VX223 · .223 REM · 60 GR SOLID COPPER HP

Comparative evaluation vs. four factory duty loads — blind accuracy, round-weight consistency, and FBI-standard gel testing

TEST DATE	LOCATION	CONDITIONS	PROTOCOL
Feb 7, 2025	Randall County, TX	40–75°F · 10:00a–1:00p	FBI-standard 10-ft gel
CARTRIDGE	**PROJECTILE**	**COMPARISON**	
.223 Remington	60 gr solid copper HP	Speer Gold Dot 62 gr	

PROJECTILE & TEST PLATFORM



Figure 1 — VX223 60 gr, .223 Rem — Military & Law Enforcement packaging, as tested.

PROJECTILE		TEST PLATFORM	
Weight	**60 gr**	Rifle / barrel	Not recorded
Material	Solid copper	Gel	FBI ordnance gelatin
Style	HP, slit petals	Barriers	Denim, windshield
Sample size	n=10 wt · 5-shot · 1 rd/barrier	Shooters	2, ammo blind

0.140 SD
ROUND-WEIGHT CONSISTENCY (BEST OF 5 LOADS TESTED)

1.75″
BEST BLIND 5-SHOT GROUP AT 100 YARDS

19–20″
GEL PENETRATION ACROSS ALL THREE TESTS

CONSISTENCY — LOADED-ROUND WEIGHT

Table 1 — Loaded-round weight, n = 10 per load, sorted by SD (lower = more consistent). Full round-by-round record: Table 4, page 4.

LOAD	AVERAGE	SD (GR)	ES (GR)
Velocitas VX223 60 gr	**184.02 gr**	**0.140**	**0.4**
Federal Premium Tru 64 gr	188.02 gr	0.289	1.0
Federal Fusion MSR 62 gr	183.14 gr	0.323	1.2
Speer Gold Dot 62 gr	183.30 gr	0.431	1.6
Federal XF223SP 62 gr	185.02 gr	0.678	2.4

Testing conducted by Velocitas Bullet Systems using the FBI-standard 10-foot ordnance gelatin protocol. Single-round barrier events; blind accuracy groups as described. Results vary with firearm, barrel length, load, and conditions. © Velocitas Bullet Systems LLC. Provided for evaluation.

ACCURACY — BLIND 5-SHOT GROUPS, 100 YARDS

Table 2 — Two shooters, ammo unknown to them; mags swapped by a non-shooter; cool barrel. Sorted by average.

LOAD	SHOOTER 1	SHOOTER 2	AVERAGE
Speer Gold Dot 62 gr	2.0″	1.75″	1.88″
Velocitas VX223 60 gr	**1.75″**	**2.125″**	**1.94″**
Federal Premium Tru 64 gr	1.75″	2.75″	2.25″
Federal Fusion MSR 62 gr	3.75″	1.75″	2.75″
Federal XF223SP 62 gr	3.25″	2.75″	3.00″

TERMINAL PERFORMANCE — FBI-STANDARD GEL, 10 FT

Table 3 — One round per load per barrier, VX223 vs. Speer Gold Dot 62 gr. Recovered diameter not recorded for this test.

BARRIER	LOAD	PENETRATION	RETAINED WT.	Δ WT.	RETENTION	NOTES
Bare gel	**VX223**	**19.5″**	**48.0 gr**	**−12.0 gr**	**80.0%***	**petals shear by design**
	Gold Dot	18.0″	61.2 gr	−0.8 gr	98.7%	
Heavy denim	**VX223**	**20.0″**	**48.0 gr**	**−12.0 gr**	**80.0%***	
	Gold Dot	19.5″	60.4 gr	−1.6 gr	97.4%	
Windshield, gel 18″ behind	**VX223**	**19.0″**	**46.8 gr**	**−13.2 gr**	**78.0%***	**no collateral damage**
	Gold Dot	15.0″	39.4 gr	−22.6 gr	63.5%	collateral damage

*VX223 weight loss is the design working: the slit petals shear off in the first expansion chamber and arrest within 6–8″, opening a second energy-transfer path while the solid core drives straight to full depth. Gold Dot weight loss through the windshield (−22.6 gr) is bonded-jacket material stripped by the glass.

OBSERVATIONS

VX223: 14–16″ cavitation with 2–3 expansion chambers. The three petals shear in the first chamber and stop within 6–8″; the core continues to 19–20″, transferring energy in two stages. Penetration held at 19.0–20.0″ across all three tests, including after windshield glass, with no collateral damage recorded.

