leq 200 \text{ mm}$		
Function and Casualty	Permissible percentage of defects was not exceeded		
Primer sensitivity critical high method (run down)	Test ball $111.7 \pm 0.57 \text{ g}$	H +5 SD ≤ 450	H - 2 SD ≤ 75
Terminal effects at distance 570 m, perforation mild steel plate, aluminium witness screen (0.3 m behind steel plate)	$\leq 90\%$	3,5 mm (SAE 1010/ 1020, hardness RB 55-70) 0,5 mm ANSI 2024 T3	
Trajectory match	Horizontal $\leq 175 \text{ mm @ 300 m}$ $\leq 385 \text{ mm @ 500 m}$	Vertical $\leq 125 \text{ mm @ 300 m}$ $\leq 275 \text{ mm @ 550 m}$	
Waterproof test	No more than 15% of the tested rounds have leaks		

Compatibility with: AC/225(LG/3-SG/1)D/8 and PFP(NAAG-LCG/1-SG/1)WP(2010)0002 and STANAG 4172

PACKING	
Micro	20 rounds fiberboard box
Makro	540 rounds, ADR 1.4 S, UN0012 certified fiberboard case or 1000 rounds in MZA1 metal box (42 boxes sealed in 6 PVC bags and aluminium foil or 50 fiberboard box in MZA1 metal box)
Weight (1000 rounds)	Net: 11.90 kg Gross: 12.70 kg NEQ: 1.4 kg
Hazard class	1.4 S
UN Classification	CARTRIDGES, SMALL ARMS

Packaging can be arranged based on the request of the buyer and cartridges supplied in either outer carton or metal MZA1 boxes, palletized. The boxes and pallets shall be marked according to the requirements of the customer.

V = Corrected velocity
XCP = Corrected mean chamber pressure
XPP = Corrected mean Port pressure
HSD = Horizontal standard deviation
VSD = Vertical standard deviation
Mr = Mean radius

Test Equipment

The equipment that is used for testing the ballistic characteristics of the ammunition is from Prototypa and is as follows:

- Universal Ballistic Breech (Receiver) UZ-2002
- Support reducing inserter UZ-2002
- Exchangeable parts sets for cal. 5.56x45 mm - for action time measuring:
 - Breech block head insulated marked 1 INM
 - Firing pin insulated marked 1 INA
 - Extractor marked 1
 - Firing pin spring
 - Extractor spring
 - Extractor cap
 - Rivet 3x8
 - Firing pin end
- Pressure Test Barrel cal. 5.56x45 mm for Receiver M2; Length = 508 mm, KISTLER 6215 pressure vent position M1-46.5 mm, M2=280 mm
- Velocity/Accuracy Test Barrel cal. 5.56x45mm for Receiver M2; Length = 508 mm
- Head space gauge GO and NOGO cal. 5.56x45 mm.
- SAU-4QU Signal acquisition unit
 - 4 charge inputs for transducers/voltage inputs (programmable)
- Quartz High pressure Sensor KISTLER 6215A1
- LS06 Intelligent Light gates
 - Diode system, Base 1 m, software BMS - English
- BP-1 Bullet pull tester.
 - Range of calibers from 4.5 to 12 mm
 - Maximum load 2500 N

The equipment is controlled, maintain, and calibrated according to the specifications. We are always aiming for improving the testing facility with latest in line equipment's and assuring that the possibility of mistake is reduced to the minimum.

Outsourcing Components

ATS® Ammunition has its own top-to-bottom manufacturing of a finished Product, an output of In-house made Machines, and produces 100% In-house Materials, Components and Tooling). ATS AMMO 5.56 x 45 mm, SS109 components (bullet, case, primer) are perfectly compact, customizable and *available for individual purchase*.


PRIMER
No mercury
CuZn30

 <small>Case Length: max 44.70 mm</small>
CASE 5.56 x 45 mm
Unprimed
CuZn30

 <small>Grain Bullet Length: max 23.4 mm</small>
SS109 (M855) FMJ BALL
4 g 62 grain
CuZn10 Lead Core

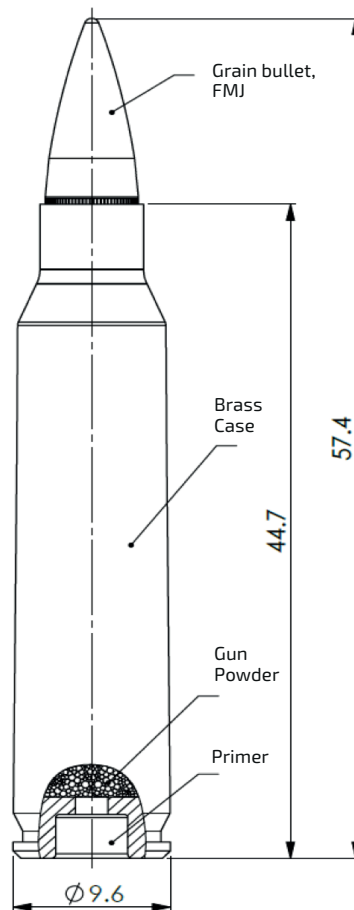


Image: Components Layout (5.56 x 45 mm, SS109)
Part number: 5561009; NSN 1305-54-000-0139