

6mm-ARC_95SST_AIIPowders_2-10in_20inch_6-7-20

WARNING: Since we have no control over equipment or data which may be used with this program, no responsibility is implied or assumed for results obtained through its use. Input data and results may be incorrect or wrong. Therefore the use of this data for loading ammunition can cause serious injury to personnell and material. The computer-results had to be checked against data available in current loading manuals.

LOT-TO-LOT VARIATIONS OF POWDERS, PRIMER SUBSTITUTION AND COMPONENT CHANGE OFTEN RAISE PRESSURES TO UNSAFE LEVELS. THE USER MUST ASSUME THE ENTIRE RISK OF USING THIS DATA FOR LOADING PURPOSES.

QuickLOAD© V.3.9.14 #538343, © Copyright 1987-2013 - H.Broemel, Babenhausen, Germany

User Data:	Date:7-Jun-2020	Time:15:17:49	File: *.dat
Comment	6mm-ARC_95SST_AIIPowders_2-10in_20inch_6-7-20		
Cartridge / Caliber	6 mm ARC	Bullet	.243, 95, Hornady SST InterLock
Maximum Average Pressure, allowed	58740 psi.	4050 bar (Piezo)	with flatbase
Groove Caliber	0.242 in.	6.15 mm	Bullet Weight
Case Capacity, overflow	34.8 gr. H2O	2.26 cm³	Bullet Length
Case Length	1.490 in.	37.85 mm	Bullet Seating Depth
Cartridge O.A. Length	2.100 in.	53.34 mm	Barrel/Tube Length
Shot Start / Init Pressure	3626 psi.	250.0 bar	Cross Section Area of Bore
			0.04535 in.²
			0.2926 cm²
Propellant type	Hodgdon CFE223		
Charge Weight	29.8 gr.	1.931 gm	Load Density
Heat of Explosion, Potential	254.0 J/gr.	3920 J/gm	Energy Density of Charge
Propellant Solid Density	414.74 gr./in.³	1.64 gm/cm³	Used Ratio of Specific Heats cp/cv
Burning Rate Factor Ba	0.533 1/s		Weighting Factor
Burning Function Limit Z1	0.522		Prog.-/ Degressivity Factor a0
Factor b	1.675		Bulk Density
			258.7 gr./in.³
			1.023 gm/cm³
			65729 J/in.³
			4011 J/cm³
			1.2305
			0.67
			0.7
			259.2 gr./in.³
			1.025 gm/cm³
Calculated and Estimated Data:			
Bullet Shank Seating Depth	0.492 in.	12.5 mm	Capacity Displaced by Seated Bullet
Useable Case Capacity	0.1152 in.³	1.887 cm³	Bullet Travel at Muzzle Exit
Loading Ratio("Density") / Filling	99.8 %		Charge Fraction Burnt at Shot Start
			0.0227 in.³
			0.372 cm³
			19.0 in.
			482.65 mm
			1.02 %
Predicted Data:			
Maximum Chamber Pressure	62914 psi.	4338 bar	Bullet Travel at Pmax
			1.30 in.
			32.9 mm
at Muzzle Exit:			
Bullet Velocity	2793 fps.	851.2 m/s	Pressure at Muzzle
Bullet Energy	1645 ft.lbs.	2231 Joule	Bullet Barrel Time
Propellant Burnt	99.0 %		Ballistic Efficiency
			8932 psi.
			616 bar
			0.987 ms
			29.5 %

D A N G E R : PRESSURE EXCEEDS ALLOWED MAXIMUM LEVEL !

Real maximum (peak) of pressure is reached while bullet moves within barrel.

End of combustion occurs after the bullet's base passes muzzle.

Table with predicted charges of different powders for a nominal pressure of about 379 MPa or 55000 psi

CAUTION! - D A N G E R ! : Table may exceed limits of recommended loads ! Pressures exceeding SAAMI or CIP specs are underlined!

Be aware that the powders listed may be totally unsuitable for the given cartridge !

In reality the order of loads may vary due to lot-to-lot variations of propellants and other components.

