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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:9-Apr-2015	Time:19:57:55	File: xpert 375 ruger 210gr.dat	
Cartridge / Caliber	.375 Ruger	Bullet	.375, 210, XPERT TARGET M	
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 ³	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. ² 0.7016 cm ²
Propellant type	Somchem S341			
Charge Weight	74.0 gr.	4.795 gm	Load Density	223.6 gr./in. ³ 0.884 gm/cm ³
Heat of Explosion, Potential	237.2 J/gr.	3660 J/gm	Energy Density of Charge	52996 J/in. ³ 3234 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	0.65
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	0.552 in.	14.02 mm	Capacity Displaced by Seated Bullet	0.0611 in. ³ 1.001 cm ³
Useable Case Capacity	0.3312 in. ³	5.427 cm ³	Bullet Travel at Muzzle Exit	21.98 in. 558.29 mm
Loading Ratio("Density") / Filling	89.2 %		Charge Fraction Burnt at Shot Start	1.45 %

Predicted Data:

Maximum Chamber Pressure	47868 psi.	3300 bar	Bullet Travel at Pmax	1.66 in. 42.1 mm
at Muzzle Exit:				
Bullet Velocity	2784 fps.	848.5 m/s	Pressure at Muzzle	7613 psi. 525 bar
Bullet Energy	3614 ft.lbs.	4900 Joule	Bullet Barrel Time	1.185 ms
Propellant Burnt	97.5 %		Ballistic Efficiency	27.9 %

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.

