User Data:

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Cartridge / Caliber	**.25-06 Rem.**		**Bullet**	**.257, 80, XPERT**	
Maximum Average Pressure, allowed	65267 psi.	4500 bar (Piezo CIP)		with flatbase	
Groove Caliber	0.257 in.	6.53 mm	Bullet Weight	80.0 gr.	5.18 gm
Case Capacity, overflow	65.8 gr. H2O	4.272 cm³	Bullet Length	1.063 in.	27.0 mm
Case Length	2.489 in.	63.22 mm	Bullet Seating Depth	0.481 in.	12.22 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	0.05118 in.²	0.3302 cm²
Propellant type	**Somchem S355**				
Charge Weight	48.0 gr.	3.11 gm	Load Density	203.6 gr./in.³	0.805 gm/cm³
Heat of Explosion, Potential	253.4 J/gr.	3910 J/gm	Energy Density of Charge	51603 J/in.³	3149 J/cm³
Propellant Solid Density	404.63 gr./in.³	1.6 gm/cm³	Used Ratio of Specific Heats cp/cv	1.2291	
Burning Rate Factor Ba	0.5 1/s		Weighting Factor	0.55	
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/cm³

Calculated and Estimated Data:

Bullet Shank Seating Depth	0.481 in.	12.22 mm	Capacity Displaced by Seated Bullet	0.025 in.³	0.41 cm³
Useable Case Capacity	0.2357 in.³	3.862 cm³	Bullet Travel at Muzzle Exit	21.99 in.	558.6 mm
Loading Ratio("Density") / Filling	89.5 %		Charge Fraction Burnt at Shot Start	1.72 %	
Predicted Data:					
Maximum Chamber Pressure	49008 psi.	3379 bar	Bullet Travel at Pmax	2.62 in.	66.6 mm
at Muzzle Exit:					
Bullet Velocity	3326 fps.	1013.7 m/s	Pressure at Muzzle	10429 psi.	719 bar
Bullet Energy	1965 ft.lbs.	2664 Joule	Bullet Barrel Time	1.109 ms	
Propellant Burnt	99.0 %		Ballistic Efficiency	21.9 %	

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.