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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:9-Apr-2015 **Time:18:25:14** **File: xpert 8 x 64mm 153gr.dat**

Cartridge / Caliber	**8 x 64 S**		**Bullet**	**.323, 153GR XPERT TARGET**	
Maximum Average Pressure, allowed	58740 psi.	4050 bar (Piezo CIP)		with flatbase	
Groove Caliber	0.323 in.	8.2 mm	Bullet Weight	153.0 gr.	9.91 gm
Case Capacity, overflow	69.51 gr. H2O	4.513 cm³	Bullet Length	1.299 in.	33.0 mm
Case Length	2.520 in.	64.01 mm	Bullet Seating Depth	0.512 in.	13.01 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	0.08026 in.²	0.5178 cm²
Propellant type	**Somchem S341**				
Charge Weight	52.0 gr.	3.37 gm	Load Density	222.8 gr./in.³	0.881 gm/cm³
Heat of Explosion, Potential	237.2 J/gr.	3660 J/gm	Energy Density of Charge	52848 J/in.³	3225 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	0.512 in.	13.01 mm	Capacity Displaced by Seated Bullet	0.0421 in.³	0.689 cm³
Useable Case Capacity	0.2333 in.³	3.824 cm³	Bullet Travel at Muzzle Exit	21.99 in.	558.6 mm
Loading Ratio("Density") / Filling	89.0 %		Charge Fraction Burnt at Shot Start	1.46 %	
Predicted Data:					
Maximum Chamber Pressure	42815 psi.	2952 bar	Bullet Travel at Pmax	1.69 in.	42.9 mm
at Muzzle Exit:					
Bullet Velocity	2740 fps.	835.3 m/s	Pressure at Muzzle	7502 psi.	517 bar
Bullet Energy	2551 ft.lbs.	3459 Joule	Bullet Barrel Time	1.208 ms	
Propellant Burnt	94.9 %		Ballistic Efficiency	28.0 %	

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.