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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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<b>User Data:</b>	<b>Date:9-Apr-2015</b>	<b>Time:19:55:46</b>	<b>File: xpert 375 ruger 210gr.dat</b>	
<b>Cartridge / Caliber</b>	<b>.375 Ruger</b>		<b>Bullet</b>	
Maximum Average Pressure, allowed	62004 psi.	4275 bar (Piezo CIP)	with flatbase	
Groove Caliber	0.375 in.	9.53 mm	Bullet Weight	210.0 gr. 13.61 gm
Case Capacity, overflow	99.0 gr. H2O	6.428 cm <sup>3</sup>	Bullet Length	1.287 in. 32.7 mm
Case Length	2.572 in.	65.33 mm	Bullet Seating Depth	0.552 in. 14.02 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	0.10875 in. <sup>2</sup> 0.7016 cm <sup>2</sup>
<b>Propellant type</b>	<b>Somchem S335</b>			
Charge Weight	67.0 gr.	4.342 gm	Load Density	202.3 gr./in. <sup>3</sup> 0.800 gm/cm <sup>3</sup>
Heat of Explosion, Potential	240.4 J/gr.	3710 J/gm	Energy Density of Charge	48637 J/in. <sup>3</sup> 2968 J/cm <sup>3</sup>
Propellant Solid Density	407.15 gr./in. <sup>3</sup>	1.61 gm/cm <sup>3</sup>	Used Ratio of Specific Heats cp/cv	1.224
Burning Rate Factor Ba	0.624 1/s		Weighting Factor	0.65
Burning Function Limit Z1	0.35		Prog.-/ Degressivity Factor a0	2.299
Factor b	1.666		Bulk Density	227.6 gr./in. <sup>3</sup> 0.900 gm/cm <sup>3</sup>

**Calculated and Estimated Data:**

Bullet Shank Seating Depth	0.552 in.	14.02 mm	Capacity Displaced by Seated Bullet	0.0611 in. <sup>3</sup>	1.001 cm <sup>3</sup>
Useable Case Capacity	0.3312 in. <sup>3</sup>	5.427 cm <sup>3</sup>	Bullet Travel at Muzzle Exit	21.98 in.	558.29 mm
Loading Ratio("Density") / Filling	88.9 %		Charge Fraction Burnt at Shot Start	1.89 %	

**Predicted Data:**

Maximum Chamber Pressure	46193 psi.	3185 bar	Bullet Travel at Pmax	1.62 in.	41.3 mm
<b>at Muzzle Exit:</b>					
Bullet Velocity	2696 fps.	821.7 m/s	Pressure at Muzzle	6778 psi.	467 bar
Bullet Energy	3389 ft.lbs.	4595 Joule	Bullet Barrel Time	1.224 ms	
Propellant Burnt	99.9 %		Ballistic Efficiency	28.5 %	

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.

