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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 personnel 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.**

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**User Data:**

Date:9-Apr-2015

Time:18:41:45

File: xpert 338 lapua 185gr.dat

**Cartridge / Caliber**

.338 Lapua Mag.

**Bullet**

.338, 185, XPERT TARGET M

Maximum Average Pressure, allowed	60916 psi.	4200 bar (Piezo CIP)	with flatbase	
Groove Caliber	0.338 in.	8.59 mm	Bullet Weight	185.0 gr. 11.99 gm
Case Capacity, overflow	108.0 gr. H2O	7.012 cm <sup>3</sup>	Bullet Length	1.441 in. 36.6 mm
Case Length	2.724 in.	69.19 mm	Bullet Seating Depth	0.622 in. 15.79 mm
Cartridge O.A. Length	3.543 in.	90.0 mm	Barrel/Tube Length	28.0 in. 711.2 mm
Shot Start / Init Pressure	3625 psi.	249.94 bar	Cross Section Area of Bore	0.08813 in. <sup>2</sup> 0.5686 cm <sup>2</sup>

**Propellant type**

Somchem S365

Charge Weight	80.0 gr.	5.184 gm	Load Density	215.2 gr./in. <sup>3</sup>	0.851 gm/cm <sup>3</sup>
Heat of Explosion, Potential	238.8 J/gr.	3685 J/gm	Energy Density of Charge	51357 J/in. <sup>3</sup>	3134 J/cm <sup>3</sup>
Propellant Solid Density	404.63 gr./in. <sup>3</sup>	1.6 gm/cm <sup>3</sup>	Used Ratio of Specific Heats cp/cv	1.239	
Burning Rate Factor Ba	0.44 1/s		Weighting Factor	0.55	
Burning Function Limit Z1	0.605		Prog.-/ Degressivity Factor a0	1.715	
Factor b	2.271		Bulk Density	231.4 gr./in. <sup>3</sup>	0.915 gm/cm <sup>3</sup>

**Calculated and Estimated Data:**

Bullet Shank Seating Depth	0.622 in.	15.79 mm	Capacity Displaced by Seated Bullet	0.056 in. <sup>3</sup>	0.917 cm <sup>3</sup>
Useable Case Capacity	0.3719 in. <sup>3</sup>	6.095 cm <sup>3</sup>	Bullet Travel at Muzzle Exit	25.9 in.	657.8 mm
Loading Ratio("Density") / Filling	93.0 %		Charge Fraction Burnt at Shot Start	1.56 %	

**Predicted Data:**

Maximum Chamber Pressure	47517 psi.	3276 bar	Bullet Travel at Pmax	3.22 in.	81.9 mm
<b>at Muzzle Exit:</b>					
Bullet Velocity	3082 fps.	939.5 m/s	Pressure at Muzzle	8733 psi.	602 bar
Bullet Energy	3903 ft.lbs.	5292 Joule	Bullet Barrel Time	1.343 ms	
Propellant Burnt	100.0 %		Ballistic Efficiency	27.7 %	

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 reached before bullet's base passes muzzle.