Propellant type	L.R./Filling %	Charge Weight		Muzzle Vel.		Max. Pressure		Prop.Burnt %	B_Time ms
		Gramm	Grains	m/s	fps	bar	psi		
ReloadSwiss RS 60	108	1.97	30.4	838	2749	3792	55000	98.8	1.032
Alliant Reloder-26	119	2.22	34.2	837	2745	3792	55000	94.5	1.036
Somchem S365	116	2.01	31.0	834	2737	3792	55000	99.1	1.036
Alliant Reloder-17	108	1.96	30.2	834	2737	3792	55000	97.9	1.034
Elcho 17	108	1.96	30.2	834	2737	3792	55000	97.9	1.034
Alliant Reloder-16	116	1.96	30.2	831	2727	3792	55000	97.2	1.038
ReloadSwiss RS 62	112	2.04	31.5	828	2716	3792	55000	95.7	1.043
Alliant Reloder-23	125	2.12	32.8	826	2712	3792	55000	96.9	1.039
Norma MRP	119	2.16	33.3	826	2709	3792	55000	91.0	1.040
ReloadSwiss RS 52	103	1.85	28.5	825	2706	3792	55000	99.1	1.046
Accurate 4350	113	1.96	30.2	823	2701	3792	55000	96.1	1.053
Vihtavuori N550	109	1.94	29.9	821	2695	3792	55000	95.9	1.050
Norma URP	113	1.93	29.9	821	2694	3792	55000	96.0	1.044
Bofors RP19 ~approximation	113	1.94	29.9	821	2694	3792	55000	96.0	1.044
Hodgdon CFE223	96	1.86	28.7	819	2686	3792	55000	98.0	1.046
SNPE Vectan SP 11	105	1.88	29.1	819	2686	3792	55000	97.4	1.046
IMR 3031	102	1.66	25.6	818	2683	3792	55000	100.0	1.051
IMR 4831	119	1.97	30.4	818	2683	3792	55000	96.3	1.050
PB Clermont PCL 511	109	2.01	31.1	818	2683	3792	55000	93.6	1.044
Alliant Reloder-25	127	2.20	33.9	817	2682	3792	55000	93.0	1.043
Ramshot Hunter	112	2.02	31.1	817	2681	3792	55000	93.5	1.044
Hodgdon H414	107	1.96	30.2	817	2680	3792	55000	92.6	1.045
Winchester 760	107	1.96	30.2	817	2680	3792	55000	92.6	1.045
Ramshot Big Game	102	1.88	29.0	817	2679	3792	55000	97.4	1.046
Alliant Reloder-22	121	2.13	32.8	817	2679	3792	55000	89.2	1.044
Bofors RP5/NP ~approximation	121	2.13	32.8	817	2679	3792	55000	89.2	1.044
Raufoss RA15	121	2.13	32.8	817	2679	3792	55000	89.2	1.044
PB Clermont PCL 518	113	2.03	31.3	816	2678	3792	55000	93.0	1.045
IMR 4895	101	1.76	27.1	816	2677	3792	55000	97.7	1.058
Bofors RP15	124	2.14	33.0	816	2677	3792	55000	89.0	1.044
Winchester WXR	124	2.14	33.0	816	2677	3792	55000	89.0	1.044

continued

Table with predicted charges of different powders for a nominal pressure of about 379 MPa or 55000 psi
CAUTION! - D A N G E R ! : Table may exceed limits of recommended loads ! Pressures exceeding SAAMI or CIP specs are underlined!
 Be aware that the powders listed may be totally unsuitable for the given cartridge !
 In reality the order of loads may vary due to lot-to-lot variations of propellants and other components.

