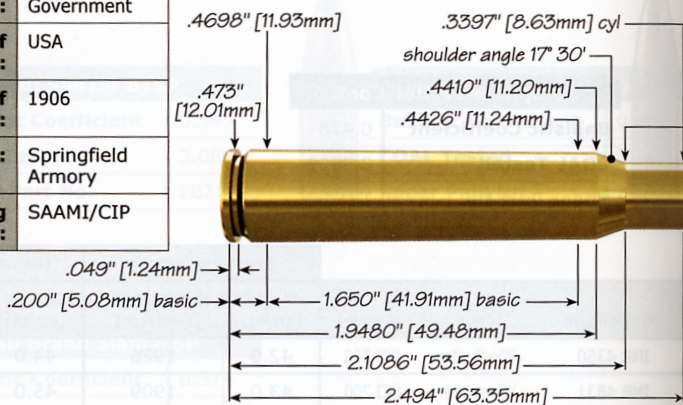


30-06 SPRINGFIELD

Alternate Names:	7.62x63mm, 30 Government, 30 M1, 30 M2
Parent Cartridge:	30-03 Government
Country of Origin:	USA
Year of Introduction:	1906
Designer(s):	Springfield Armory
Governing Body:	SAAMI/CIP



CARTRIDGE CASE DATA

Case Type:	Rimmed, bottleneck		
Average Case Capacity:	68.0 grains H ₂ O	Max. Cartridge OAL:	3.340 inch
Max. Case Length:	2.494 inch	Primer:	Large Rifle
Case Trim to Length:	2.484 inch	RCBS Shell holder:	# 3
Current Manufacturers:	Federal, Remington, Winchester, Hornady, Black Hills, PMC, IMI, PMP, Prvi Partizan, Sellier & Bellot, Wolf, RAUG, Norma, Nosler		

BALLISTIC DATA

Max. Average Pressure (MAP):	60,000 psi, 50,000 CUP - SAAMI	Test Barrel Length:	24 inch
Rifling Twist Rate:	1 turn in 10 inch		
Muzzle velocities of factory loaded ammunition	Bullet Wgt.	Muzzle velocity	
	147-grain	3,020 fps	
	150-grain	2,910 fps	
	165-grain	2,800 fps	
	168-grain	2,700 fps	
	180-grain	2,700 fps	
	190-grain	2,750 fps	
	200-grain	2,540 fps	
	220-grain	2,400 fps	
	Muzzle velocity will decrease approximately 20 fps per inch for barrels less than 24 inches.		

- In 1903, the U.S. Army adopted its first rimless, 30-caliber service cartridge, sometimes called the 30-03 Springfield.
- In step with other military service cartridges of that era, the 30-03 was loaded with the same 220-grain full metal jacket round nose bullet used in the 30-40 Krag, albeit at a higher muzzle velocity.
- As work progressed on the new 30-03 cartridge and rifle at Springfield Armory in Massachusetts, the premise on which the new 30-03 cartridge was based changed abruptly in 1905.
- In that year, the German Army adopted the new S Patrone, their 7.92x57mm JS (aka 8x57mm Mauser) military cartridge updated with a 154-grain full metal jacket pointed (*spitzer*) bullet at high velocity.
- This development turned military bullet technology on its ear. The new 30-03 cartridge with its lumbering 220-grain bullet was going to be obsolete even before its adoption was complete!
- In response, the U.S. military quickly initiated a revised program to develop a spitzer bullet for their new cartridge. The result was a 150-grain spitzer boat tail bullet with a cupro-nickel jacket which was, in fact, aerodynamically superior to the hollow base German bullet.
- At the same time, a sufficient number of improvements were made to the 30-03 cartridge case to create a new cartridge designated in military parlance as the "Ball Cartridge, Caliber 30, Model of 1906". This rather ponderous title was shortened to 30-06 Springfield for commercial use.
- After serving in two world wars and several lesser conflicts, the U.S. military declared the 30-06 Springfield cartridge obsolete in 1957; military production of 30-06 ammunition in the U.S. ended shortly thereafter.
- Most military cartridges have enjoyed success as a commercial cartridge and the 30-06 Springfield is a sterling example. Hunters found its power impressive and appreciated its ability to use a wide range of bullet weights and types. The 30-06 Springfield proved versatile and reliable enough to take every species of North American game and many types of African plains game as well.
- The 30-06 Springfield cartridge also enjoyed success in competition, winning numerous events and awards. Even today, some older competitors still prefer the 30-06.
- It is for these reasons that the 30-06 Springfield cartridge has remained at the top of the best seller list for over 112 years now, a position that it shows no sign of losing.
- Today, for all major and most minor ammunition makers, the 30-06 Springfield cartridge is a staple item that forms the core of their business.
- Even European hunters have come to appreciate the ballistic capabilities of the 30-06 Springfield!

