

6.5 PRC

Test Specifications:

Firearm Used: Universal

Barrel Length: 24"

Twist: 1 - 8"

Components:

Case: Nosler

Trim-to Length: 2.015"

Primer: WLR

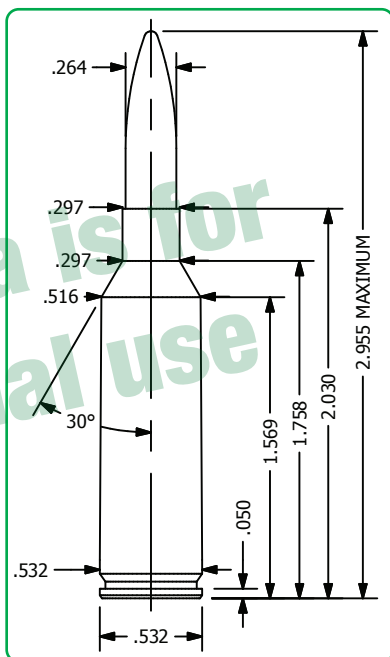
Remarks:

In 2012, gunsmith George Gardner of G.A. Precision decided to design a cartridge specifically for the new Precision Rifles Series, a long range competition taking place over several shoots during the year. Gardner decided high ballistic coefficient 6.5mm bullets were ideal, given the parameters of PRS rules: bullets no more than .30 caliber with a muzzle velocity not exceeding 3200 fps. He did some fooling with QuickLOAD, and after shooting a couple of the resulting designs, decided on the Ruger Compact Magnum case necked down as the ideal combination of accuracy, recoil and barrel life, since it safely started heavier, high BC bullets at velocities close to, but not over, the 3200 fps maximum.



Gardner also saw the round as a very good hunting cartridge, filling the ballistic gap between the smaller factory 6.5's such as the Creedmoor, .260 Remington and 6.5x55 and the .264 Winchester Magnum, 6.5-300 Weatherby Magnum, and 26 Nosler. It does exactly that, because the powder capacity is similar to the 6.5-06 Ackley Improved wildcat. With the same bullet weights, in the same barrel length, the 6.5 PRC develops just about the same muzzle velocities and recoil as the .270 Winchester, but with higher BC bullets, a very useful slot in big game rounds.

My own 6.5 PRC is a custom hunting rifle, built by Kentucky gunsmith Charlie Sisk on a "short magnum" Remington 700 action, weighing a little over eight pounds with a 24 inch Lilja barrel, Bansner High Tech stock, and Nightforce 3-10x42 SHV scope. Five shot (not 3 shot) groups at 100 yards with just about any good bullet average 1/2 to 3/4 inch, at typical .270 velocities from sporter length barrels.

PRS competitors typically use barrels at least 26 inches long, where muzzle velocities of the 6.5 PRC come within about 100 fps of the .264 Winchester Magnum, with noticeably less recoil. It's a great addition to the growing line up of factory 6.5mm cartridges.



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Bullet Caliber Weight Type						C.O.A.L.		
	#1715	.264"	107gr.	HPBT Match		2.955"		
	#7407	.264"	107gr.	TMK Match		2.955"		
Powder ∨	Velocity >	2900	3000	3100	3150	3200	3250	3300
IMR 4451 End.			50.0	52.0	53.0	54.0	55.1	56.1
H4350	46.1	48.0	50.0	51.0	52.1	53.1		
RE 16		48.5	50.7	51.7	52.7	53.6	54.6	
RE 17			49.7	50.8	51.9	52.8	53.8	
Hybrid 100V		48.7	50.5	51.4	52.4	53.4	54.4	
Energy Ft. Lbs		1998	2138	2283	2357	2432	2509	2587
Special Load	Powder	Grains		Velocity fps		Energy Ft. lbs		
Accuracy Load	IMR 4451 End.	56.1		3300		2587		
Sierra does not recommend MatchKing bullets for hunting applications.								






Barnes's hunting rifle was built by Sisk Guns on a Remington 700 action, and weighs a little over eight pounds with scope.



the same weight bullets, in the long length barrels, the 6.5 PRC muzzle velocities very similar to 270 Winchester, but with higher velocities.

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Bullet	Caliber	Weight	Type	C.O.A.L.
	#1720	.264"	120gr. SPT	2.925"
	#1725	.264"	120gr. HPBT Match	2.860"
	#1727	.264"	123gr. HPBT Match	2.955"

Powder	Velocity	2650	2750	2850	2950	3000	3050	3100
IMR 4451 End.		43.8	45.6	47.5	49.3	50.2	51.1	
H4350			43.8	45.8	47.9	49.0		
RE 16				46.0	48.2	49.3	50.4	
RE 17			43.5	45.7	47.8	48.8	49.8	50.7
Hybrid 100V			44.9	47.0	49.1	50.1	51.0	
H4831sc				51.0	53.3	54.4	55.5	56.5
IMR 4955 End.		46.8	48.3	50.1	52.1	53.1		
N560				51.7	53.8	54.8	55.8	56.8
RE 23				50.0	52.2	53.2	54.3	55.3
IMR 7828ssc			50.7	52.7	54.6	55.5	56.4	57.3
H1000				54.1	56.1	57.2	58.2	59.3
Energy Ft. Lbs		1871	2015	2164	2318	2398	2478	2560

Special Load	Powder	Grains	Velocity fps	Energy Ft. lbs
Accuracy Load	H4831sc	56.5	3100	2560
Hunting Load	RE 17	50.7	3100	2560