Propellant type	L.R./Filling %	Charge Weight Gramm	Weight Grains	Muzzle Vel. m/s	Vel. fps	Max. Pressure bar	Pressure psi	Prop.Burnt %	B_Time ms
Winchester 748	94	1.76	27.1	815	2675	3792	55000	99.3	1.050
Hodgdon BL-C2	97	1.83	28.2	814	2671	3792	55000	98.6	1.058
Vihtavuori N560	120	2.14	33.0	814	2670	3792	55000	85.8	1.045
Norma 203 old	104	1.83	28.3	814	2670	3792	55000	98.5	1.066
Bofors RP3	104	1.83	28.3	814	2670	3792	55000	98.5	1.066
ReloadSwiss RS 70	114	2.11	32.5	813	2669	3792	55000	91.1	1.043
Norma 203B	102	1.78	27.4	813	2666	3792	55000	97.6	1.059
Bofors RP30	131	2.27	35.0	813	2666	3792	55000	86.7	1.046
Norma MRP 2	131	2.27	35.0	813	2666	3792	55000	86.7	1.046
Hodgdon Hybrid 100V	115	1.94	29.9	812	2665	3792	55000	97.8	1.044
Accurate 4064	105	1.78	27.5	812	2664	3792	55000	100.0	1.086
Raufoss RA11	102	1.77	27.3	812	2663	3792	55000	97.1	1.059
Bofors RP11 ~approximation	102	1.77	27.3	812	2663	3792	55000	97.1	1.059
Alliant Reloder-15	102	1.77	27.3	812	2663	3792	55000	97.1	1.059
Rottweil R903	107	1.83	28.3	811	2662	3792	55000	98.2	1.066
Accurate 2495	99	1.68	25.9	809	2656	3792	55000	100.0	1.090
Accurate 2520	97	1.77	27.4	809	2655	3792	55000	99.6	1.069
Lovex D073.6	99	1.77	27.4	809	2655	3792	55000	99.6	1.069
Hodgdon H4895	98	1.70	26.3	809	2653	3792	55000	98.1	1.061
Norma 217	139	2.38	36.7	808	2651	3792	55000	87.7	1.050
Somchem S355	106	1.81	27.9	808	2650	3792	55000	98.0	1.066
Alliant AR-Comp	97	1.63	25.2	808	2650	3792	55000	100.0	1.054
Bofors RP11 TZ ~approximation	97	1.63	25.2	808	2649	3792	55000	100.0	1.054
Ramshot Wild Boar	96	1.79	27.6	807	2648	3792	55000	97.5	1.056
Alliant Reloder-19	117	2.03	31.3	807	2647	3792	55000	89.5	1.047
Accurate MAGPRO	121	2.23	34.4	807	2647	3792	55000	83.2	1.049
ADI AR 2206H	98	1.71	26.3	806	2646	3792	55000	97.6	1.062
Somchem S385	118	2.07	32.0	806	2645	3792	55000	91.5	1.054
IMR 4320	104	1.77	27.3	806	2645	3792	55000	97.3	1.046
Hodgdon H380	103	1.83	28.2	805	2642	3792	55000	95.5	1.064
Bofors RP14 ~approximation	117	2.04	31.5	804	2639	3792	55000	89.4	1.048
SNPE Vectan SP 9	99	1.77	27.4	804	2639	3792	55000	97.5	1.058
PB Clermont PCL 507	95	1.73	26.7	804	2638	3792	55000	98.7	1.059
Somchem S321	94	1.75	27.0	804	2637	3792	55000	98.8	1.065
Bofors RP4 NT ~approximation	112	1.98	30.5	803	2635	3792	55000	92.0	1.053
Norma 202	99	1.69	26.1	803	2634	3792	55000	99.9	1.064