Interesting Fact

One of the more arcane ballistic objectives in the development of the 30-03 and 30-06 military cartridges was that it had to be capable of killing a cavalry horse with one shot at 1,000 yards!

TECHNICAL NOTES

- The length, volume and construction of the 30-06 Springfield cartridge make it an inviting candidate for a bewildering number of wildcat designs. Several have made the transition to commercial production such as the 25-06 Remington, 270 Winchester, 280 Remington, and the 35 Whelen.
- In Europe the 30-06 Springfield is often called the 7.62x63mm Springfield.
- Military 30-06 Springfield cartridge cases are substantially heavier and have less case capacity than commercial brass in this caliber.
- Military surplus 30-06 ammunition made before 1952 was loaded with corrosive primers. After you fire this type of ammunition, clean the bore of your rifle thoroughly with hot, soapy water or a suitable cleaning agent to remove the corrosive salts. Never use a cleaner with ammonia as an ingredient!
- Empty cartridge cases fired with corrosive primers should be destroyed as the corrosive salts will attack and weaken brass.

HANDLOADING NOTES

- In addition to the manufacturers providing loaded ammunition listed above, Winchester, Remington, Federal, Norma, Hornady, Sako, Lapua, Sellier & Bellot, and Prvi Partizan offer new, empty, unprimed brass cartridge cases in 30-06 Springfield caliber for handloading.
- 30-06 Springfield ammunition fired in semi-automatic rifles such as the M1 Garand will require full length resizing with a small base die. You can reduce sizing effort by thoroughly cleaning and lubricating your cases before sizing. Reduce neck sizing ball effort caused by the thick military case necks by polishing the necks inside with a bore brush held in an electric drill.
- Military cartridge cases in this caliber have primers that are crimped in place. Decapping these cases requires additional force which may result in broken decapping pins. The smart reloader keeps a stock of extra decapping pins on hand for such eventualities. Be sure to remove the crimp on the primer pocket before inserting a fresh primer. RCBS makes a tool for this purpose.

SAFETY NOTES

SPEER 180-grain Spitzer BTSP @ a muzzle velocity of 2,756 fps:

- Maximum vertical altitude @ 90° elevation is 16,572 feet.
- Maximum horizontal distance to first impact with ground @ 38° elevation is 7,809 yards.
- Military 30-06 Springfield ammunition can be fired safely in commercial rifles chambered for this caliber. However, commercial ammunition is not recommended due to the potential for out-of-battery firings caused by floating firing pins which are found in most semi-automatic modern sporting rifles (MSRs). To prevent this problem, use CCI No. 34 Large Rifle primers which are designed especially for this application.

