

.45 ACP - LOS RN 230gr - RS12

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 personell 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.3.8.03 #21412, © Copyright 1987-2013 - H.Broemel, Babenhausen, Germany

User Data:	Date:30-Mrz-2015	Time:08:32:34	File: *.dat
Comment	5" barrel - 32.39mm COL - 5.3gr start load - 246m/s - 822bar		
Cartridge / Caliber	.45 Auto (ACP) (CIP)	Bullet	.452, 230, LOS RN
Maximum Average Pressure, allowed	1300 bar	18855 psi. (Piezo CIP)	with flatbase
Groove Caliber	11.46 mm	0.451 in.	Bullet Weight
Case Capacity, overflow	1.623 cm³	25.0 gr. H2O	Bullet Length
Case Length	22.81 mm	0.898 in.	Bullet Seating Depth
Cartridge O.A. Length	32.39 mm	1.275 in.	Barrel/Tube Length
Shot Start / Init Pressure	80.0 bar	1160 psi.	Cross Section Area of Bore

Propellant type	ReloadSwiss RS 12			
Charge Weight	0.343 gm	5.3 gr.	Load Density	0.360 gm/cm³
Heat of Explosion, Potential	4020 J/gm	260.5 J/gr.	Energy Density of Charge	1448 J/cm³
Propellant Solid Density	1.6 gm/cm³	404.63 gr./in.³	Used Ratio of Specific Heats cp/cv	1.2364
Burning Rate Factor Ba	2.23 1/s		Weighting Factor	0.75
Burning Function Limit Z1	0.401		Prog.-/ Degressivity Factor a0	6.212
Factor b	2.414		Bulk Density	0.616 gm/cm³

Calculated and Estimated Data:

Bullet Shank Seating Depth	6.5 mm	0.256 in.	Capacity Displaced by Seated Bullet	0.671 cm³	0.041 in.³
Useable Case Capacity	0.952 cm³	0.0581 in.³	Bullet Travel at Muzzle Exit	110.69 mm	4.36 in.
Loading Ratio("Density") / Filling	58.5 %		Charge Fraction Burnt at Shot Start	1.81 %	
Predicted Data:					
Maximum Chamber Pressure	822 bar	11926 psi.	Bullet Travel at Pmax	10.7 mm	0.42 in.
at Muzzle Exit:					
Bullet Velocity	246.1 m/s	807 fps.	Pressure at Muzzle	177 bar	2573 psi.
Bullet Energy	451 Joule	333 ft.lbs.	Bullet Barrel Time	0.858 ms	
Propellant Burnt	99.3 %		Ballistic Efficiency	32.7 %	

Check Loading Manuals for Safe Minimum Charge Weight to Avoid Hazardous Ignition Conditions like Secondary Explosion Effects !
 Real maximum (peak) of pressure is reached while bullet moves within barrel.
 End of combustion occurs after the bullet's base passes muzzle.

Table of incremented charges ranging from +15.0% to -30.0% of above specified charge

D A N G E R ! : Table data may exceed maximum average pressures ! Pressures exceeding SAAMI or CIP specs are printed underlined!

Diff. %	Charge Weight Gramm	Charge Weight Grains	Muzzle Vel. m/s	Muzzle Vel. fps	Muzzle Energy Joule	Muzzle Energy ft.lbs	Max. Pressure bar	Max. Pressure psi	Muzzle Pressure bar	Muzzle Pressure psi	Prop.Burnt %	B_Time ms	L.R./Filling %
-30.0	0.24	3.7	182	597	247	182	406	5886	118	1714	88.7	1.162	41
-27.0	0.25	3.9	189	619	265	196	439	6366	125	1812	90.5	1.124	43
-24.0	0.26	4.0	195	641	285	210	473	6864	132	1909	92.0	1.087	45
-21.0	0.27	4.2	202	663	304	224	509	7387	138	2003	93.4	1.053	46
-18.0	0.28	4.3	209	684	324	239	547	7940	144	2095	94.7	1.021	48
-15.0	0.29	4.5	215	706	345	254	588	8525	151	2184	95.8	0.990	50
-12.0	0.30	4.7	221	727	366	270	630	9142	156	2269	96.8	0.961	52
-9.0	0.31	4.8	228	747	387	285	675	9790	162	2351	97.6	0.933	53
-6.0	0.32	5.0	234	768	408	301	722	10469	168	2429	98.4	0.907	55
-3.0	0.33	5.1	240	788	430	317	771	11181	173	2503	98.9	0.882	57
Nominal	0.34	5.3	246	807	451	333	822	11926	177	2573	99.4	0.858	59
+3.0	0.35	5.5	252	827	473	349	876	12703	182	2639	99.7	0.833	60
+6.0	0.36	5.6	258	846	495	365	932	13514	186	2700	99.9	0.809	62
+9.0	0.37	5.8	264	865	518	382	990	14358	190	2756	100.0	0.786	64
+12.0	0.38	5.9	269	883	540	398	1051	15238	194	2809	100.0	0.764	66
+15.0	0.39	6.1	275	901	562	414	1114	16152	197	2862	100.0	0.743	67

Results caused by ±10% powder lot-to-lot burning rate variation using nominal charge

Nominal	0.34	5.3	258	846	495	365	1000	14507	170	2473	100.0	0.789	59
Data for burning rate increased by 10% relative to nominal value :													
Nominal	0.34	5.3	230	753	393	290	652	9458	175	2539	94.2	0.935	59
Data for burning rate decreased by 10% relative to nominal value :													