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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:8-Apr-2015	Time:22:47:11	File: xpert 6.5 x 55mm swe 98gr.dat	
Cartridge / Caliber	6.5 x 55 Swedish	Bullet	.264, 98, XPERT	
Maximum Average Pressure, allowed	55114 psi.	3800 bar (Piezo CIP)	with flatbase	
Groove Caliber	0.265 in.	6.73 mm	Bullet Weight	98.0 gr. 6.35 gm
Case Capacity, overflow	57.0 gr. H2O	3.701 cm ³	Bullet Length	1.240 in. 31.5 mm
Case Length	2.165 in.	54.99 mm	Bullet Seating Depth	0.551 in. 13.99 mm
Cartridge O.A. Length	2.854 in.	72.5 mm	Barrel/Tube Length	24.0 in. 609.6 mm
Shot Start / Init Pressure	3625 psi.	249.94 bar	Cross Section Area of Bore	0.05326 in. ² 0.3436 cm ²
Propellant type	Somchem S341			
Charge Weight	40.0 gr.	2.592 gm	Load Density	204.6 gr./in. ³ 0.809 gm/cm ³
Heat of Explosion, Potential	237.2 J/gr.	3660 J/gm	Energy Density of Charge	48555 J/in. ³ 2963 J/cm ³
Propellant Solid Density	409.68 gr./in. ³	1.62 gm/cm ³	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/cm ³

Calculated and Estimated Data:

Bullet Shank Seating Depth	0.551 in.	13.99 mm	Capacity Displaced by Seated Bullet	0.0304 in. ³	0.499 cm ³
Useable Case Capacity	0.1954 in. ³	3.202 cm ³	Bullet Travel at Muzzle Exit	22.39 in.	568.6 mm
Loading Ratio("Density") / Filling	81.8 %		Charge Fraction Burnt at Shot Start	1.74 %	

Predicted Data:

Maximum Chamber Pressure	41885 psi.	2888 bar	Bullet Travel at Pmax	2.10 in.	53.2 mm
at Muzzle Exit:					
Bullet Velocity	2890 fps.	880.9 m/s	Pressure at Muzzle	8558 psi.	590 bar
Bullet Energy	1817 ft.lbs.	2464 Joule	Bullet Barrel Time	1.230 ms	
Propellant Burnt	96.6 %		Ballistic Efficiency	26.0 %	

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.

