## User Data:

**Date:8-Apr-2015** **Time:22:09:16** **File: xpert 6mm brx 68 gr.dat**

| | | | | | |
|---|---|---|---|---|---|
| **Cartridge / Caliber** | **6 mm BRX** | | **Bullet** | **.243, 68, XPERT Bullet** | |
| Maximum Average Pressure, allowed | 58740 psi. | 4050 bar (Piezo) | | with flatbase | |
| Groove Caliber | 0.242 in. | 6.15 mm | Bullet Weight | 68.0 gr. | 4.41 gm |
| Case Capacity, overflow | 43.0 gr. H2O | 2.792 cm³ | Bullet Length | 1.031 in. | 26.19 mm |
| Case Length | 1.575 in. | 40.01 mm | Bullet Seating Depth | 0.441 in. | 11.2 mm |
| Cartridge O.A. Length | 2.165 in. | 54.99 mm | Barrel/Tube Length | 24.0 in. | 609.6 mm |
| Shot Start / Init Pressure | 3625 psi. | 249.94 bar | Cross Section Area of Bore | 0.04576 in.² | 0.2952 cm² |
| **Propellant type** | **Somchem S355** | | | | |
| Charge Weight | 34.0 gr. | 2.203 gm | Load Density | 226.6 gr./in.³ | 0.896 gm/cm³ |
| Heat of Explosion, Potential | 253.4 J/gr. | 3910 J/gm | Energy Density of Charge | 57404 J/in.³ | 3503 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 | 0.4 | |
| 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:

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|---|---|---|---|---|---|
| Bullet Shank Seating Depth | 0.441 in. | 11.2 mm | Capacity Displaced by Seated Bullet | 0.0203 in.³ | 0.333 cm³ |
| Useable Case Capacity | 0.15 in.³ | 2.459 cm³ | Bullet Travel at Muzzle Exit | 22.87 in. | 580.79 mm |
| Loading Ratio("Density") / Filling | 99.5 % | | Charge Fraction Burnt at Shot Start | 1.37 % | |
| **Predicted Data:** | | | | | |
| Maximum Chamber Pressure | 41205 psi. | 2841 bar | Bullet Travel at Pmax | 2.01 in. | 51.1 mm |
| **at Muzzle Exit:** | | | | | |
| Bullet Velocity | 3194 fps. | 973.6 m/s | Pressure at Muzzle | 8324 psi. | 574 bar |
| Bullet Energy | 1541 ft.lbs. | 2089 Joule | Bullet Barrel Time | 1.124 ms | |
| Propellant Burnt | 92.6 % | | Ballistic Efficiency | 24.2 % | |

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.