New Generation Ammunition cc
Licensed manufacturers of ammunition

September 5, 1994

Technical newsletter
The ELIMINATOR bullet

1 INTRODUCTION

The ELIMINATOR is a projectile used in handgun ammunition, based on a solid copper slug. It was designed and patented to combine the characteristics of most of the world’s best self-defence bullets into a single bullet, for unprecedented stopping power.

The design concept of using monolithic copper projectiles is well established in the industry. In the U.S.A. many reloaders believe that BARNES-X solid copper bullets used in the making of hunting ammunition as the best on the market. Here in South Africa hunting bullet designers such as GOODNEL have also concentrated with great success on solid copper as the main ingredient of their projectiles.

2 HISTORICAL BACKGROUND

NGA’s ELIMINATOR is not the first all-copper handgun projectile. The German BAT (Blitz Action Trauma) and QD/MEN rounds, the American MPP and MMC rounds use similar design principles. They are all of medium weight (70 - 90 gr) and travel at velocities of roughly between 1400 and 1600 ft/s. What makes the ELIMINATOR special however, is that it took certain design principles of a variety of its predecessors and combined these into one bullet. In addition, the unique production process ensures that the ELIMINATOR has on one hand highly constant dimensions such as weight and size, and on the other, it ensures cost effectiveness so that it is available to the public at reasonable prices either as a reloading component or finished round. Indeed, as a made-up round, the ELIMINATOR is comparable in price with other brass bullets sold as points only.

3 STOPPING POWER

We define "Stopping Power" as the amount of physical incapacitation done to the subject. Three aspects of bullet performance are important to evaluate its effectiveness:

a. Penetration
b. Temporary stretch cavity
c. Permanent crush cavity.

The ELIMINATOR has an excellent overall performance in all of the above.

The home of the ELIMINATOR
Lede/Members: IR Monsieur*, M van Dyk, (*Belgian)
Tests conducted at the NGA testing grounds proved:
  a. adequate penetration in various tissue simulants,
  b. spectacular stretch cavity performance in ballistic clay and
  c. good crush cavity results in tissue media
  d. consistent bullet expansion

All these tests proved to be superior to any other done on locally available ammo.

4 TACTICAL PENETRATION
- PERFORMANCE THROUGH WINDSHIELD

Fig. 1.a shows results of a 9mm ELIMINATOR shot through a windscreen at 5m

- STEEL

The ELIMINATOR penetrates one layer of sheet steel of up to 1.5 mm thickness and shows similar results as per Fig. 1a

- BULLET PROOF VESTS

Standard loads do not penetrate vests with protection level IIa. This makes the ELIMINATOR an ideal carry round for law enforcement officers. International standards dictate that only special forces are allowed to carry ammunition which would penetrate their own vests as many regular officers are shot with their own firearm.

5 TECHNICAL CHARACTERISTICS

5.1. The bullet is produced as a solid copper slug which is nickel plated to reduce barrel friction.

5.2. A plastic cap is mounted on the tip of the slug to ensure reliable feeding in self loading firearms. In revolvers it facilitates fast insertion by hand or using speedloaders.

5.3. The production process guarantees extremely low tolerances on the physical dimensions of the projectile. Uniformity in weight, diameter and ellipticity guarantees external ballistic performance. Groupings of 37 mm at 25 m were obtained from a fixed barrel in a laboratory environment.

5.4. The unique shape of the ELIMINATOR has several properties that will ensure the following:
  a. No ricochets even when entering hard objects like windscreens at very sharp angles,
  b. No core jacket separation when hitting either hard or soft targets,
  c. Virtually 100% weight retention in tissue like medium,
  d. Expansion to over 12 mm (50 "),
  e. Optimal wound ballistics. (for comparison between 9mm PARA FMJ and ELIMINATOR see Fig. 1.b and 1.c)

<table>
<thead>
<tr>
<th></th>
<th>ELIMINATOR</th>
<th>FMJ</th>
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<tbody>
<tr>
<td>Temporary cavity</td>
<td>22 cm</td>
<td>5cm</td>
</tr>
<tr>
<td>Penetration</td>
<td>35-38 cm</td>
<td>&gt; 60 cm</td>
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</table>
5.5. Calibres currently available:

a. 78 gr .355" for .380 auto (9mm short) and 9mm Parabellum
b. 78 gr .357" for .38sp and .357Mag
c. 90 gr .357 for .357 Mag

Other calibres including .40S&W and .45 ACP are under development and should be available during the last quarter of 1994.

6 LOADING DATA

<table>
<thead>
<tr>
<th>CALIBRE</th>
<th>SPEED ft/s</th>
<th>CHARGE gr</th>
<th>ENERGY ft.lbs</th>
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<tr>
<td>.380 AUTO 78gr</td>
<td>1040</td>
<td>3.6</td>
<td>187</td>
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<tr>
<td>9MM 78 gr</td>
<td>1443</td>
<td>5.7</td>
<td>361</td>
</tr>
<tr>
<td>.38SP 78 gr</td>
<td>1247</td>
<td>7.6</td>
<td>269</td>
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<tr>
<td>.357Mag 78 gr</td>
<td>1782</td>
<td>10.5</td>
<td>550</td>
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<tr>
<td>.357Mag 90 gr</td>
<td>1645</td>
<td>10.5</td>
<td>541</td>
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These loads are based on SOMCHEM'S MP200 lot 145. These charges were verified not to exceed pressures measured with the piezoelectric system, using SAAMI specifications as reference. We suggest that international customers use UNIQUE powder and start with 10% less weight as stated above.
Pressure testing should however be carried out when using powder different to MP200-145 to ensure that maximum pressures are not exceeded.
9mm ELIMINATOR

Shot through a laminated car windshield at 5m distance
NO deflection a 1m behind screen

Fig. 1.b
9mm ELIMINATOR
Temporary cavity 22 cm
Penetration 35-38 cm

Fig. 1.c
9mm FMJ (Std. Ball)
Temporary cavity 5 cm
Penetration > 60 cm

The above clay tests were done on a comparative base only!