



COMMONLY SPECIFIED BALLISTIC TESTS – U.S. MARKET

NOTE: THIS IS GENERAL GUIDANCE, REFER TO STANDARDS FOR FURTHER DETAILS.

<i>Test Level</i>	<i>Threat Round</i>	<i>Velocity Range (ft/sec)</i>	<i># of shots</i>	<i>Shot Pattern</i>
ASTM F1233 (Glazing only)		Target distance: 25' Sample size: >12" x 12" and <29.75" x 29.75" Witness panel: .00094" aluminum @ 6" Sample temperature: ambient, 67-77°F		
ASTM HG1	.38 Special, 158 gr lead	850 to 900	3	8 in. diameter circle 120 ° apart
ASTM HG2	.357 Magnum, 158 gr JSP	1,350 to 1,450	3	8 in. diameter circle 120 ° apart
ASTM HG3	9 mm, 124 gr FMC	1,200 to 1,300	3	8 in. diameter circle 120 ° apart
ASTM HG4	.44 Magnum, 240 gr LGC	1,400 to 1,500	3	8 in. diameter circle 120 ° apart
ASTM SMG	9 mm, 124 gr FMC	1,350 to 1,450	3	8 in. diameter circle 120 ° apart
ASTM R1	.223 (5.56 mm) NATO, 55 gr M193 ball, FMC	3,200 to 3,300	3	8 in. diameter circle 120 ° apart
ASTM R2	.30-'06, 180 gr SP	2,850 to 3,000	3	8 in. diameter circle 120 ° apart
ASTM R3	.308 Winchester (7.62 mm) NATO, 147 gr M80 ball, FMC	2,700 to 2,800	3	8 in. diameter circle 120 ° apart
ASTM R4-AP	..30-'06 NATO, 166 gr M2-AP	2,715 to 2,850	1	
ASTM R5	.50 ball, 709.5 gr FMC	2,760 to 2,860	1	
ASTM SH1	12 Gauge 3.0 inch Mag., # 00 buck 15 pellets (Adjunct test only, not primary)	1,150 to 1,250	1	All pellets within 8 in. diameter. circle
ASTM SH2	12 Gauge, 1 oz rifled slug	1,600 to 1,700	3	8 in. diameter circle 120 ° apart

EN 1063 (Glazing only)		Target distance: 32.8' for BR1, BR5, BR6, BR7; 16.4' for BR2, BR3, BR4 Sample size: 19.69" x 19.69" Witness panel: .0008" Al @ 19.69" Sample temperature: 55-73°F		
EN BR1-NS	.22 LR 40 grain Lead Round	1,148 to 1,214	3	4.3 to 5.1 in. triangle. 3 samples required
EN BR2-NS	9 mm Parabellum 124 gr FSJ RNSC	1,280 to 1,345	3	4.3 to 5.1 in. triangle. 3 samples required
EN BR3-NS	.357 Magnum 158 gr FSJ Coned Soft Core	1,378 to 1,444	3	4.3 to 5.1 in. triangle. 3 samples required
EN BR4-NS	.44 Magnum 240 gr FCJ Flat Nose Soft Core	1,411 to 1,476	3	4.3 to 5.1 in. triangle. 3 samples required
EN BR5-NS	5.56 x 45 NATO 62 gr FCJ SS109	3,084 to 3,150	3	4.3 to 5.1 in. triangle. 3 samples required
EN BR6-NS	7.62 x 51 NATO 147 gr FSJ (M80)	2,690 to 2,756	3	4.3 to 5.1 in. triangle. 3 samples required
EN BR7-NS	7.62 x 51 NATO 150 gr FCJ steel hard core	2,657 to 2,723	3	4.3 to 5.1 in. triangle. 3 samples required
EN SG1-NS	12 Gauge 478 gr Solid Lead Brenneke Slug	1,312 to 1,444	1	Center shot. 3 samples required
EN SG2-NS	12 Gauge 478 gr Solid Lead Brenneke Slug	1,312 to 1,444	3	4.3 to 5.1 in. triangle. 3 samples required
EN 1522/1523 (Windows, doors, shutters, blinds, and integral glazing)*		Target distance: FB1, FB5, FB6, FB7: 32.8'; FB2, FB3, FB4: 16.4' Sample size: Determined by manufacturer and test laboratory Witness panel: .0008" Al @ 19.69" Sample temperature: 55-73°F		
*Glazing infill is tested along with system, unless previously qualified to EN 1063				
EN FB1-NS	.22 LR 40 grain Lead Round Nose	1,148 to 1,214	3	Each vulnerable area, not closer than 120 mm apart
EN FB2-NS	9 mm Parabellum 124 gr FSJ RNSC	1,280 to 1,345	3	Each vulnerable area, not closer than 120 mm apart