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6.5 PRC

65,000 PSI

Bullet	Caliber	Weight	Type	C.O.A.L.
#4330	0.264	130gr	TGK	2.940"
#1729	0.264	130gr	MK-CN	2.900"
#7430	0.264	130gr	TMK	2.920"
#1728	0.264	130gr	GK	2.765"

Powder	Velocity >	2800	2850	2900	3000	3050	3100	3150
H 4350		46.1	47.1	48.1	50.2			
H 4831sc		50.0	51.0	52.2	54.7			
R-23			49.8	50.9	53.1	54.5		
IMR 7828ssc			51.9	53.0	55.0	56.0	57.0	
N 565				54.9	57.2	58.4	59.5	60.1
N 170	55.1	56.2	57.3	59.5	60.0			
R-26			52.3	53.3	55.3	56.3	57.4	
H 1000			55.5	56.5	58.4	59.4	60.3	61.2
RS Magnum			57.7	58.6	60.6	61.6	63.0	
Retumbo	55.2	56.3	57.3	59.3	60.6			
Energy Ft. Lbs		2263	2344	2427	2598	2685	2774	2864

Special Load	Powder	Grains	Velocity fps	Energy Ft. Lbs
Accuracy Load	R-26	55.0	2965	2537
Hunting Load	H 4350	49.1	2950	2512

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INDICATES MAXIMUM LOAD - USE CAUTION
LOADS LESS THAN MINIMUM CHARGES SHOWN ARE NOT RECOMMENDED.

6.5 PRC

65,000 PSI

	Bullet	Caliber	Weight	Type	C.O.A.L.
	#1740	0.264	140gr	MK	2.850"
	#1730	0.264	140gr	SBT	2.810"
	#4340	0.264	140gr	TGK	2.940"
	#1742	0.264	142gr	MK-CN	2.920"
	#1743	0.264	142gr	MKX	2.905"

Powder	Velocity >	2750	2800	2850	2900	2950	3000	3050
H 4831sc	49.8	50.9	52.0	53.2	53.8			
R-23	49.3	50.5	51.6	52.7	54.4			
IMR 7828ssc	50.2	51.3	52.4	53.4	54.4			
N 565		52.6	53.9	55.3	56.7	57.7		
N 170	51.4	52.9	54.4	55.5				
R-26		50.9	52.0	53.1	54.2	55.3		
H 1000	53.1	54.2	55.2	56.3	57.3	58.0		
RS Magnum	54.9	55.9	57.0	58.0	59.1	60.1	61.0	
Retumbo	53.7	54.9	56.0	57.2	58.3	59.5		
RS LRT	60.1	61.2	62.0					
Energy Ft. Lbs	2351	2437	2525	2614	2705	2798	2892	

Special Load	Powder	Grains	Velocity fps	Energy Ft. Lbs
Accuracy Load	N 565	56.4	2942	2690
Hunting Load	RS Magnum	59.7	2980	2760

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6.5 PRC

65,000 PSI

Bullet	Caliber	Weight	Type	C.O.A.L.
#1744	0.264	144gr	MK	2.850"
#4345	0.264	145gr	TGK	2.940"

Powder	Velocity >	2600	2700	2800	2850	2875	2925	2975
H 4831sc			47.7	50.1	51.3			
IMR 7828ssc			48.5	50.7	51.8	52.4		
N 170	49.0		51.5	54.1	55.4			
R-26			49.3	51.4	52.4	52.9	53.9	
H 1000			52.8	54.8	55.8	56.3	57.3	
RS Magnum			53.9	56.0	57.0	57.5	58.6	59.6
Retumbo			52.9	54.9	56.0	56.6	57.7	
LRT	56.5		58.4	60.3	61.3	61.8		
R-33	54.8		56.8	58.8	59.9	60.3		
24N 41	54.6		57.0	59.3				
Energy Ft. Lbs		2176	2347	2524	2615	2661	2754	2849


Special Load	Powder	Grains	Velocity fps	Energy Ft. Lbs
Accuracy Load	H 4831sc	51.3	2850	2615
Hunting Load	LRT	61.8	2875	2661

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6.5 PRC

Bullet Caliber Weight Type							C.O.A.L.	
	#1755	.264"	150gr.	HPBT Match	3.080"*			
*requires a 1x7.5" or faster twist								
Powder ∨	Velocity >	2400	2500	2600	2650	2700	2750	2800
H4831sc			43.0	45.8	47.4	49.1		
IMR 4955 End.	42.5	44.8	46.9	48.0	49.0			
RE 22		43.9	46.3	47.5	48.6			
N560		44.7	46.8	48.0	49.3	50.6		
RE 23		43.9	46.5	47.8	49.1			
IMR 7828ssc		46.3	48.6	49.6	50.7	51.7		
RE 25				49.2	50.4	51.6	52.8	54.1
IMR 7977 End.		49.9	52.1	53.2	54.2	55.3	56.4	
H1000				49.1	50.3	51.6	52.8	
RE 26				48.0	49.1	50.3	51.5	52.8
Retumbo				50.1	51.3	52.7	54.1	55.5
N570					52.1	53.3	54.5	55.8
RE 33						55.9	57.4	59.0
Energy Ft. Lbs		1918	2081	2251	2339	2428	2518	2611
Special Load	Powder	Grains		Velocity fps		Energy Ft. lbs		
Accuracy Load	RE 33	59.0		2800		2611		
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