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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:14:35:16 | File: xpert 7 x 64mm bren 108gr.dat | |
| Cartridge / Caliber | 7 x 64 Brenneke | Bullet | .284, 108, XPERT TARGET M | |
| Maximum Average Pressure, allowed | 60191 psi. | 4150 bar (Piezo CIP) | with flatbase | |
| Groove Caliber | 0.285 in. | 7.24 mm | Bullet Weight | 108.0 gr. 7.0 gm |
| Case Capacity, overflow | 69.0 gr. H2O | 4.48 cm ³ | Bullet Length | 1.189 in. 30.2 mm |
| Case Length | 2.519 in. | 63.98 mm | Bullet Seating Depth | 0.519 in. 13.18 mm |
| Cartridge O.A. Length | 3.189 in. | 81.0 mm | Barrel/Tube Length | 24.0 in. 609.6 mm |
| Shot Start / Init Pressure | 3625 psi. | 249.94 bar | Cross Section Area of Bore | 0.06245 in. ² 0.4029 cm ² |
| Propellant type | Somchem S341 | | | |
| Charge Weight | 50.0 gr. | 3.24 gm | Load Density | 208.1 gr./in. ³ 0.823 gm/cm ³ |
| Heat of Explosion, Potential | 237.2 J/gr. | 3660 J/gm | Energy Density of Charge | 49374 J/in. ³ 3013 J/cm ³ |
| Propellant Solid Density | 409.68 gr./in. ³ | 1.62 gm/cm ³ | Used Ratio of Specific Heats cp/cv | 1.242 |
| Burning Rate Factor Ba | 0.56 1/s | | Weighting Factor | 0.5 |
| Burning Function Limit Z1 | 0.45 | | Prog.-/ Degressivity Factor a0 | 0.74 |
| Factor b | 1.557 | | Bulk Density | 250.4 gr./in. ³ 0.990 gm/cm ³ |

Calculated and Estimated Data:

| | | | | | |
|------------------------------------|-------------------------|-----------------------|-------------------------------------|-------------------------|-----------------------|
| Bullet Shank Seating Depth | 0.519 in. | 13.18 mm | Capacity Displaced by Seated Bullet | 0.0332 in. ³ | 0.544 cm ³ |
| Useable Case Capacity | 0.2402 in. ³ | 3.936 cm ³ | Bullet Travel at Muzzle Exit | 22.0 in. | 558.8 mm |
| Loading Ratio("Density") / Filling | 83.1 % | | Charge Fraction Burnt at Shot Start | 1.69 % | |

Predicted Data:

| | | | | | |
|--------------------------|--------------|------------|-----------------------|-----------|---------|
| Maximum Chamber Pressure | 44097 psi. | 3040 bar | Bullet Travel at Pmax | 2.15 in. | 54.7 mm |
| at Muzzle Exit: | | | | | |
| Bullet Velocity | 3028 fps. | 923.0 m/s | Pressure at Muzzle | 9115 psi. | 628 bar |
| Bullet Energy | 2199 ft.lbs. | 2981 Joule | Bullet Barrel Time | 1.164 ms | |
| Propellant Burnt | 96.8 % | | Ballistic Efficiency | 25.1 % | |

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.

