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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:17:58:19	File: xpert 300 win mag 130gr.dat	
Cartridge / Caliber	.300 Win. Mag.(W)	Bullet	.308, 130GR XPERT TARGET	
Maximum Average Pressure, allowed	62366 psi.	4300 bar (Piezo CIP)	with flatbase	
Groove Caliber	0.308 in.	7.82 mm	Bullet Weight	130.0 gr. 8.42 gm
Case Capacity, overflow	93.8 gr. H2O	6.09 cm ³	Bullet Length	1.236 in. 31.4 mm
Case Length	2.620 in.	66.55 mm	Bullet Seating Depth	0.549 in. 13.95 mm
Cartridge O.A. Length	3.307 in.	84.0 mm	Barrel/Tube Length	24.0 in. 609.6 mm
Shot Start / Init Pressure	3625 psi.	249.94 bar	Cross Section Area of Bore	0.07335 in. ² 0.4732 cm ²
Propellant type	Somchem S365			
Charge Weight	73.0 gr.	4.73 gm	Load Density	220.8 gr./in. ³ 0.873 gm/cm ³
Heat of Explosion, Potential	238.8 J/gr.	3685 J/gm	Energy Density of Charge	52717 J/in. ³ 3217 J/cm ³
Propellant Solid Density	404.63 gr./in. ³	1.6 gm/cm ³	Used Ratio of Specific Heats cp/cv	1.239
Burning Rate Factor Ba	0.44 1/s		Weighting Factor	0.5
Burning Function Limit Z1	0.605		Prog.-/ Degressivity Factor a0	1.715
Factor b	2.271		Bulk Density	231.4 gr./in. ³ 0.915 gm/cm ³

Calculated and Estimated Data:

Bullet Shank Seating Depth	0.549 in.	13.95 mm	Capacity Displaced by Seated Bullet	0.041 in. ³	0.672 cm ³
Useable Case Capacity	0.3306 in. ³	5.418 cm ³	Bullet Travel at Muzzle Exit	21.93 in.	557.0 mm
Loading Ratio("Density") / Filling	95.4 %		Charge Fraction Burnt at Shot Start	1.48 %	

Predicted Data:

Maximum Chamber Pressure	47476 psi.	3273 bar	Bullet Travel at Pmax	3.31 in.	84.2 mm
at Muzzle Exit:					
Bullet Velocity	3255 fps.	992.2 m/s	Pressure at Muzzle	11372 psi.	784 bar
Bullet Energy	3059 ft.lbs.	4147 Joule	Bullet Barrel Time	1.147 ms	
Propellant Burnt	99.9 %		Ballistic Efficiency	23.8 %	

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.

