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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:20:06:01	File: xpert 408 chey tac 325gr.dat	
Cartridge / Caliber	.408 CheyTac	Bullet	.408, 325 GR, XPERT TARGE	
Maximum Average Pressure, allowed	63817 psi.	4400 bar (Piezo)	with flatbase	
Groove Caliber	0.408 in.	10.36 mm	Bullet Weight	325.0 gr. 21.06 gm
Case Capacity, overflow	169.0 gr. H2O	10.973 cm ³	Bullet Length	1.772 in. 45.0 mm
Case Length	3.040 in.	77.22 mm	Bullet Seating Depth	0.709 in. 18.0 mm
Cartridge O.A. Length	4.103 in.	104.22 mm	Barrel/Tube Length	26.0 in. 660.4 mm
Shot Start / Init Pressure	3625 psi.	249.94 bar	Cross Section Area of Bore	0.12819 in. ² 0.827 cm ²
Propellant type	Somchem S385			
Charge Weight	123.0 gr.	7.97 gm	Load Density	213.2 gr./in. ³ 0.843 gm/cm ³
Heat of Explosion, Potential	238.5 J/gr.	3680 J/gm	Energy Density of Charge	50849 J/in. ³ 3103 J/cm ³
Propellant Solid Density	404.63 gr./in. ³	1.6 gm/cm ³	Used Ratio of Specific Heats cp/cv	1.239
Burning Rate Factor Ba	0.405 1/s		Weighting Factor	0.5
Burning Function Limit Z1	0.42		Prog.-/ Degressivity Factor a0	2.206
Factor b	1.823		Bulk Density	235.2 gr./in. ³ 0.930 gm/cm ³

Calculated and Estimated Data:

Bullet Shank Seating Depth	0.709 in.	18.0 mm	Capacity Displaced by Seated Bullet	0.0928 in. ³	1.52 cm ³
Useable Case Capacity	0.5768 in. ³	9.453 cm ³	Bullet Travel at Muzzle Exit	23.67 in.	601.18 mm
Loading Ratio("Density") / Filling	90.7 %		Charge Fraction Burnt at Shot Start	1.59 %	

Predicted Data:

Maximum Chamber Pressure	49870 psi.	3438 bar	Bullet Travel at Pmax	2.60 in.	65.9 mm
at Muzzle Exit:					
Bullet Velocity	2821 fps.	859.8 m/s	Pressure at Muzzle	10676 psi.	736 bar
Bullet Energy	5742 ft.lbs.	7786 Joule	Bullet Barrel Time	1.368 ms	
Propellant Burnt	99.2 %		Ballistic Efficiency	26.5 %	

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.

