

**QuickLOAD® V.3.6 © Copyright 1987-2010 - H.Broemel, Babenhausen, Germany**

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.**

QuickLOAD® V.3.6.02 #130542, © Copyright 1987-2010 - H.Broemel, Babenhausen, Germany

<b>User Data:</b>	<b>Date:9-Apr-2015</b>	<b>Time:18:19:24</b>	<b>File: xpert 8 x 60mm 153gr.dat</b>	
<b>Cartridge / Caliber</b>	<b>8 x 60 S</b>	<b>Bullet</b>	<b>.323, 153GR XPERT TARGET</b>	
Maximum Average Pressure, allowed	58740 psi.	4050 bar (Piezo CIP)	with flatbase	
Groove Caliber	0.323 in.	8.2 mm	Bullet Weight	153.0 gr. 9.91 gm
Case Capacity, overflow	63.99 gr. H2O	4.155 cm <sup>3</sup>	Bullet Length	1.299 in. 33.0 mm
Case Length	2.362 in.	59.99 mm	Bullet Seating Depth	0.590 in. 14.99 mm
Cartridge O.A. Length	3.071 in.	78.0 mm	Barrel/Tube Length	24.0 in. 609.6 mm
Shot Start / Init Pressure	3625 psi.	249.94 bar	Cross Section Area of Bore	0.08026 in. <sup>2</sup> 0.5178 cm <sup>2</sup>
<b>Propellant type</b>	<b>Somchem S355</b>			
Charge Weight	48.0 gr.	3.11 gm	Load Density	233.9 gr./in. <sup>3</sup> 0.925 gm/cm <sup>3</sup>
Heat of Explosion, Potential	253.4 J/gr.	3910 J/gm	Energy Density of Charge	59288 J/in. <sup>3</sup> 3618 J/cm <sup>3</sup>
Propellant Solid Density	404.63 gr./in. <sup>3</sup>	1.6 gm/cm <sup>3</sup>	Used Ratio of Specific Heats cp/cv	1.2291
Burning Rate Factor Ba	0.5 1/s		Weighting Factor	0.5
Burning Function Limit Z1	0.39		Prog.-/ Degressivity Factor a0	2.36
Factor b	1.774		Bulk Density	227.6 gr./in. <sup>3</sup> 0.900 gm/cm <sup>3</sup>

**Calculated and Estimated Data:**

Bullet Shank Seating Depth	0.59 in.	14.99 mm	Capacity Displaced by Seated Bullet	0.0485 in. <sup>3</sup>	0.794 cm <sup>3</sup>
Useable Case Capacity	0.2051 in. <sup>3</sup>	3.361 cm <sup>3</sup>	Bullet Travel at Muzzle Exit	22.23 in.	564.6 mm
Loading Ratio("Density") / Filling	102.8 % = compressed		Charge Fraction Burnt at Shot Start	1.27 %	

**Predicted Data:**

Maximum Chamber Pressure	43704 psi.	3013 bar	Bullet Travel at Pmax	1.53 in.	38.9 mm
<b>at Muzzle Exit:</b>					
Bullet Velocity	2722 fps.	829.7 m/s	Pressure at Muzzle	7101 psi.	490 bar
Bullet Energy	2517 ft.lbs.	3413 Joule	Bullet Barrel Time	1.208 ms	
Propellant Burnt	94.7 %		Ballistic Efficiency	28.1 %	

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.

