

**5744 40gr**

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:**20-mai-2023**Time:**22:28:11**File:** 5744 20gr.dat**Cartridge / Caliber****.577 Sld. Snider****Bullet****.58, 505, LYM LFN MINIE 575**

Maximum Average Pressure, allowed  
Groove Caliber  
Case Capacity, overflow  
Case Length  
Cartridge O.A. Length  
Shot Start / Init Pressure

21756 psi. 1500 bar (Piezo CIP)  
0,574 in. 14,58 mm  
114,0 gr. H<sub>2</sub>O 7,402 cm<sup>3</sup>  
2,000 in. 50,8 mm  
2,470 in. 62,74 mm  
1160 psi. 80,0 bar

Bullet Weight  
Bullet Length  
Bullet Seating Depth  
Barrel/Tube Length  
Cross Section Area of Bore

with flatbase  
505,0 gr. 32,72 gm  
1,080 in. 27,43 mm  
0,610 in. 15,49 mm  
30,0 in. 762,0 mm  
0,25933 in.<sup>2</sup> 1,6731 cm<sup>2</sup>

**Propellant type****Accurate 5744**

Charge Weight  
Heat of Explosion, Potential  
Propellant Solid Density  
Burning Rate Factor Ba  
Burning Function Limit Z1  
Factor b

40,0 gr. 2,592 gm  
305,4 J/gr. 4713 J/gm  
397,04 gr./in.<sup>3</sup> 1,57 gm/cm<sup>3</sup>  
1,11 1/s  
0,119  
1,054

Load Density  
Energy Density of Charge  
Used Ratio of Specific Heats cp/cv  
Weighting Factor  
Prog.-/ Degressivity Factor a0  
Bulk Density

136,3 gr./in.<sup>3</sup> 0,539 gm/cm<sup>3</sup>  
41607 J/in.<sup>3</sup> 2539 J/cm<sup>3</sup>  
1,211  
0,7  
-0,175  
222,5 gr./in.<sup>3</sup> 0,880 gm/cm<sup>3</sup>

**Calculated and Estimated Data:**

Bullet Shank Seating Depth  
Useable Case Capacity  
Loading Ratio("Density") / Filling

0,61 in. 15,49 mm  
0,2936 in.<sup>3</sup> 4,811 cm<sup>3</sup>  
61.2 %

Capacity Displaced by Seated Bullet  
Bullet Travel at Muzzle Exit  
Charge Fraction Burnt at Shot Start

0,1581 in.<sup>3</sup> 2,591 cm<sup>3</sup>  
28,61 in. 726,69 mm  
0,98 %

**Predicted Data:**

Maximum Chamber Pressure  
**at Muzzle Exit:**

15851 psi. 1093 bar  
1531 fps. 466,7 m/s  
2629 ft.lbs. 3564 Joule  
82,2 %

Bullet Travel at Pmax

0,74 in. 18,8 mm

Pressure at Muzzle  
Bullet Barrel Time  
Ballistic Efficiency

1460 psi. 101 bar  
2,375 ms  
29,2 %

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.