100 GRAINS

DIAMETER SECTIONAL DENSITY

.308"

0.151

30 Plinker® SPRN

Ballistic Coefficient 0.144

COAL Tested 2.935"

Speer Part No. 1805



Propellant	Case	Primer	Starting Charge		Maximum Charge	
			Weight (grains)	Muzzle Velocity (feet/sec)	Weight (grains)	Muzzle Velocity (feet/sec)
IMR 3031	Winchester	CCI 200	53.0	3251	57.0	3510
IMR 4064	Winchester	CCI 200	55.0	3202	59.0	3450
Hodgdon H335	Winchester	CCI 250	54.0	3147	58.0	3383
Winchester 748	Winchester	CCI 250	56.0	3166	60.0	3369
IMR 4895	Winchester	CCI 200	51.0	3073	55.0	3323
IMR 4320	Winchester	CCI 200	54.0	3044	58.0	3289
Hodgdon H322	Winchester	CCI 200	48.0	2985	52.0	3268
Alliant Reloder 7	Winchester	CCI 200	43.0	2875	47.0	3239
IMR SR 4759 (reduced load)	Winchester	CCI 200	16.0	1545	20.0	1969

110 GRAINS

DIAMETER SECTIONAL DENSITY

.308"

0.166

30 Varminter HP

Ballistic Coefficient 0.128

COAL Tested 2.870"

Speer Part No. 1835



This bullet is not designed for velocities exceeding those listed here.

Propellant	Case	Primer	Starting Charge		Maximum Charge	
			Weight (grains)	Muzzle Velocity (feet/sec)	Weight (grains)	Muzzle Velocity (feet/sec)
Winchester 760	Winchester	CCI 250	52.0	2682	56.0	2904
Winchester 748	Winchester	CCI 250	44.5	2631	48.5	2888
IMR 4350	Winchester	CCI 200	54.0	2651	58.0	2873
IMR 3031	Winchester	CCI 200	42.5	2601	46.5	2871
IMR 4895	Winchester	CCI 200	44.0	2588	48.0	2847
Alliant Reloder 7	Winchester	CCI 200	38.0	2541	42.0	2836
Hodgdon H322	Winchester	CCI 200	41.0	2530	45.0	2769
Hodgdon BL-C(2)	Winchester	CCI 250	48.0	2537	52.0	2766
IMR 4227 (reduced load)	Winchester	CCI 200	29.0	2316	31.0	2500

WARNING! Maximum loads should be used with CAUTION • C = Compressed Load

110 GRAINS

DIAMETER

SECTIONAL DENSITY

.308"

0.166



30 TMJ RN

Ballistic Coefficient 0.179

COAL Tested 2.915"

Speer Part No. 1846

Propellant	Case	Primer	Starting Charge		Maximum Charge	
			Weight (grains)	Muzzle Velocity (feet/sec)	Weight (grains)	Muzzle Velocity (feet/sec)
Winchester 748	Winchester	CCI 250	58.0	3201	62.0 C	3414
Alliant Reloder 15	Winchester	CCI 200	56.0	3124	60.0 C	3363
Accurate 2460	Winchester	CCI 250	51.0	3129	55.0	3349
Accurate 2520	Winchester	CCI 250	52.0	3144	56.0	3343
Hodgdon Varget	Winchester	CCI 200	55.0	3063	59.0 C	3312
IMR 4064	Winchester	CCI 200	54.0	2965	58.0	3264
Vihtavuori N135	Winchester	CCI 200	51.0	3047	55.0	3258
Accurate 2495	Winchester	CCI 200	51.0	2950	55.0	3218
IMR 4320	Winchester	CCI 200	53.0	2931	57.0	3135
IMR 4895	Winchester	CCI 200	50.5	2908	54.5	3127
Hodgdon H4895	Winchester	CCI 200	49.0	2855	53.0	3123
Hodgdon BL-C(2)	Winchester	CCI 250	51.0	2815	55.0	3096
Hodgdon H322	Winchester	CCI 200	46.0	2789	50.0	2941
Accurate 5744 (reduced load)	Winchester	CCI 200	26.0	1965	27.0	2044

WARNING! Maximum loads should be used with CAUTION • C = Compressed Load

125 GRAINS

DIAMETER

.308"

SECTIONAL DENSITY

0.188



30 TNT® HP

Ballistic Coefficient 0.341

COAL Tested 3.100"

