



# NATIONAL INSTITUTE OF JUSTICE

## BALLISTIC RESISTANT PROTECTIVE MATERIAL

### NIJ STANDARD 0108.01

TYPE	AMMUNITION	BULLET	WEIGHT	BERREL	LENGHT	STRIKING	VELOCITY	# OF HITS/	SPACING	ANGLE OF	Tickness BRG
		GRAMS	GRAINS	GRAMS	IN	M/S	FT/SEC	EXAMPLE	HIT/EDGE	INPACT	
I	.22 LRHV lead	2,6	40	15 to 16,5	6 to 6,5	308 / 332	1010 / 1090	5	5 cm / 2"	≤ 5 degrees	14
	.38 special round nose lead	10,2	158	15 to 16,5	6 to 6,5	244 / 274	800 / 900	5	5cm / 2"	≤ 5 degrees	
II - A	.22 LRHV lead	10,2	158	10 to 12	4 to 4,75	366 / 396	1200 / 1300	5	5 cm / 2"	≤ 5 degrees	16
	.38 special round nose lead	8	124	10 to 12	4 to 4,75	320 / 344	1050 / 1130	5	5 cm / 2"	≤ 5 degrees	
II	.307 magnum Jacketed Soft	10,2	158	15 to 16,5	6 to 6,5	410 / 440	1345 / 1445	5	5 cm / 2"	≤ 5 degrees	16
	point 9 mm full metal jacket	8	124	10 to 12	4 to 4,75	346 / 370	1135 / 1215	5	5 cm / 2"	≤ 5 degrees	
III - A	.44 magnum lead	15,55	240	14 to 16	5,5 to 6,25	411 / 441	1350 / 1450	5	5 cm / 2"	≤ 5 degrees	22
	SWC 9 mm full metal jacket	8	124	24 to 26	9,5 to 10,25	411 / 441	1350 / 1450	5	5 cm / 2"	≤ 5 degrees	
III	7,62 mm M80 ,308 Win FMJ	9,7	150	56	22	823 / 853	2700 / 2800	5	5 cm / 2"	≤ 5 degrees	40
IV	.30 - 06	10,8	166	56	22	853 / 883	2800 / 2900	1	5 cm / 2"	≤ 5 degrees	64
	M2 AP	witness	plate		sample	strike	strike	spacing	velocity		64
	Size	plate	placement	temp	placement	angle	at least	or 2" from	accuracy		Size
	30,5 x 30,5	,5 mm	15 cm	20 to 28 C	5 m	85 to 90	2" to	edges	1 to 2us		30,5 x 30,5
TESTING	12 x 12	,02 in	6 in	68 to 82 F	16 ft	degrees	prior hit				12 x 12
		2024-T4		24 hrs.							
		2024-T3									

compatibility with APGBT standards

- 1) some common ammunition types / not that many
- 2) test conditions/set up similar

compatibility with APGBT standards

- 1) primary ammunition types
- 2) same number of test samples for qualification
- 3) number of hits and hit spacing
- 4) test conditions/set up similar
- 5) compatible velocities

advantages of APGBT standards

- 1) APGBT includes 4 common types of sovietic ammunition (soviet weapons/ammunitions are commonly used in terrorist activities and random street crime)
- 2) APGBT stipulations multiple ammunitions for select levels (example: FAV standard, AP)  
[this stipulation puts a higher burden on APGBT]  
[creates a higher level of safety for our customers]  
[you **can not** assume 1 bullet is more lethal than another]
- 3) APGBT includes SS 109 and M 193 protection
- 4) APGBT specifies number of test samples for qualification (3) (they do not call out the number of test samples for qual)
- 5) OPHEAC specifies hit spacing at 120mm (they have no maximum hit spacing which is ambiguous)  
[this makes the NIJ number of hits irrelevant]  
[the closer the hit spacing the more damage to the armor system]

