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**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:18:18:49</b>	<b>File: xpert 8 x 60mm 153gr.dat</b>	
<b>Cartridge / Caliber</b>	<b>8 x 60 S</b>	<b>Bullet</b>	<b>.323, 153GR XPERT TARGET</b>	
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	63.99 gr. H2O	4.155 cm <sup>3</sup>	Bullet Length	1.299 in. 33.0 mm
Case Length	2.362 in.	59.99 mm	Bullet Seating Depth	0.590 in. 14.99 mm
Cartridge O.A. Length	3.071 in.	78.0 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. <sup>2</sup> 0.5178 cm <sup>2</sup>
<b>Propellant type</b>	<b>Somchem S341</b>			
Charge Weight	48.0 gr.	3.11 gm	Load Density	233.9 gr./in. <sup>3</sup> 0.925 gm/cm <sup>3</sup>
Heat of Explosion, Potential	237.2 J/gr.	3660 J/gm	Energy Density of Charge	55503 J/in. <sup>3</sup> 3387 J/cm <sup>3</sup>
Propellant Solid Density	409.68 gr./in. <sup>3</sup>	1.62 gm/cm <sup>3</sup>	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. <sup>3</sup> 0.990 gm/cm <sup>3</sup>

**Calculated and Estimated Data:**

Bullet Shank Seating Depth	0.59 in.	14.99 mm	Capacity Displaced by Seated Bullet	0.0485 in. <sup>3</sup>	0.794 cm <sup>3</sup>
Useable Case Capacity	0.2051 in. <sup>3</sup>	3.361 cm <sup>3</sup>	Bullet Travel at Muzzle Exit	22.23 in.	564.6 mm
Loading Ratio("Density") / Filling	93.5 %		Charge Fraction Burnt at Shot Start	1.31 %	

**Predicted Data:**

Maximum Chamber Pressure	43126 psi.	2973 bar	Bullet Travel at Pmax	1.37 in.	34.9 mm
<b>at Muzzle Exit:</b>					
Bullet Velocity	2680 fps.	816.8 m/s	Pressure at Muzzle	6758 psi.	466 bar
Bullet Energy	2440 ft.lbs.	3308 Joule	Bullet Barrel Time	1.207 ms	
Propellant Burnt	93.6 %		Ballistic Efficiency	29.1 %	

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.

