

N110 28.2 gr

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:**22-mai-2023**Time:**20:59:50**File:** 5744 20gr.dat**Cartridge / Caliber****.577 Sld. Snider****Bullet****.58, 505, LYM LFN MINIE 575**

Maximum Average Pressure, allowed

21756 psi. 1500 bar (Piezo CIP)

Groove Caliber

0,574 in. 14,58 mm

Bullet Weight

505,0 gr. 32,72 gm

Case Capacity, overflow

114,0 gr. H₂O 7,402 cm³

Bullet Length

1,080 in. 27,43 mm

Case Length

2,000 in. 50,8 mm

Bullet Seating Depth

0,610 in. 15,49 mm

Cartridge O.A. Length

2,470 in. 62,74 mm

Barrel/Tube Length

30,0 in. 762,0 mm

Shot Start / Init Pressure

1160 psi. 80,0 bar

Cross Section Area of Bore

0,25933 in.² 1,6731 cm²**Propellant type****Vihtavuori N110 *C**

Charge Weight

28,2 gr. 1,827 gm

Load Density

96,1 gr./in.³ 0,380 gm/cm³

Heat of Explosion, Potential

260,5 J/gr. 4020 J/gm

Energy Density of Charge

25023 J/in.³ 1527 J/cm³

Propellant Solid Density

379,34 gr./in.³ 1,5 gm/cm³

Used Ratio of Specific Heats cp/cv

1,23

Burning Rate Factor Ba

1,02 1/s

Weighting Factor

0,7

Burning Function Limit Z1

0,405

Prog.-/ Degressivity Factor a0

1,951

Factor b

1,735

Bulk Density

197,3 gr./in.³ 0,780 gm/cm³**Calculated and Estimated Data:**

Bullet Shank Seating Depth

0,61 in. 15,49 mm

Capacity Displaced by Seated Bullet

0,1581 in.³ 2,591 cm³

Useable Case Capacity

0,2936 in.³ 4,811 cm³

Bullet Travel at Muzzle Exit

28,61 in. 726,69 mm

Loading Ratio("Density") / Filling

48.7 %

Charge Fraction Burnt at Shot Start

1,70 %

Predicted Data:

Maximum Chamber Pressure

7523 psi. 519 bar

Bullet Travel at Pmax

1,03 in. 26,1 mm

at Muzzle Exit:

Bullet Velocity

1201 fps. 366,0 m/s

Pressure at Muzzle

1019 psi. 70 bar

Bullet Energy

1616 ft.lbs. 2192 Joule

Bullet Barrel Time

3,198 ms

Propellant Burnt

85,0 %

Ballistic Efficiency

29,8 %

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.