Lovex S062	103	1.74	26.8	802	2632	3792	55000	98.7	1.069
Vihtavuori N540	101	1.78	27.4	802	2632	3792	55000	99.8	1.063
Hodgdon H322	94	1.59	24.6	802	2632	3792	55000	100.0	1.055
PB Clermont PCL 516	99	1.83	28.3	802	2631	3792	55000	95.4	1.058
Vihtavuori N530	94	1.65	25.4	802	2631	3792	55000	98.7	1.059
Rottweil R905	122	2.10	32.4	801	2628	3792	55000	86.0	1.049
ADI AR 2209	115	1.99	30.7	801	2626	3792	55000	88.7	1.047
Elcho TR140 - preliminary data	102	1.84	28.3	800	2626	3792	55000	95.6	1.062
Lovex S070	111	1.91	29.4	800	2625	3792	55000	92.9	1.067
Norma 204	110	1.98	30.5	800	2624	3792	55000	89.1	1.049
Bofors RP4 ~approximation	114	1.98	30.5	800	2624	3792	55000	89.1	1.049
Raufoss RA4	114	1.98	30.5	800	2624	3792	55000	89.1	1.049
Somchem S341	97	1.82	28.0	800	2623	3792	55000	97.4	1.058
IMR 7828 SSC	118	2.10	32.4	799	2623	3792	55000	85.3	1.048
IMR 7828	124	2.10	32.4	799	2623	3792	55000	85.3	1.048
Vihtavuori N135	108	1.71	26.3	799	2622	3792	55000	100.0	1.066
IMR 8208 XBR	96	1.67	25.8	799	2621	3792	55000	98.6	1.060
Norma 201	99	1.69	26.1	799	2620	3792	55000	98.7	1.075
Vihtavuori N150	112	1.83	28.2	799	2620	3792	55000	99.0	1.061
Hodgdon VARGET	104	1.74	26.9	798	2618	3792	55000	96.7	1.055
ADI AR 2208	103	1.74	26.9	798	2618	3792	55000	96.7	1.055
ReloadSwiss RS 40	92	1.63	25.2	798	2618	3792	55000	99.5	1.061
IMR 4064	105	1.72	26.5	797	2615	3792	55000	97.0	1.059
Lovex D073.5	92	1.72	26.6	797	2614	3792	55000	99.2	1.079
Accurate 2460	92	1.72	26.6	797	2614	3792	55000	99.2	1.079
SNPE Vectan SP 7	97	1.81	27.9	796	2612	3792	55000	95.3	1.069
Rottweil R902	101	1.70	26.2	796	2612	3792	55000	98.6	1.076
Lovex S065	109	1.86	28.7	796	2611	3792	55000	94.4	1.070
ADI AR 2213	118	2.07	32.0	796	2611	3792	55000	85.3	1.049
IMR 4350	111	1.92	29.7	796	2610	3792	55000	91.6	1.054
Vihtavuori N140	101	1.72	26.6	796	2610	3792	55000	99.9	1.063
Hodgdon H4350	114	1.93	29.8	795	2610	3792	55000	91.4	1.054
Rottweil R901	97	1.61	24.8	795	2609	3792	55000	99.8	1.086
ADI AR 2225	133	2.33	35.9	795	2608	3792	55000	87.8	1.056
Hodgdon Retumbo	133	2.33	35.9	795	2608	3792	55000	87.8	1.056
ReloadSwiss RS 50	102	1.85	28.5	795	2608	3792	55000	93.4	1.064
Ramshot TAC	96	1.79	27.6	794	2604	3792	55000	94.7	1.064
Lovex D073.4	91	1.69	26.1	793	2603	3792	55000	99.2	1.075
Accurate 2230	92	1.72	26.6	793	2601	3792	55000	98.2	1.072