Speer Part No. 1986

Propellant	Case	Primer	Starting Charge		Maximum Charge	
			Weight (grains)	Muzzle Velocity (feet/sec)	Weight (grains)	Muzzle Velocity (feet/sec)
Alliant AR-Comp	Federal	Federal 210	48.6	3037	53.7	3261
Alliant Power Pro Varmint	Federal	Federal 210	48.4	2964	53.6	3228
IMR 8208 XBR	Federal	Federal 210	48.4	3048	52.6	3222
Alliant Reloder 10X	Federal	Federal 210	46.3	2959	51.3	3210
Accurate 2460	Winchester	CCI 250	49.0	2974	53.0	3178
IMR 3031	Winchester	CCI 200	50.0	2862	54.0	3167
Vihtavuori N135	Winchester	CCI 200	49.0	2844	53.0	3116
Accurate 2015	Winchester	CCI 200	46.0	2905	50.0	3111
Hodgdon BL-C(2)	Winchester	CCI 250	51.0	2874	55.0	3106
Accurate 2495	Winchester	CCI 200	50.0	2876	54.0	3105
Accurate 2230	Winchester	CCI 200	47.0	2887	51.0	3103
Hodgdon H335	Winchester	CCI 250	51.0	2872	55.0	3093
Accurate 2520	Winchester	CCI 250	48.0	2867	52.0	3085
Hodgdon Varget	Winchester	CCI 200	51.5	2763	55.5	3037
Hodgdon H4895	Winchester	CCI 200	47.0	2741	51.0	3025
Alliant Power Pro 1200-R	Federal	Federal 210	38.5	2812	42.5	3025
IMR 4320	Winchester	CCI 200	51.0	2762	55.0	3011
IMR 4895	Winchester	CCI 200	48.0	2777	52.0	3002
Hodgdon H322	Winchester	CCI 200	44.0	2720	48.0	2916

WARNING! Maximum loads should be used with CAUTION • C = Compressed Load

130 GRAINS

DIAMETER

SECTIONAL DENSITY

.308"

0.196



30 HP

Ballistic Coefficient	0.244
COAL Tested	3.060"
Speer Part No.	2005



30 SPFN Hot-Cor®

Ballistic Coefficient	0.212
COAL Tested	2.984"
Speer Part No.	2007

Propellant	Case	Primer	Starting Charge		Maximum Charge	
			Weight (grains)	Muzzle Velocity (feet/sec)	Weight (grains)	Muzzle Velocity (feet/sec)
Alliant Power Pro 2000-MR	Federal	Federal 210	51.2	2928	56.6	3192
Alliant Reloder 15	Federal	Federal 210	49.5	2862	54.7	3165
Alliant AR-Comp	Federal	Federal 210	46.5	2915	51.4	3149
IMR 8208 XBR	Federal	Federal 210	45.5	2905	50.6	3120
Alliant Power Pro Varmint	Federal	Federal 210	44.6	2841	49.3	3064
Accurate 2460	Winchester	CCI 250	47.5	2805	51.0	3031
IMR 4064	Winchester	CCI 200	51.0	2802	55.0	3022
Hodgdon H414	Winchester	CCI 250	56.0	2787	60.0	3012
Hodgdon Varget	Winchester	CCI 200	51.0	2771	55.0	3006
Accurate 2015	Winchester	CCI 200	45.0	2803	49.0	3004
IMR 3031	Winchester	CCI 200	48.5	2678	52.5	3003
Hodgdon H335	Winchester	CCI 250	50.0	2758	54.0	2979
IMR 4895	Winchester	CCI 200	47.5	2728	51.5	2937
Winchester 748	Winchester	CCI 250	51.0	2728	55.0	2910
Hodgdon BL-C(2)	Winchester	CCI 250	49.0	2699	53.0	2894
Vihtavuori N140	Winchester	CCI 200	48.0	2671	52.0	2868
Hodgdon H4895	Winchester	CCI 200	45.0	2654	49.0	2764
Hodgdon H322	Winchester	CCI 200	43.0	2546	47.0	2757
Accurate 5744 (reduced load)	Winchester	CCI 200	25.0	1819	27.0	1949

WARNING! Maximum loads should be used with CAUTION • C = Compressed Load

150 GRAINS

DIAMETER

SECTIONAL DENSITY

.308"

