



Ballistic Charts

UL 752 and NIJ I-IV

Ratings of Bullet Resistant materials as identified by:
UL 752

Rating	Ammunition	Weight (grains)	Weight (grams)	min fps	max fps	Number of shots
Level 1	9mm Full Metal Copper Jacket with Lead Core	124	8.0	1175	1293	3
Level 2	.357 Magnum Jacketed Lead Soft Point	158	10.2	1250	1375	3
Level 3	.44 Magnum Lead Semi-Wadcutter Gas Checked	240	15.6	1350	1485	3
Level 4	.30 Caliber Rifle Lead Core Soft Point (.30-06 Caliber)	180	11.7	2540	2794	1
Level 5	7.62mm Rifle Lead Core Full Metal Copper Jacket Military Ball (.308 Caliber)	150	9.7	2750	3025	1
Level 6	9mm Full Metal Copper Jacket with Lead Core	124	8.0	1400	1540	5
Level 7	5.56mm Rifle Full Metal Copper Jacket with Lead Core (.223 Caliber)	55	3.56	3080	3383	5
Level 8	7.62mm Rifle Lead Core Full Metal Copper Jacket Military Ball (.308 Caliber)	150	9.7	2750	3025	5
Level 9	.30-06 caliber rifle, steel core, lead point filler, FMJ (APM2)	166	10.8	2715	2987	1
Level 10	.50 caliber rifle, lead core FMCJ Military Ball (M2)	709.5	45.9	2810	3091	1
Shotgun	12-Gauge Rifled Lead Slug	1 Oz.	28.3	1585	1744	3
	12-Gauge 00 Buckshot (12 pellets)	1.5oz	42	1200	1320	3

Ratings of Bullet Resistant materials as identified by:
National Institute of Justice (NIJ) 018.01

Rating	Ammunition	Weight (grains)	Weight (grams)	Min/Max (meters/sec)	Min/Max (feet/sec)	Number of shots
Level I	.22 long rifle high velocity lead	40	2.6	320 +/- 12	1050 +/- 40	5
Level I	.38 special round nose lead	158	10.2	259 +/- 15	850 +/- 50	5
Level II	.357 mag. jacketed soft point	158	10.2	425 +/- 15	1395 +/- 50	5
Level II	9mm full metal jacket	124	8.0	358 +/- 12	1175 +/- 40	5
Level IIA	.357 mag. jacketed soft point	158	10.2	381 +/- 15	1250 +/- 50	5
Level IIA	9mm full metal jacket	124	8.0	332 +/- 12	1090 +/- 40	5
Level III	7.62mm (.308 Winchester) full metal jacket	150	9.7	838 +/- 15	2750 +/- 50	5

Level IIIA	.44 mag. lead semi-wadcutter gas checked	240	15.55	426 +/- 15	1400 +/- 50	5
Level IIIA	9 mm full metal jacket	124	8.0	426 +/- 15	1400 +/- 50	5
Level IV	.30-06 armor piercing	166	10.8	868 +/- 15	2850 +/- 50	1

Ratings of Bullet Resistant materials as identified by:
State Department SD-STD-02.01

Rating	Ammunition	Weight (grains)	Weight (grams)	min fps	max fps	Number of shots
SD - Minimum, 9mm Parabellum	9mm Full Steel Jacket (FSJ)	115	7.45	1350	1450	3
SD - Minimum, 12 ga, 2-3/4"	12 gauge, 2-3/4", #4 Buck	556	36.03	1275	1375	1
SD -Rifle, .30, 7.62 NATO	(Part 1) .308 caliber, 7.52 NATO M80	147	9.53	2700	2800	1
SD - Rifle, .223, 5.56 NATO	(Part 2) .223 caliber, 5.56mm NATO M193	55	3.56	3135	3235	1
SD - Rifle, .223, 5.56 NATO	(Part 3) .223 caliber, 5.56mm NATO M855	63	4.08	2950	2950 +	1
SD - Rifle, 12 ga, 2-3/4"	(Part 4) 12 gauge, 2-3/4", #4 Buck	556	36.03	1275	1375	1
SD - Rifle AP, .30, 7.62 NATO	(Part 1) .30 caliber, 7.62mm NATO M61 AP	150	9.72	2700	2800	3
SD - Rifle AP, .30, 30-06	(Part 1) .30.06 caliber M2AP	165	10.69	2800	2900	3

Ratings of Bullet Resistant materials as identified by:
ASTM F-1233

Rating	Ammunition	Weight (grains)	Weight (grams)	Min/Max (meters/sec)	Min/Max (feet/sec)	Number of shots
9 mm Parabellum /Submachine Gun	9mm Parabellum FMJ	124	8.04	1350	1450	3
.38 Super / Handgun	.38 Super FMJ	130	8.42	1230	1330	3
.44 Magnum / Handgun	.44 Magnum JSP	240	15.55	1400	1500	3
7.62 NATO / Rifle	7.62 mm (.308 caliber) M80 NATO	147	9.53	2750	2850	3
.30-06 Armor Piercing Rifle	.30-06 M2 AP	165	10.69	2725	2825	3
12 ga. Shotshell, 3" Magnum	12 gauge, 3" Magnum, #00 Buckshot	808	52.36	1265	1365	3