EN FB3-NS	.357 Magnum 158 gr FSJ Coned Soft Core	1,378 to 1,444	3	Each vulnerable area, not closer than 120 mm apart
EN FB4-NS Part 1	.357 Magnum 158 gr FSJ Coned Soft Core	1,378 to 1,444	3	Each vulnerable area, not closer than 120 mm apart
EN FB4-NS Part 2	.44 Magnum 240 gr FCJ Flat Nose Soft Core	1,411 to 1,476	3	Each vulnerable area, not closer than 120 mm apart
EN FB5-NS	5.56 x 45 NATO 62 gr FCJ SS109	3,084 to 3,150	3	Each vulnerable area, not closer than 120 mm apart
EN FB6-NS Part 1	5.56 x 45 NATO 62 gr FCJ SS109	3,084 to 3,150	3	Each vulnerable area, not closer than 120 mm apart
EN FB6-NS Part 2	7.62 x 51 NATO 147 gr FSJ (M80)	2,690 to 2,756	3	Each vulnerable area, not closer than 120 mm apart
EN FB7-NS	7.62 x 51 NATO 150 gr FCJ steel hard core	2,657 to 2,723	3	Each vulnerable area, not closer than 120 mm apart
EN FSG-NS	12 Guage 478 gr Solid Lead Brenneke Slug	1,312 to 1,444	3	Each vulnerable area, not closer than 120 mm apart
National Institute of Justice NIJ 01.08.01				
Target distance: 16.4' for I, IIA, II, IIIA; 49.2' for III, IV Sample size: >12" x 12" Witness panel: .020" aluminum @ 6" Sample temperature: 68-82°F				
NIJ I Part 1	.22 LR HV 40 gr Lead	1,010 to 1,090	5	>2 in. apart or from edge
NIJ I Part 2	.38 Special 158 gr RNL	800 to 900	5	>2 in. apart or from edge
NIJ II-A Part 1	9 mm Parabellum 124 gr FMJ	1,050 to 1,130	5	>2 in. apart or from edge
NIJ II-A Part 2	.357 Magnum 158 gr JSP	1,200 to 1,300	5	>2 in. apart or from edge
NIJ II Part 1	9 mm Parabellum 124 gr FMJ	1,135 to 1,215	5	>2 in. apart or from edge
NIJ II Part 2	.357 Magnum 158 gr JSP	1,345 to 1,445	5	>2 in. apart or from edge
NIJ III-A Part 1	.44 Magnum 240 gr SWC Gas Checked	1,350 to 1,450	5	>2 in. apart or from edge
NIJ III-A Part 2	9 mm Parabellum 124 gr FMJ	1,350 to 1,450	5	>2 in. apart or from edge
NIJ III	.308 Winchester (7.62 M80) 150 gr FMJ	2,700 to 2,800	5	>2 in. apart or from edge

NIJ IV	30-06 166 gr M2AP	2,800 to 2,900	1	Center shot
U.S. Department of State SD-STD-01.01 Rev. G (Amended)		Target distance: 20' Sample size: >6" x 6" Witness panel: .001"-.002" aluminum @ 6" for transparencies; .020" aluminum for opaque panels Sample temperature: ambient		
SD Submachine Gun	9 mm 115 gr long ogive, gilding metal or mild steel jacket with copper wash, lead core	1,350 to 1,450	Min. 1	Transparencies: Typically 8 in. diameter circle 120° apart; but allowable no less than 4 inches on center and no more than 6 per sample Opaque panels: No less than 1.5 inches on center
SD Rifle Part 1	.7.62 NATO 147 gr M80 ball	2,700 to 2,800	Min. 1	Transparencies: Center of sample in 8 in. diameter circle spaced 120° apart with other two rifle rounds Opaque panels: Center of sample in 8 in. diameter circle spaced 120° apart with other two rifle rounds; framing/seams spaced no less than 1.5 inches on center
SD Rifle Part 2	.223 cal. 5.56 NATO 55 gr M193 ball	3,135 to 3,235	Min. 1	Transparencies: Center of sample in 8 in. diameter circle spaced 120° apart with other two rifle rounds Opaque panels: Center of sample in 8 in. diameter circle spaced 120° apart with other two rifle rounds; framing/seams spaced no less than 1.5 inches on center
SD Rifle Part 3	.223 cal. 5.56 NATO 63 gr M855 ball	2,950 to 3050	Min. 1	Transparencies: Center of sample in 8 in. diameter circle spaced 120° apart with other two rifle rounds