0.226



30 SPFN Hot-Cor®

Ballistic Coefficient	0.255
COAL Tested	2.984"
Speer Part No.	2011



30 Spitzer BTSP

Ballistic Coefficient	0.417
COAL Tested	3.250"
Speer Part No.	2022



30 Spitzer SP Hot-Cor®

Ballistic Coefficient	0.377
COAL Tested	3.250"
Speer Part No.	2023



30 Grand Slam® SP

Ballistic Coefficient	0.295
COAL Tested	3.160"
Speer Part No.	2026

Propellant	Case	Primer	Starting Charge		Maximum Charge	
			Weight (grains)	Muzzle Velocity (feet/sec)	Weight (grains)	Muzzle Velocity (feet/sec)
Alliant Reloder 16	Federal	Federal 210	53.3	2754	59.0 C	3013
Alliant Reloder 17	Federal	Federal 210	51.7	2716	56.7	2958
IMR 4451	Federal	Federal 210	54.5	2700	60.4 C	2933
Alliant Power Pro 2000-MR	Federal	Federal 210	46.6	2685	51.4	2906
Hodgdon H380	Winchester	CCI 250	54.0	2690	58.0	2885
IMR 4350	Winchester	CCI 200	55.0	2620	59.0	2872
Vihtavuori N540	Winchester	CCI 200	45.0	2664	49.0	2867
Alliant AR-Comp	Federal	Federal 210	42.6	2656	47.1	2859
Hodgdon H414	Winchester	CCI 250	54.0	2633	58.0	2840
Hodgdon Varget	Winchester	CCI 200	49.0	2587	53.0	2817
Winchester 760	Winchester	CCI 250	53.0	2558	57.0	2814
Hodgdon H4350	Winchester	CCI 200	55.0	2541	59.0 C	2800
IMR 4064	Winchester	CCI 200	48.0	2547	52.0	2772
Alliant Reloder 15	Winchester	CCI 200	48.0	2550	52.0	2762
IMR 4895	Winchester	CCI 200	45.5	2543	49.5	2756
Alliant Reloder 19	Winchester	CCI 200	58.0	2548	62.0 C	2756
Accurate 2460	Winchester	CCI 250	44.0	2585	48.0	2750
Hodgdon H4895	Winchester	CCI 200	42.0	2451	46.0	2601
Accurate 5744 (reduced load)	Winchester	CCI 200	26.0	1941	28.0	2064

WARNING! Maximum loads should be used with CAUTION • C = Compressed Load

165 GRAINS

DIAMETER

SECTIONAL DENSITY

.308"

