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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:19:47:48	File: xpert 9.3 x 64 200gr.dat	
Cartridge / Caliber	9.3 x 64 Brenneke	Bullet	.366, 200GR XPERT TARGET	
Maximum Average Pressure, allowed	63817 psi.	4400 bar (Piezo CIP)	with boattail	
Groove Caliber	0.366 in.	9.3 mm	Bullet Weight	200.0 gr. 12.96 gm
Case Capacity, overflow	88.0 gr. H2O	5.714 cm ³	Bullet Length	1.303 in. 33.1 mm
Case Length	2.519 in.	63.98 mm	Bullet Seating Depth	0.594 in. 15.08 mm
Cartridge O.A. Length	3.228 in.	82.0 mm	Barrel/Tube Length	23.622 in. 600.0 mm
Shot Start / Init Pressure	3625 psi.	249.94 bar	Cross Section Area of Bore	0.1028 in. ² 0.6632 cm ²
Propellant type	Somchem S355			
Charge Weight	67.0 gr.	4.342 gm	Load Density	232.4 gr./in. ³ 0.919 gm/cm ³
Heat of Explosion, Potential	253.4 J/gr.	3910 J/gm	Energy Density of Charge	58911 J/in. ³ 3595 J/cm ³
Propellant Solid Density	404.63 gr./in. ³	1.6 gm/cm ³	Used Ratio of Specific Heats cp/cv	1.2291
Burning Rate Factor Ba	0.5 1/s		Weighting Factor	0.5
Burning Function Limit Z1	0.39		Prog.-/ Degressivity Factor a0	2.36
Factor b	1.774		Bulk Density	227.6 gr./in. ³ 0.900 gm/cm ³

Calculated and Estimated Data:

Bullet Shank Seating Depth	0.417 in.	10.58 mm	Capacity Displaced by Seated Bullet	0.0605 in. ³ 0.991 cm ³
Useable Case Capacity	0.2882 in. ³	4.723 cm ³	Bullet Travel at Muzzle Exit	21.7 in. 551.1 mm
Loading Ratio("Density") / Filling	102.1 % = compressed		Charge Fraction Burnt at Shot Start	1.29 %

Predicted Data:

Maximum Chamber Pressure	48523 psi.	3346 bar	Bullet Travel at Pmax	1.62 in. 41.3 mm
at Muzzle Exit:				
Bullet Velocity	2826 fps.	861.4 m/s	Pressure at Muzzle	8021 psi. 553 bar
Bullet Energy	3547 ft.lbs.	4809 Joule	Bullet Barrel Time	1.152 ms
Propellant Burnt	97.0 %		Ballistic Efficiency	28.3 %

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.

