

.308 Win., Hornady SST Interlock (165 grains), Tubal 5000

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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: 30-ene-2014	Time: 20:54:24	File: 308 win 165 gr hornady sst interlock.dat		
Cartridge / Caliber	.308 Win.	Bullet	.308, 165, Hornady SST Inter		
Maximum Average Pressure, allowed	4150 bar	60191 psi. (Piezo CIP)	with boattail		
Groove Caliber	7,82 mm	0,308 in.	Bullet Weight	10,69 gm	165,0 gr.
Case Capacity, overflow	3,636 cm ³	56,0 gr. H2O	Bullet Length	32,26 mm	1,270 in.
Case Length	51,16 mm	2,014 in.	Bullet Seating Depth	13,56 mm	0,534 in.
Cartridge O.A. Length	69,85 mm	2,750 in.	Barrel/Tube Length	510,08 mm	20,0819 in.
Shot Start / Init Pressure	250,0 bar	3626 psi.	Cross Section Area of Bore	0,4751 cm ²	0,07364 in. ²

Propellant type	Tubal 5000				
Charge Weight	2,657 gm	41,0 gr.	Load Density	0,876 gm/cm ³	221,5 gr./in. ³
Heat of Explosion, Potential	3940 J/gm	255,3 J/gr.	Energy Density of Charge	3452 J/cm ³	56568 J/in. ³
Propellant Solid Density	1,6 gm/cm ³	404,63 gr./in. ³	Used Ratio of Specific Heats cp/cv	1,225	
Burning Rate Factor Ba	0,59 1/s		Weighting Factor	0,5	
Burning Function Limit Z1	0,435		Prog.-/ Degressivity Factor a0	1,5	
Factor b	1,71		Bulk Density	0,905 gm/cm ³	228,9 gr./in. ³

Calculated and Estimated Data:

Bullet Shank Seating Depth	8,48 mm	0,334 in.	Capacity Displaced by Seated Bullet	0,603 cm ³	0,0368 in. ³
Useable Case Capacity	3,033 cm ³	0,1851 in. ³	Bullet Travel at Muzzle Exit	472,48 mm	18,6 in.
Loading Ratio("Density") / Filling	96.8 %		Charge Fraction Burnt at Shot Start	1,46 %	

Predicted Data:					
Maximum Chamber Pressure	3572 bar	51804 psi.	Bullet Travel at Pmax	35,9 mm	1,42 in.
at Muzzle Exit:					
Bullet Velocity	775,4 m/s	2544 fps.	Pressure at Muzzle	573 bar	8313 psi.
Bullet Energy	3215 Joule	2371 ft.lbs.	Bullet Barrel Time	1,091 ms	
Propellant Burnt	99,6 %		Ballistic Efficiency	30,7 %	

Additional Data:

Powder Lot		Primer Type and Lot	Federal 210
Bullet Lot		Case Manufacturer	Lapua
Measured Muzzle Vel., StdDev.		Measured Pressure, StdDev.	

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.

