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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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<b>User Data:</b>	<b>Date:9-Apr-2015</b>	<b>Time:17:44:44</b>	<b>File: xpert 308 win 130gr.dat</b>	
<b>Cartridge / Caliber</b>	<b>.308 Win.</b>	<b>Bullet</b>	<b>.308, 130GR XPERT TARGET</b>	
Maximum Average Pressure, allowed	60191 psi.	4150 bar (Piezo CIP)	with flatbase	
Groove Caliber	0.308 in.	7.82 mm	Bullet Weight	130.0 gr. 8.42 gm
Case Capacity, overflow	56.0 gr. H2O	3.636 cm <sup>3</sup>	Bullet Length	1.236 in. 31.4 mm
Case Length	2.014 in.	51.16 mm	Bullet Seating Depth	0.534 in. 13.56 mm
Cartridge O.A. Length	2.717 in.	69.01 mm	Barrel/Tube Length	24.0 in. 609.6 mm
Shot Start / Init Pressure	3625 psi.	249.94 bar	Cross Section Area of Bore	0.07364 in. <sup>2</sup> 0.4751 cm <sup>2</sup>
<b>Propellant type</b>	<b>Somchem S335</b>			
Charge Weight	41.0 gr.	2.657 gm	Load Density	225.3 gr./in. <sup>3</sup> 0.891 gm/cm <sup>3</sup>
Heat of Explosion, Potential	240.4 J/gr.	3710 J/gm	Energy Density of Charge	54159 J/in. <sup>3</sup> 3305 J/cm <sup>3</sup>
Propellant Solid Density	407.15 gr./in. <sup>3</sup>	1.61 gm/cm <sup>3</sup>	Used Ratio of Specific Heats cp/cv	1.224
Burning Rate Factor Ba	0.624 1/s		Weighting Factor	0.5
Burning Function Limit Z1	0.35		Prog.-/ Degressivity Factor a0	2.299
Factor b	1.666		Bulk Density	227.6 gr./in. <sup>3</sup> 0.900 gm/cm <sup>3</sup>

**Calculated and Estimated Data:**

Bullet Shank Seating Depth	0.534 in.	13.56 mm	Capacity Displaced by Seated Bullet	0.0398 in. <sup>3</sup> 0.653 cm <sup>3</sup>
Useable Case Capacity	0.1821 in. <sup>3</sup>	2.983 cm <sup>3</sup>	Bullet Travel at Muzzle Exit	22.52 in. 572.0 mm
Loading Ratio("Density") / Filling	99.0 %		Charge Fraction Burnt at Shot Start	1.51 %

**Predicted Data:**

Maximum Chamber Pressure	45873 psi.	3163 bar	Bullet Travel at Pmax	1.34 in. 33.9 mm
<b>at Muzzle Exit:</b>				
Bullet Velocity	2768 fps.	843.8 m/s	Pressure at Muzzle	6133 psi. 423 bar
Bullet Energy	2212 ft.lbs.	3000 Joule	Bullet Barrel Time	1.168 ms
Propellant Burnt	98.4 %		Ballistic Efficiency	30.4 %

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.