0.248



30 Spitzer BTSP

Ballistic Coefficient	0.520
COAL Tested	3.250"
Speer Part No.	2034



30 Spitzer SP Hot-Cor®

Ballistic Coefficient	0.444
COAL Tested	3.250"
Speer Part No.	2035



30 Grand Slam® SP

Ballistic Coefficient	0.354
COAL Tested	3.165"
Speer Part No.	2038

Propellant	Case	Primer	Starting Charge		Maximum Charge	
			Weight (grains)	Muzzle Velocity (feet/sec)	Weight (grains)	Muzzle Velocity (feet/sec)
Ramshot Hunter	Federal	Federal 210	57.4	2803	63.4 C	2974
Alliant Power Pro 4000-MR	Federal	Federal 210	54.8	2705	60.8 C	2943
Alliant Reloder 16	Federal	Federal 210	52.0	2733	57.0 C	2936
Alliant Reloder 17	Federal	Federal 210	51.9	2678	56.5	2879
Accurate 4350	Federal	Federal 210	53.6	2622	59.5 C	2870
Alliant Power Pro 2000-MR	Federal	Federal 210	47.2	2628	52.2	2851
Winchester 760	Winchester	CCI 250	53.0	2631	57.0	2840
Hodgdon H4831SC	Winchester	CCI 200	60.0	2534	62.0 C	2808
IMR 4350	Winchester	CCI 200	54.0	2501	58.0	2782
Vihtavuori N540	Winchester	CCI 200	43.0	2598	47.0	2774
Alliant Reloder 22	Winchester	CCI 200	58.0	2530	62.0 C	2759
Hodgdon H4350	Winchester	CCI 200	54.0	2489	58.0 C	2758
Hodgdon H414	Winchester	CCI 250	52.0	2520	56.0	2757
Hodgdon H380	Winchester	CCI 250	51.0	2544	55.0	2740
Hodgdon Varget	Winchester	CCI 200	46.0	2462	50.0	2703
IMR 4831	Winchester	CCI 200	55.0	2442	59.0	2702
Vihtavuori N140	Winchester	CCI 200	46.0	2490	50.0	2695
IMR 4064	Winchester	CCI 200	46.5	2433	50.5	2671
Alliant Reloder 19	Winchester	CCI 200	55.0	2372	59.0 C	2644
Accurate 2520	Winchester	CCI 250	42.0	2354	46.0	2624
IMR SR 4759 (reduced load)	Winchester	CCI 200	21.0	1615	25.0	1949

WARNING! Maximum loads should be used with CAUTION • C = Compressed Load

168 GRAINS

DIAMETER

.308"

SECTIONAL DENSITY

0.253



30 Match BTHP

Ballistic Coefficient 0.534

COAL Tested 3.295"

Speer Part No. 2040

Propellant	Case	Primer	Starting Charge		Maximum Charge	
			Weight (grains)	Muzzle Velocity (feet/sec)	Weight (grains)	Muzzle Velocity (feet/sec)
Alliant Reloder 16	Federal	Federal 210	52.9	2725	58.6 C	2952
Alliant Reloder 17	Federal	Federal 210	51.0	2626	56.7	2886
Vihtavuori N160	Winchester	CCI 200	57.0	2610	61.0	2863
IMR 4451	Federal	Federal 210	52.3	2633	58.1 C	2857
Hodgdon H4350	Winchester	CCI 200	56.0	2591	60.0 C	2831
IMR 4350	Winchester	CCI 200	55.0	2586	59.0	2818
Alliant AR-Comp	Federal	Federal 210	43.1	2590	47.7	2787
†Hodgdon H380	Winchester	CCI 250	51.0	2479	55.0	2770
IMR 7828	Winchester	CCI 250	58.0	2575	62.0	2739
Alliant Reloder 19	Winchester	CCI 200	57.0	2489	61.0 C	2730
Hodgdon H4831	Winchester	CCI 250	57.0	2450	61.0 C	2693
IMR 4831	Winchester	CCI 250	56.0	2398	60.0	2664
Hodgdon H414	Winchester	CCI 250	50.0	2453	54.0	2664
Winchester 760	Winchester	CCI 250	50.0	2411	54.0	2658
†IMR 4895	Winchester	CCI 200	44.0	2461	48.0	2635
†IMR 4064	Winchester	CCI 200	45.0	2389	49.0	2577

†—denotes propellant suitable for gas-operated semi-auto match rifles

WARNING! Maximum loads should be used with CAUTION • C = Compressed Load

180 GRAINS

DIAMETER

SECTIONAL DENSITY

.308"