continued									
Table with predicted charges of different powders for a nominal pressure of about 379 MPa or 55000 psi CAUTION! - D A N G E R ! : Table may exceed limits of recommended loads ! Pressures exceeding SAAMI or CIP specs are underlined! Be aware that the powders listed may be totally unsuitable for the given cartridge ! In reality the order of loads may vary due to lot-to-lot variations of propellants and other components.									
Propellant type	L.R./Filling %	Charge Gramm	Weight Grains	Muzzle Vel. m/s	Muzzle Vel. fps	Max. Pressure bar	Max. Pressure psi	Prop.Burnt %	B_Time ms
Bofors RP7 NT ~approximation	104	1.82	28.1	792	2600	3792	55000	92.7	1.049
Alliant Reloder-12	94	1.67	25.7	792	2600	3792	55000	100.0	1.062
Bofors RP3 NT ~approximation	106	1.83	28.3	792	2600	3792	55000	94.2	1.054
Ramshot X-Terminator	93	1.73	26.7	791	2597	3792	55000	97.4	1.066
Alliant Reloder-10x	92	1.50	23.2	791	2596	3792	55000	100.0	1.073
Vihtavuori N165	123	2.11	32.6	791	2596	3792	55000	90.0	1.054
Vihtavuori N570	129	2.37	36.6	791	2594	3792	55000	76.6	1.058
IMR 4451 Enduron	106	1.81	28.0	790	2593	3792	55000	92.3	1.059
Rottweil R904	115	1.96	30.3	789	2590	3792	55000	87.7	1.055
Bofors RP2 NT ~approximation	97	1.68	25.9	789	2590	3792	55000	97.9	1.061
Rottweil R907	107	1.83	28.3	789	2590	3792	55000	91.6	1.069
Bofors RP7	107	1.83	28.3	789	2590	3792	55000	91.6	1.069
IMR 4007 SSC	104	1.83	28.3	789	2589	3792	55000	91.6	1.069
Accurate 2015	95	1.57	24.2	788	2585	3792	55000	100.0	1.079
Hodgdon H4831	121	2.05	31.6	787	2583	3792	55000	85.4	1.054
Hodgdon H4831 SC	117	2.05	31.6	787	2583	3792	55000	85.4	1.054
Winchester Supreme 780	114	2.09	32.2	787	2583	3792	55000	88.5	1.054
SNPE Vectan SP 12	121	2.25	34.6	787	2582	3792	55000	84.3	1.055
Hodgdon Benchmark	95	1.62	25.1	787	2582	3792	55000	99.0	1.066
PB Clermont PCL 517	121	2.25	34.7	786	2580	3792	55000	84.0	1.056
Ramshot Magnum	118	2.24	34.6	786	2580	3792	55000	87.6	1.055
Lovex S060	98	1.65	25.5	786	2577	3792	55000	97.6	1.064
IMR 4955 Enduron	118	1.99	30.8	785	2574	3792	55000	86.7	1.058
Somchem S335	98	1.67	25.8	783	2569	3792	55000	100.0	1.077
ADI AR 2206	97	1.67	25.7	783	2569	3792	55000	97.9	1.065
IMR 4166 Enduron	104	1.74	26.8	783	2568	3792	55000	92.5	1.066
Vihtavuori N160	122	2.03	31.3	782	2567	3792	55000	87.3	1.059
Bofors RP5 NT ~approximation	122	2.15	33.2	782	2565	3792	55000	82.0	1.058
Hodgdon H870	136	2.44	37.7	780	2560	3792	55000	78.4	1.064
Bofors 12,7mmRA NC1214 Lot20115087	138	2.53	39.1	777	2548	3792	55000	69.0	1.066
Alliant Reloder-50	137	2.57	39.7	776	2546	3792	55000	74.8	1.068
Alliant Reloder-33	130	2.45	37.8	776	2546	3792	55000	75.7	1.067
Vihtavuori N170	133	2.28	35.2	775	2542	3792	55000	78.3	1.065
ADI AP 2214	121	2.19	33.7	774	2540	3792	55000	83.1	1.061
Accurate 2700	104	1.88	29.0	773	2536	3792	55000	91.1	1.076
ADI AR 2217	127	2.19	33.8	773	2536	3792	55000	83.1	1.062
Hodgdon H1000	127	2.19	33.8	773	2536	3792	55000	83.1	1.062
ReloadSwiss RS 8									

