

gew88

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:11-2-2015 | Time:18:22:26 | File: *.dat |
| Cartridge / Caliber | 8 x 57 I | Bullet | | .318, 196, Sellier-Bellot SP 29 |
| Maximum Average Pressure, allowed | 3800 bar | 55114 psi. (Piezo CIP) | with flatbase | |
| Groove Caliber | 8,08 mm | 0,318 in. | Bullet Weight | 12,7 gm 196,0 gr. |
| Case Capacity, overflow | 4,026 cm3 | 62,01 gr. H2O | Bullet Length | 27,36 mm 1,077 in. |
| Case Length | 57,0 mm | 2,244 in. | Bullet Seating Depth | 2,37 mm 0,093 in. |
| Cartridge O.A. Length | 81,99 mm | 3,228 in. | Barrel/Tube Length | 740,0 mm 29,1339 in. |
| Shot Start / Init Pressure | 250,0 bar | 3626 psi. | Cross Section Area of Bore | 0,503 cm2 0,07797 in.2 |
| Propellant type | | Lovex D036 | | |
| Charge Weight | 1,296 gm | 20,0 gr. | Load Density | 0,332 gm/cm3 84,0 gr./in.3 |
| Heat of Explosion, Potential | 4500 J/gm | 291,6 J/gr. | Energy Density of Charge | 1494 J/cm3 24482 J/in.3 |
| Propellant Solid Density | 1,59 gm/cm3 | 402,1 gr./in.3 | Used Ratio of Specific Heats cp/cv | 1,216 |
| Burning Rate Factor Ba | 2,502 1/s | | Weighting Factor | 0,5 |
| Burning Function Limit Z1 | 0,156 | | Prog.-/ Degressivity Factor a0 | 0,044 |
| Factor b | 1,092 | | Bulk Density | 0,950 gm/cm3 240,2 gr./in.3 |

Calculated and Estimated Data:

| | | | | | |
|------------------------------------|-----------|-------------|-------------------------------------|-----------|-------------|
| Bullet Shank Seating Depth | 2,37 mm | 0,093 in. | Capacity Displaced by Seated Bullet | 0,122 cm3 | 0,0074 in.3 |
| Useable Case Capacity | 3,904 cm3 | 0,2383 in.3 | Bullet Travel at Muzzle Exit | 685,37 mm | 26,98 in. |
| Loading Ratio("Density") / Filling | 34.9 % | | Charge Fraction Burnt at Shot Start | 6,13 % | |

Predicted Data:

| | | | | | |
|--------------------------|------------|--------------|-----------------------|----------|-----------|
| Maximum Chamber Pressure | 2597 bar | 37673 psi. | Bullet Travel at Pmax | 21,9 mm | 0,86 in. |
| at Muzzle Exit: | | | | | |
| Bullet Velocity | 590,0 m/s | 1936 fps. | Pressure at Muzzle | 192 bar | 2784 psi. |
| Bullet Energy | 2211 Joule | 1631 ft.lbs. | Bullet Barrel Time | 1,788 ms | |
| Propellant Burnt | 100,0 % | | Ballistic Efficiency | 37,9 % | |

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 reached before bullet's base passes muzzle.

