

QuickLOAD® V.3.6 © Copyright 1987-2010 - H.Broemel, Babenhausen, Germany

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.

QuickLOAD® V.3.6.02 #130542, © Copyright 1987-2010 - H.Broemel, Babenhausen, Germany

| | | | | |
|-----------------------------------|-----------------------------|------------------------|---|---|
| User Data: | Date:9-Apr-2015 | Time:17:21:18 | File: xpert 7mm 08 rem 108gr.dat | |
| Cartridge / Caliber | 7 mm-08 Rem. | Bullet | .284, 108, XPERT TARGET M | |
| Maximum Average Pressure, allowed | 60191 psi. | 4150 bar (Piezo CIP) | with flatbase | |
| Groove Caliber | 0.284 in. | 7.21 mm | Bullet Weight | 108.0 gr. 7.0 gm |
| Case Capacity, overflow | 55.0 gr. H2O | 3.571 cm ³ | Bullet Length | 1.189 in. 30.2 mm |
| Case Length | 2.035 in. | 51.69 mm | Bullet Seating Depth | 0.507 in. 12.89 mm |
| Cartridge O.A. Length | 2.717 in. | 69.0 mm | Barrel/Tube Length | 24.0 in. 609.6 mm |
| Shot Start / Init Pressure | 3625 psi. | 249.94 bar | Cross Section Area of Bore | 0.06261 in. ² 0.4039 cm ² |
| Propellant type | Somchem S355 | | | |
| Charge Weight | 43.0 gr. | 2.786 gm | Load Density | 231.4 gr./in. ³ 0.915 gm/cm ³ |
| Heat of Explosion, Potential | 253.4 J/gr. | 3910 J/gm | Energy Density of Charge | 58649 J/in. ³ 3579 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 | 0.507 in. | 12.89 mm | Capacity Displaced by Seated Bullet | 0.0322 in. ³ 0.527 cm ³ |
| Useable Case Capacity | 0.1857 in. ³ | 3.044 cm ³ | Bullet Travel at Muzzle Exit | 22.47 in. 570.8 mm |
| Loading Ratio("Density") / Filling | 101.7 % = compressed | | Charge Fraction Burnt at Shot Start | 1.30 % |

Predicted Data:

| | | | | |
|--------------------------|--------------|------------|-----------------------|-------------------|
| Maximum Chamber Pressure | 46154 psi. | 3182 bar | Bullet Travel at Pmax | 1.75 in. 44.5 mm |
| at Muzzle Exit: | | | | |
| Bullet Velocity | 2987 fps. | 910.3 m/s | Pressure at Muzzle | 7923 psi. 546 bar |
| Bullet Energy | 2139 ft.lbs. | 2900 Joule | Bullet Barrel Time | 1.142 ms |
| Propellant Burnt | 95.8 % | | Ballistic Efficiency | 26.6 % |

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.

