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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 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.

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User Data:

Date:8-Apr-2015 **Time:22:58:03** **File: xpert 6.5mm wssm 98gr.dat**

Cartridge / Caliber	**6.5 x WSSM**		**Bullet**	**.264, 98, XPERT**	
Maximum Average Pressure, allowed	64542 psi.	4450 bar (Wildcat)		with flatbase	
Groove Caliber	0.264 in.	6.71 mm	Bullet Weight	98.0 gr.	6.35 gm
Case Capacity, overflow	56.0 gr. H2O	3.636 cm³	Bullet Length	1.240 in.	31.5 mm
Case Length	1.660 in.	42.16 mm	Bullet Seating Depth	0.538 in.	13.66 mm
Cartridge O.A. Length	2.362 in.	60.0 mm	Barrel/Tube Length	24.0 in.	609.6 mm
Shot Start / Init Pressure	3625 psi.	249.94 bar	Cross Section Area of Bore	0.05362 in.²	0.3459 cm²
Propellant type	**Somchem S341**				
Charge Weight	42.0 gr.	2.722 gm	Load Density	218.2 gr./in.³	0.863 gm/cm³
Heat of Explosion, Potential	237.2 J/gr.	3660 J/gm	Energy Density of Charge	51783 J/in.³	3160 J/cm³
Propellant Solid Density	409.68 gr./in.³	1.62 gm/cm³	Used Ratio of Specific Heats cp/cv	1.242	
Burning Rate Factor Ba	0.56 1/s		Weighting Factor	0.5	
Burning Function Limit Z1	0.45		Prog.-/ Degressivity Factor a0	0.74	
Factor b	1.557		Bulk Density	250.4 gr./in.³	0.990 gm/cm³

Calculated and Estimated Data:

Bullet Shank Seating Depth	0.538 in.	13.66 mm	Capacity Displaced by Seated Bullet	0.0295 in.³	0.483 cm³
Useable Case Capacity	0.1924 in.³	3.153 cm³	Bullet Travel at Muzzle Exit	22.88 in.	581.1 mm
Loading Ratio("Density") / Filling	87.2 %		Charge Fraction Burnt at Shot Start	1.53 %	
Predicted Data:					
Maximum Chamber Pressure	48997 psi.	3378 bar	Bullet Travel at Pmax	1.94 in.	49.3 mm
at Muzzle Exit:					
Bullet Velocity	3053 fps.	930.5 m/s	Pressure at Muzzle	8638 psi.	596 bar
Bullet Energy	2028 ft.lbs.	2749 Joule	Bullet Barrel Time	1.154 ms	
Propellant Burnt	98.2 %		Ballistic Efficiency	27.6 %	

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.