Ratings of Bullet Resistant materials as identified by:

HP White Laboratories HPW-TP 0500.02

Rating	Ammunition	Weight (grains)	Weight (grams)	min fps	max fps	Number of shots
Level A	.38 Special Round Nose Lead (RNL)	158	10.24	700	800	3
Level B	9mm x 19 Full Metal Jacket (FMJ)	124	8.04	1100	1180	3
Level C	.44 Magnum Full Metal Jacket (FMJ)	240	15.55	1350	1455	3
Level D	7.62mm x 51 NATO M80	147	9.53	2725	2825	3
Level E	.30-06 AP M2	165	10.69	2725	2825	3

**Ratings of Bullet Resistant materials as identified by:
European Standard DIN EN 1063**

Rating	Ammunition	Weight (grains)	Weight (grams)	min fps	max fps	Number of shots
BR1, .22 LR	.22 LR RNL	40	2.59	1048	1214	3
BR2, 9mm	9 mm Luger FSJ-RNSC	124	8.04	1280	1345	3
BR3, .357 Magnum	.357 Magnum FSJ-CNCS	158	10.24	1378	1444	3
BR4, .44 Magnum	.44 Magnum FCJ-FNSC	240	15.55	1411	1476	3
BR5, 5.56 x 45 NATO AP	5.56 mm x 45 NATO SS 109 steel penetrator	62	4.02	3084	3150	3
BR6, 7.62 x 51 NATO	7.62 mm x 51 NATO M80 FSJ	147	9.53	2690	2756	3
BR7, 7.62 x 51 NATO AP	7.62 mm x 51 NATO AP SHC	150	9.72	2657	2723	3
SG1/SG2, Shotgun	12 gauge solid lead Brenneke slug	478	30.97	1312	1444	1

**Ratings of Bullet Resistant materials as identified by:
British Standards Institution BS 5051**

Rating	Ammunition	Weight (grains)	Weight (grams)	min fps	max fps	Number of shots
BSI-G0, 9 mm Parabellum	9 mm Parabellum FMJ	115	7.45	1280	1378	3
BSI-G1, .357 Magnum	.357 Magnum JSP	158	10.24	1427	1526	3
BSI-G2, .44 Magnum	.44 Magnum JSP	240	15.55	1496	1594	3
BSI-R1, .223, 5.56 NATO	.223 caliber, 5.56 mm NATO M885/SS109	63	4.08	3015	3114	3
BSI-R2, .30, 7.62	.308 caliber, 7.62 mm NATO M80	147	9.53	2674	2772	3
BSI-S86, 12ga. 2-3/4"	12 gauge, 2-3/4"	438	28.38	1332	1463	1

**Ratings of Bullet Resistant materials as identified by:
Councils of Standards Australia / New Zealand AS/NZ 2343**

Rating	Ammunition	Weight (grains)	Weight (grams)	min fps	max fps	Number of shots
G0, 9 mm Parabellum	9 mm Parabellum FMJ	115	7.45	1294	1362	3
G1, .357 Magnum	.357 Magnum SWC	158	10.24	1467	1532	3
G2, .44 Magnum	.44 Magnum SWC	240	15.55	1568	1634	3
R1, .223, 5.56 NATO	.223 caliber, 5.56 mm NATO M193	55	3.56	3182	3248	3
R2, .30, 7.62 NATO	.308 caliber, 7.62 mm NATO M80	147	7.53	2766	2831	3
S0, 12 ga, 2-3/4"	12 gauge, 2-3/4" SHOT	493	31.95	1289	1355	3
S1, 12 ga, 2-3/4"	12 gauge, 2-3/4" SLUG	382	24.75	1532	1598	2

Ratings of Bullet Resistant materials as identified by:
German Deutsche Institut fur Normung (DIN) 52-290

Rating	Ammunition	Weight (grains)	Weight (grams)	min fps	max fps	Number of shots
C1-SF and C1-SA, 9 mm Parabellum	9 mm Parabellum FMJ	124	8.04	1165	1198	3
C2-SF and C2-SA, .357 Magnum	.357 Magnum FMJ	158	10.24	1362	1394	3
C3-SF and C3-SA, .44 Magnum	.44 Magnum FMJ	240	15.55	1427	1460	3
C4-SF and C4-SA, .30, 7.62 NATO	.308 caliber, 7.62 mm NATO M80	147	9.53	2575	2608	3
C5-SF and C5-SA, .30, 7.62 NATO	.308 caliber, 7.62 mm NATO M61 AP	150	9.72	2625	2657	3

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