6mm ARC

Overview

The **6mm Advanced Rifle Cartridge** (6×38mm), or **6mm ARC** for short, is a 6 mm (.243) caliber intermediate rifle cartridge designed as a low-recoil, high-accuracy long-range cartridge, designed for use in the AR-15 platform at request of a special forces unit for its multipurpose combat rifle program.

The 6mm ARC is a great all round cartridge, offering great ballistics and similar (25rnd) magazine capacity to 5.56 but at a slightly increased weight. Due to its military usage it also has tracer and armor piercing offerings.

Stats

Ammunition Type	Damage	Bullet Velocity (m/s)	Barrier Penetration (AP)
108gr Match	11.5	853.44	1.66
115gr Hunter	13.6	803.99	1.19
85gr Velocitor	8.2	1023.1	2.85
AP	9.7	840.1	9

Note: Barrier penetration represents the rounds ability to go through walls and barriers. Armor piercing represents the rounds ability to penetrate body armor plates.

Range Cards

108gr Match

Target Range (m)	Bullet 853
100	-0.0
150	-0.1
200	-0.4
250	-0.6
300	-1.0
350	-1.3
400	-1.6
450	-2.0
500	-2.3
550	-2.7
600	-3.1
650	-3.4
700	-3.8
750	-4.2
800	-4.6
850	-5.0
900	-5.4
950	-5.8
1000	-6.2
1050	-6.6
1100	-7.1
1150	-7.5
1200	-7.9
1250	-8.4
1300	-8.8
1350	-9.3
1400	-9.7
1450	-10.2
1500	-10.6
1550	-11.1
1600	-11.6
1650	-12.0
1700	-12.5
1750	-13.0
1800	-13.5
1850	-14.0
1900	-14.5
1950	-15.0
2000	-15.6
2050	-16.1
2100	-16.6
2150	-17.1
2200	-17.7
2250	-18.2
2300	-18.8
2350	-19.3
2400	-19.9
2450	-20.5
2500	-21.1
2550	-21.7

115gr Hunter

Target Range (m)	Bullet 804
100	-0.0
150	-0.2
200	-0.5
250	-0.8
300	-1.2
350	-1.6
400	-2.1
450	-2.5
500	-3.0
550	-3.5
600	-4.0
650	-4.5
700	-5.0
750	-5.5
800	-6.1
850	-6.6
900	-7.2
950	-7.8
1000	-8.4
1050	-9.1
1100	-9.7
1150	-10.4
1200	-11.1
1250	-11.8
1300	-12.5
1350	-13.2
1400	-14.0
1450	-14.7
1500	-15.5
1550	-16.4
1600	-17.2
1650	-18.1
1700	-19.0
1750	-19.9
1800	-20.8
1850	-21.8
1900	-22.8
1950	-23.8
2000	-24.8
2050	-25.9
2100	-27.0
2150	-28.1
2200	-29.3
2250	-30.5
2300	-31.7
2350	-32.9
2400	-34.2
2450	-35.6
2500	-36.9
2550	-38.3

85gr Velocitor

Target Range (m)	Bullet 1023
100	-0.0
150	-0.0
200	-0.2
250	-0.4
300	-0.6
350	-0.8
400	-1.1
450	-1.4
500	-1.7
550	-2.0
600	-2.3
650	-2.6
700	-2.9
750	-3.3
800	-3.6
850	-4.0
900	-4.3
950	-4.7
1000	-5.1
1050	-5.5
1100	-5.9
1150	-6.4
1200	-6.8
1250	-7.3
1300	-7.7
1350	-8.2
1400	-8.7
1450	-9.2
1500	-9.7
1550	-10.3
1600	-10.8
1650	-11.4
1700	-12.0
1750	-12.6
1800	-13.2
1850	-13.9
1900	-14.5
1950	-15.2
2000	-15.9
2050	-16.6
2100	-17.4
2150	-18.1
2200	-18.9
2250	-19.7
2300	-20.6
2350	-21.4
2400	-22.3
2450	-23.2
2500	-24.2
2550	-25.1

