

300WM 200gr SMK VV N165 68 grn

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 personnell 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:**3-iaé-2014**Time:**15:42:43**File:** 300wm 200gr smk vv n165 68 grn.dat**Comment****300WM 200gr SMK VV N165 68 grn****Cartridge / Caliber****.300 Win. Mag.(W)****Bullet****.308, 200, Sierra HP MatchK 223**

Maximum Average Pressure, allowed

4300 bar

62366 psi. (Piezo CIP)

with boattail

Groove Caliber

7,82 mm

0,308 in.

Bullet Weight

12,96 gm

200,0 gr.

Case Capacity, overflow

6,09 cm?

93,8 gr. H2O

Bullet Length

35,33 mm

1,391 in.

Case Length

66,55 mm

2,620 in.

Bullet Seating Depth

13,35 mm

0,526 in.

Cartridge O.A. Length

88,52 mm

3,485 in.

Barrel/Tube Length

610,01 mm

24,016 in.

Shot Start / Init Pressure

250,0 bar

3626 psi.

Cross Section Area of Bore

0,4732 cm?

0,07335 in.?

Propellant type**Vihtavuori N165**

Charge Weight

4,406 gm

68,0 gr.

Load Density

0,798 gm/cm?

201,8 gr./in.?

Heat of Explosion, Potential

3500 J/gm

226,8 J/gr.

Energy Density of Charge

2794 J/cm?

45785 J/in.?

Propellant Solid Density

1,58 gm/cm?

399,57 gr./in.?

Used Ratio of Specific Heats cp/cv

1,241

Burning Rate Factor Ba

0,424 1/s

Weighting Factor

0,5

Burning Function Limit Z1

0,485

Prog.-/ Degressivity Factor a0

1,156

Factor b

1,741

Bulk Density

0,910 gm/cm?

230,1 gr./in.?

Calculated and Estimated Data:

Bullet Shank Seating Depth

7,26 mm

0,286 in.

Capacity Displaced by Seated Bullet

0,571 cm?

0,0348 in.?

Useable Case Capacity

5,519 cm?

0,3368 in.?

Bullet Travel at Muzzle Exit

556,81 mm

21,92 in.

Loading Ratio("Density") / Filling

87,7 %

Charge Fraction Burnt at Shot Start

1,84 %

Predicted Data:

Maximum Chamber Pressure

2875 bar

41697 psi.

Bullet Travel at Pmax

70,1 mm

2,76 in.

at Muzzle Exit:

Bullet Velocity

769,3 m/s

2524 fps.

Pressure at Muzzle

750 bar

10877 psi.

Bullet Energy

3836 Joule

2829 ft.lbs.

Bullet Barrel Time

1,468 ms

Propellant Burnt

97,7 %

Ballistic Efficiency

24,9 %

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.