In reality the order of loads may vary due to lot-to-lot variations of propellants and other components.

Propellant type	L.R./Filling %	Charge	Weight	Muzzle Vel.		Max. Pressure	Prop.Burnt	B_Time	
		Gramm	Grains	m/s	fps	bar	psi		%
Bofors RP7 NT ~approximation	104	1.82	28.1	792	2600	3792	55000	92.7	1.049
Alliant Reloder-12	94	1.67	25.7	792	2600	3792	55000	100.0	1.062
Bofors RP3 NT ~approximation	106	1.83	28.3	792	2600	3792	55000	94.2	1.054
Ramshot X-Terminator	93	1.73	26.7	791	2597	3792	55000	97.4	1.066
Alliant Reloder-10x	92	1.50	23.2	791	2596	3792	55000	100.0	1.073
Vihtavuori N165	123	2.11	32.6	791	2596	3792	55000	90.0	1.054
Vihtavuori N570	129	2.37	36.6	791	2594	3792	55000	76.6	1.058
IMR 4451 Enduron	106	1.81	28.0	790	2593	3792	55000	92.3	1.059
Rottweil R904	115	1.96	30.3	789	2590	3792	55000	87.7	1.055
Bofors RP2 NT ~approximation	97	1.68	25.9	789	2590	3792	55000	97.9	1.061
Rottweil R907	107	1.83	28.3	789	2590	3792	55000	91.6	1.069
Bofors RP7	107	1.83	28.3	789	2590	3792	55000	91.6	1.069
IMR 4007 SSC	104	1.83	28.3	789	2589	3792	55000	91.6	1.069
Accurate 2015	95	1.57	24.2	788	2585	3792	55000	100.0	1.079
Hodgdon H4831	121	2.05	31.6	787	2583	3792	55000	85.4	1.054
Hodgdon H4831 SC	117	2.05	31.6	787	2583	3792	55000	85.4	1.054
Winchester Supreme 780	114	2.09	32.2	787	2583	3792	55000	88.5	1.054
SNPE Vectan SP 12	121	2.25	34.6	787	2582	3792	55000	84.3	1.055
Hodgdon Benchmark	95	1.62	25.1	787	2582	3792	55000	99.0	1.066
PB Clermont PCL 517	121	2.25	34.7	786	2580	3792	55000	84.0	1.056
Ramshot Magnum	118	2.24	34.6	786	2580	3792	55000	87.6	1.055
Lovex S060	98	1.65	25.5	786	2577	3792	55000	97.6	1.064
IMR 4955 Enduron	118	1.99	30.8	785	2574	3792	55000	86.7	1.058
Somchem S335	98	1.67	25.8	783	2569	3792	55000	100.0	1.077
ADI AR 2206	97	1.67	25.7	783	2569	3792	55000	97.9	1.065
IMR 4166 Enduron	104	1.74	26.8	783	2568	3792	55000	92.5	1.066
Vihtavuori N160	122	2.03	31.3	782	2567	3792	55000	87.3	1.059
Bofors RP5 NT ~approximation	122	2.15	33.2	782	2565	3792	55000	82.0	1.058
Hodgdon H870	136	2.44	37.7	780	2560	3792	55000	78.4	1.064
Bofors 12,7mmRA NC1214 Lot20115087	138	2.53	39.1	777	2548	3792	55000	69.0	1.066
Alliant Reloder-50	137	2.57	39.7	776	2546	3792	55000	74.8	1.068
Alliant Reloder-33	130	2.45	37.8	776	2546	3792	55000	75.7	1.067
Vihtavuori N170	133	2.28	35.2	775	2542	3792	55000	78.3	1.065
ADI AP 2214	121	2.19	33.7	774	2540	3792	55000	83.1	1.061
Accurate 2700	104	1.88	29.0	773	2536	3792	55000	91.1	1.076
ADI AR 2217	127	2.19	33.8	773	2536	3792	55000	83.1	1.062
Hodgdon H1000	127	2.19	33.8	773	2536	3792	55000	83.1	1.062
ReloadSwiss RS 80	131	2.46	38.0	765	2510	3792	55000	75.0	1.073
SNPE Vectan SP 13	139	2.47	38.1	754	2474	3792	55000	74.8	1.077
IMR 7977 Enduron	121	2.08	32.1	745	2444	3792	55000	75.6	1.078
PB Clermont PCL 513/520/9520	140	2.49	38.5	744	2442	3792	55000	72.2	1.083
Hodgdon 50BMG	135	2.38	36.8	740	2428	3792	55000	64.2	1.083
Lovex D100	126	2.35	36.3	739	2425	3792	55000	71.1	1.083
Vihtavuori 24N41	128	2.37	36.5	739	2424	3792	55000	67.7	1.084
ADI AR 2218	129	2.39	36.9	738	2422	3792	55000	67.8	1.086
Hodgdon US 869	135	2.49	38.4	737	2417	3792	55000	67.7	1.088
Vihtavuori 20N29	137	2.57	39.6	727	2386	3792	55000	68.3	1.096
Accurate 8700	137	2.48	38.2	724	2374	3792	55000	70.4	1.097
Somchem 12.7-0	134	2.40	37.0	719	2358	3792	55000	63.4	1.097
TLP A 502(RH) ,test only	145	2.46	38.0	694	2277	3792	55000	54.6	1.115
NC A3502 ,test only	142	2.42	37.3	680	2230	3792	55000	48.6	1.124
V1734 7-multiperf ,test only	156	2.64	40.8	555	1821	3792	55000	27.5	1.253
Accurate 3100	?	cannot find match, try to lower shot start pressure							
Lovex S071	?	cannot find match, try to lower shot start pressure							
Somchem S361	?	cannot find match, try to lower shot start pressure							