Where VX223 did not win: Speer Gold Dot posted the better blind-accuracy average (1.88″ vs. 1.94″) and higher weight retention in bare gel and denim — retention is where the bonded design and the shear-petal design differ on purpose. Reported as recorded.

Comparison load (Gold Dot 62 gr): 6–10″ cavitation with a single expansion chamber; the bonded bullet peels back and sheds its energy in the front of the block. Through the windshield it lost 22.6 gr (63.5% retention) and produced collateral damage; penetration dropped to 15.0″.

PHOTOGRAPHIC RECORD — GEL

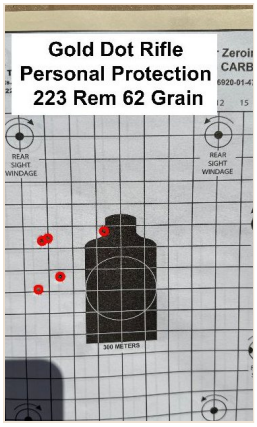
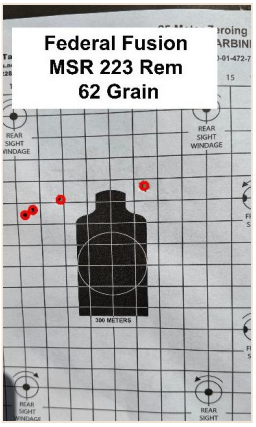




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BLIND GROUP GALLERY — 5-SHOT GROUPS, 100 YARDS

Figure 4 — All ten blind groups, photographed on the day and cropped identically for side-by-side comparison. Columns ordered by two-shooter average (Table 2), best on the left. Group sizes as recorded.

SPEER GOLD DOT 62 GR	VELOCITAS VX223 60 GR	FEDERAL PREMIUM TRU 64 GR	FEDERAL FUSION MSR 62 GR	FEDERAL XF223SP 62 GR
				
Shooter 1 — **2.0″**	Shooter 1 — **1.75″**	Shooter 1 — **1.75″**	Shooter 1 — **3.75″**	Shooter 1 — **3.25″**
				
Shooter 2 — **1.75″**	Shooter 2 — **2.125″**	Shooter 2 — **2.75″**	Shooter 2 — **1.75″**	Shooter 2 — **2.75″**

WEIGHT RECORD — ROUND BY ROUND

Table 4 — Loaded-round weight, all 10 rounds per load, grains. Raw data shown in full; nothing averaged away.

ROUND	VX223 60 GR	GOLD DOT 62 GR	FUSION MSR 62 GR	XF223SP 62 GR	PREMIUM TRU 64 GR
1	184.2	183.6	182.4	185.2	187.8
2	183.8	184.2	183.6	185.2	188.4
3	184.2	183.2	183.2	184.8	188.0
4	183.8	183.6	183.2	184.6	188.0
5	184.0	183.0	183.0	186.4	188.0
6	184.0	183.2	183.2	184.6	187.8
7	184.0	183.4	183.6	184.0	188.4
8	184.2	182.8	183.0	184.6	187.4
9	184.0	183.4	183.2	184.8	188.2
10	184.0	182.6	183.0	186.0	188.2
Average	**184.02**	183.30	183.14	185.02	188.02
SD	**0.140**	0.431	0.323	0.678	0.289
ES	**0.4**	1.6	1.2	2.4	1.0

CONSISTENCY AT A GLANCE

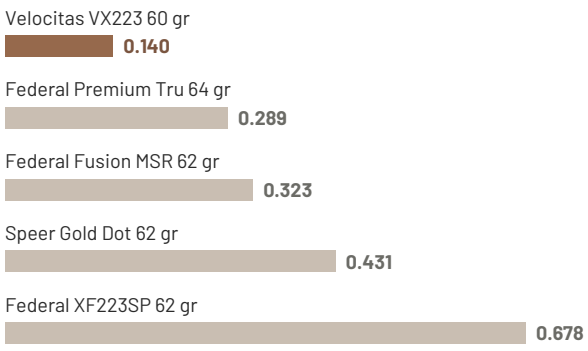


Figure 5 — Round-weight standard deviation by load, grains. Lower is more consistent. Generated from Table 4.

Loaded-round weight spread is a manufacturing-consistency signal: the tighter the spread, the more uniform the case fill, projectile, and seating. The VX223 sample held a 0.4 gr extreme spread across 10 rounds — less than half the next-closest load in this test.

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