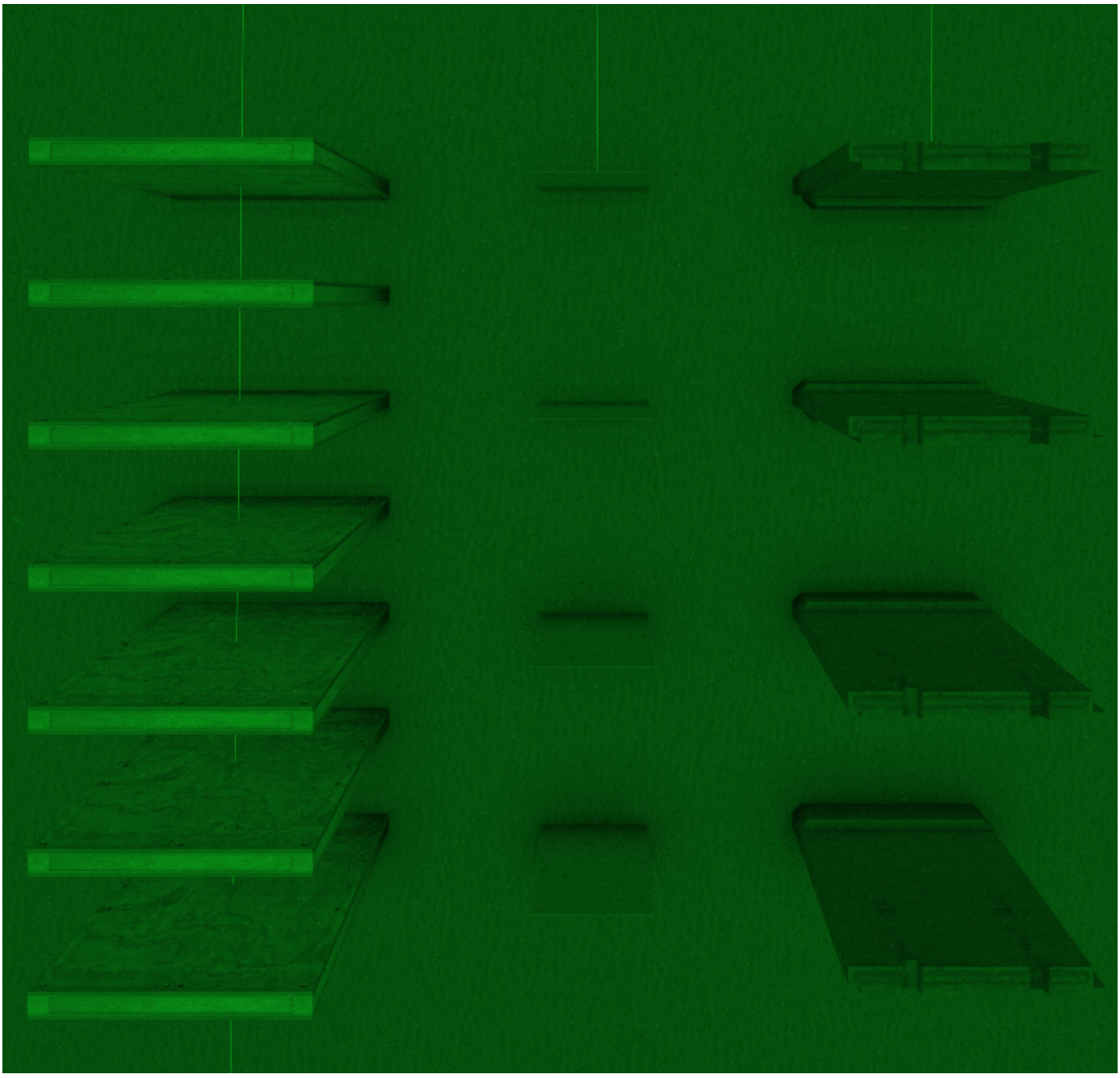
Tungsten Core Armor Piercing

Target Range (m)	Bullet 840
100	-0.0
150	-0.1
200	-0.4
250	-0.7
300	-1.1
350	-1.5
400	-1.9
450	-2.3
500	-2.8
550	-3.2
600	-3.7
650	-4.2
700	-4.7
750	-5.2
800	-5.7
850	-6.3
900	-6.8
950	-7.4
1000	-8.0
1050	-8.6
1100	-9.3
1150	-9.9
1200	-10.6
1250	-11.3
1300	-12.0
1350	-12.7
1400	-13.5
1450	-14.3
1500	-15.1
1550	-15.9
1600	-16.8
1650	-17.7
1700	-18.6
1750	-19.5
1800	-20.5
1850	-21.5
1900	-22.5
1950	-23.6
2000	-24.7
2050	-25.8
2100	-27.0
2150	-28.2
2200	-29.4
2250	-30.7
2300	-32.0
2350	-33.4
2400	-34.8
2450	-36.2
2500	-37.7
2550	-39.2

Penetration Testing

Standardised penetration test at 100m against three materials: Timber, Steel and Concrete.

Timber is spaced at 1m Intervals, with 7 walls.
Steel is spaced at 1m Intervals with 4 plates.
Concrete is spaced at 2m Intervals with 4 walls.



This testing is relatively limited in what data it can provide and how it can be interpreted.

Here is how I will score it:

Penetration - x/7 (How much of said material it penetrated)
Deviation - Severe/Acceptable/None (How much it deviated during/after penetration)
Slowdown - Stopped/Severe/Minor/None (Change in velocity as a result of successful penetration)

Load	*(Timber)* *Penetration* *Deviation* *Slowdown*	*(Steel)* *Penetration* *Deviation* *Slowdown*	*(Concrete)* *Penetration* *Deviation* *Slowdown*
108gr Match	***7/7*** ***None*** ***None***	***0/4*** ***N/A*** ***Stopped***	***0/4*** ***N/A*** ***Stopped***
115gr Hunter	***1/7*** ***Severe*** ***Severe***	***0/4*** ***N/A*** ***Stopped***	***0/4*** ***N/A*** ***Stopped***
85gr Velocitor	***7/7*** ***Acceptable*** ***Minor***	***0/4*** ***N/A*** ***Stopped***	***0/4*** ***N/A*** ***Stopped***
Armor Piercing	***7/7*** ***None*** ***None***	***4/4*** ***Acceptable*** ***Minor***	***2/4*** ***None*** ***Stopped***

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