				Opaque panels: Center of sample in 8 in. diameter circle spaced 120° apart with other two rifle rounds (no framing shots)
SD Shotgun	12 Gauge 2 3/4 inch, # 4 Buckshot	1,275 to 1,375	Min. 1	For unobstructed, convoluted passages
SD Rifle AP	.30-06 165 gr AP M2	2,750 to 2,850	Min. 1	Transparencies: Center of sample Opaque panels: Center of sample; framing spaced no less than 1.5 inches on center
Underwriters Laboratories UL 752				
		Target distance: 15' Sample size: 12" x 12" Witness panel: .125 corrugated cardboard @ 18" Sample temperature: 67-77°F unless conditioned. Conditioned temperatures: 55°F, 95°F, 120°F, -26/+72°F (impact on cold side)		
UL Level 1 Part 1	9 mm Parabellum 124 gr FMJ	1,175 to 1,293	3	4.0 inch triangle
UL Level 1 Part 2	9 mm Parabellum 124 gr FMJ	1,175 to 1,293	2	1.25 to 1.75 in.
UL Level 1 Part 3	9 mm Parabellum 124 gr FMJ	1,175 to 1,293	1	Unsupported edge shot
UL Level 2 Part 1	.357 Magnum 158 gr JSP	1,250 to 1,375	3	4.0 inch triangle
UL Level 2 Part 2	.357 Magnum 158 gr JSP	1,250 to 1,375	2	1.25 to 1.75 in.
UL Level 2 Part 3	.357 Magnum 158 gr JSP	1,250 to 1,375	1	Unsupported edge shot
UL Level 3 Part 1	.44 Magnum 240 gr SWC	1,350 to 1,485	3	4.0 inch triangle
UL Level 3 Part 2	.44 Magnum 240 gr SWC	1,350 to 1,485	2	1.25 to 1.75 in.
UL Level 3 Part 3	.44 Magnum 240 gr SWC	1,350 to 1,485	1	Unsupported edge shot
UL Level 4 Part 1	.30 cal. 30-06 180 gr JSP	2,540 to 2,794	1	Center shot. 4 samples @ various conditioned temps

UL Level 4 Part 2	.30 cal. 30-06 180 gr JSP	2,540 to 2,794	1	Unsupported edge shot
UL Level 5 Part 1	.30 cal. 7.62 NATO 150 gr FMJ	2,750 to 3,025	1	Center shot. 4 samples @ various conditioned temps
UL Level 5 Part 2	.30 cal. 7.62 NATO 150 gr FMJ	2,750 to 3,025	1	Unsupported edge shot
UL Level 6	9 mm Parabellum 124 gr FMJ	1,400 to 1,540	5	4.5 inch square
UL Level 7	.223 cal. 5.56 NATO 55 gr FMJ	3,080 to 3,388	5	4.5 inch square
UL Level 8	.30 cal. 7.62 NATO 150 gr FMJ	2,750 to 3,025	5	4.5 inch square
UL Level 9	.30 cal. 30-06 166 gr M2 AP	2,715 to 2,987	1	Center shot. 4 samples @ various conditioned temps
UL Level 10	.50 cal 709.5 gr FMJ Military Ball	2,810 to 3,091	1	Center shot. 4 samples @ various conditioned temps
UL Level 1 thru 3 SG Part 1A	12 Gauge 2 3/4 inch 437 gr Slug	1,585 to 1,744	3	4.0 inch triangle
UL Level 1 thru 3 SG Part 1B	12 Gauge 2 3/4 inch 437 gr Slug	1,585 to 1,744	2	1.25 to 1.75 in.
UL Level 1 thru 3 SG Part 1C	12 Gauge 2 3/4 inch 437 gr Slug	1,585 to 1,744	1	Unsupported edge shot
UL Level 1 thru 3 SG Part 2A	12 Gauge 2 3/4 inch Mag. 650 gr # 00 Buck	1,200 to 1,320	3	4.0 inch triangle
UL Level 1 thru 3 SG Part 2B	12 Gauge 2 3/4 inch Mag. 650 gr # 00 Buck	1,200 to 1,320	2	1.25 to 1.75 in.
UL Level 1 thru 3 SG Part 2C	12 Gauge 2 3/4 inch Mag. 650 gr # 00 Buck	1,200 to 1,320	1	Unsupported edge shot
UL Level 4 and 5 SG Part 1A	12 Gauge 2 3/4 inch 437 gr Slug	1,585 to 1,744	3	4.0 inch triangle
UL Level 4 and 5 SG Part 1B	12 Gauge 2 3/4 inch 437 gr Slug	1,585 to 1,744	1	Unsupported edge shot
UL Level 4 and 5 SG Part 2A	12 Gauge 2 3/4 inch Mag. 650 gr # 00 Buck	1,200 to 1,320	3	4.0 inch triangle
UL Level 4 and 5 SG Part 2B	12 Gauge 2 3/4 inch Mag. 650 gr # 00 Buck	1,200 to 1,320	1	Unsupported edge shot

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