0.271



30 Spitzer BTSP

Ballistic Coefficient	0.545
COAL Tested	3.250"
Speer Part No.	2052



30 Spitzer SP Hot-Cor®

Ballistic Coefficient	0.441
COAL Tested	3.160"
Speer Part No.	2053



30 Grand Slam® SP

Ballistic Coefficient	0.374
COAL Tested	3.160"
Speer Part No.	2063

Propellant	Case	Primer	Starting Charge		Maximum Charge	
			Weight (grains)	Muzzle Velocity (feet/sec)	Weight (grains)	Muzzle Velocity (feet/sec)
Ramshot Hunter	Federal	Federal 210	54.1	2592	59.2 C	2797
Hodgdon H4350	Winchester	CCI 200	54.0	2671	58.0 C	2791
IMR 4064	Winchester	CCI 200	46.0	2612	50.0	2791
Alliant Reloder 16	Federal	Federal 210	49.8	2545	55.2 C	2770
Alliant Reloder 23	Federal	Federal 210	53.2	2503	59.9 C	2769
Alliant Power Pro 4000-MR	Federal	Federal 210	51.4	2552	57.1 C	2764
Alliant Reloder 22	Winchester	CCI 200	58.0	2648	62.0 C	2755
Hodgdon H4831SC	Winchester	CCI 200	60.0	2610	62.0 C	2753
Alliant Reloder 17	Federal	Federal 210	49.0	2522	54.4	2732
IMR 4831	Winchester	CCI 200	55.0	2572	59.0 C	2716
Winchester 760	Winchester	CCI 250	51.0	2567	55.0	2709
Hodgdon H414	Winchester	CCI 250	51.0	2573	55.0	2705
Alliant Reloder 19	Winchester	CCI 200	55.0	2483	59.0 C	2671
IMR 4350	Winchester	CCI 200	52.0	2523	56.0 C	2670
Alliant Power Pro 2000-MR	Federal	Federal 210	45.0	2445	49.8	2666
Accurate 4350	Winchester	CCI 200	53.0	2469	57.0 C	2645
Vihtavuori N160	Winchester	CCI 200	52.0	2351	56.0	2584
Alliant Reloder 15	Winchester	CCI 200	45.0	2434	49.0	2579
IMR 4895	Winchester	CCI 200	43.0	2387	47.0	2564
IMR 4198 (reduced load)	Winchester	CCI 200	26.0	1725	30.0	2010

WARNING! Maximum loads should be used with CAUTION • C = Compressed Load

200 GRAINS

DIAMETER

.308"

SECTIONAL DENSITY

0.301



30 Spitzer SP Hot-Cor®

Ballistic Coefficient 0.478

COAL Tested 3.295"

Speer Part No. 2211

Propellant	Case	Primer	Starting Charge		Maximum Charge	
			Weight (grains)	Muzzle Velocity (feet/sec)	Weight (grains)	Muzzle Velocity (feet/sec)
Alliant Reloder 26	Federal	Federal 210	52.2	2408	57.8 C	2667
Alliant Reloder 23	Federal	Federal 210	49.6	2357	54.8 C	2580
Alliant Reloder 16	Federal	Federal 210	46.7	2354	51.7	2578
Alliant Power Pro 4000-MR	Federal	Federal 210	48.1	2370	53.2	2575
Alliant Reloder 17	Federal	Federal 210	45.4	2324	50.4	2561
IMR 7977	Federal	Federal 210	53.9	2303	59.7 C	2546
Hodgdon H4350	Federal	Federal 210	45.8	2322	50.8	2528
Alliant Reloder 22	Winchester	CCI 200	54.0	2281	58.0 C	2525
Alliant Reloder 25	Winchester	CCI 200	58.0	2378	60.0 C	2506
Hodgdon H414	Winchester	CCI 250	49.0	2339	53.0	2477
IMR 4350	Winchester	CCI 200	50.0	2265	54.0	2473
Hodgdon H4831SC	Winchester	CCI 200	53.0	2236	57.0 C	2471
IMR 4831	Winchester	CCI 200	52.0	2302	56.0 C	2453
Vihtavuori N160	Winchester	CCI 200	50.0	2214	54.0	2408
Alliant Reloder 15	Winchester	CCI 200	43.0	2219	47.0	2393
Hodgdon H1000	Winchester	CCI 200	57.0	2167	61.0 C	2393
Hodgdon H380	Winchester	CCI 250	46.0	2177	50.0	2382
Winchester 760	Winchester	CCI 250	47.0	2258	51.0	2369
Alliant Reloder 19	Winchester	CCI 200	51.0	2173	55.0	2356
IMR 4064	Winchester	CCI 200	42.0	2161	46.0	2332
IMR 4198 (reduced load)	Winchester	CCI 200	27.0	1723	31.0	1998

WARNING! Maximum loads should be used with CAUTION • C = Compressed Load