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## Ammunition Performance Data Sheet

## Buffalo Bore 460 Rowland 230gr XTP JHP (Item 35B)

## Evaluated Metrics

Cartridge Dimensions

Ambient Velocity and Accuracy
Extreme Cold Velocity and Accuracy
Water Immersion Velocity and Accuracy

Bare Gelatin terminal Performance (Penetration, Expansion, KE, Temporary Cavity) Heavy Clothing + Gelatin terminal Performance (Penetration and Expansion) Automobile Windshield + Gelatin terminal Performance (Penetration and Expansion)

Slide Velocity (Remington R1 1911)
Muzzle Flash

## Cartridge Dimensions



Cartridge overall length: 1.245" Cartridge Weight: 335gr


Projectile: Hornady 230gr XTP JHP

## Ambient Velocity and Accuracy



Firearm: Remington R1 1911 5.0" length 460 Rowland conversion barrel with muzzle compensator
Distance: 8 feet in front of muzzle
Chronograph: Pact Model 1 XP
Weather: $78^{\circ} \mathrm{F}, 93 \%$ humidity

## ACCURACY (10 meters from muzzle)



|  | $\underline{\mathbf{X}}$ | $\underline{\mathbf{Y}}$ |
| :---: | :---: | :---: |
|  | (inch) | (inch) |
|  | 0.00 | 0.43 |
|  | 0.00 | 0.80 |
|  | 0.79 | 0.27 |
|  | 0.57 | 0.79 |
| Average | 0.37 | 1.07 |
|  | 0.99 | 1.43 |
|  |  |  |
|  | $\mathbf{0 . 5 7}$ | $\mathbf{0 . 6 8}$ |

## Extreme Cold Velocity and Accuracy



Firearm: Remington R1 19115.0 " length 460 Rowland conversion barrel with muzzle compensator
Distance: 8 feet in front of muzzle
Chronograph: Pact Model 1 XP
Weather: -20 Degrees Fahrenheit (shot string completed during 8 minutes exposure to $78^{\circ} \mathrm{F}$ )

## ACCURACY (10 meters from muzzle)



|  | $\underline{\mathbf{X}}$ | $\underline{\mathbf{Y}}$ |
| :---: | :---: | :---: |
|  | (inch) | (inch) |
|  | 0.00 | 0.43 |
|  | 0.83 | 0.00 |
|  | 0.53 | 0.27 |
|  | 0.14 | 0.25 |
|  | 0.73 | 0.65 |
|  | 0.28 | 0.92 |
|  | 0.15 | 1.68 |
|  | 0.68 | 1.68 |
|  | 0.42 | 0.73 |
|  |  |  |

Water Immersion Velocity and Accuracy


Firearm: Remington R1 1911 5.0" length 460 Rowland conversion barrel with muzzle compensator
Distance: 8 feet in front of muzzle
Chronograph: Pact Model 1 XP
Weather: 1 m submersion in $60^{\circ} \mathrm{F}$ water for 30 minutes. $78^{\circ} \mathrm{F}, 93 \%$ humidity

## ACCURACY (10 meters from muzzle)



|  | $\underline{\mathbf{X}}$ | $\underline{\mathbf{Y}}$ |
| :---: | :---: | :---: |
|  | (inch) | (inch) |
|  | 0.00 | 0.49 |
|  | 0.33 | 0.00 |
|  | 0.73 | 0.19 |
|  | 0.73 | 0.04 |
| Average | 1.03 | 0.04 |
| Maximum dispersion | 1.26 | 0.31 |
|  | $\mathbf{0 . 5 5}$ | 0.22 |

## Bare Gelatin terminal Performance

## Shot 1 Kinetic Energy Transfer



Shot 1 High Speed Video (Click to watch the video)


Shot 1 Block Picture (Click to Enlarge)


Shot 2 Block Picture (Click to Enlarge)


Shot 2 Recovered Projectile (Click to Enlarge)


Shot 3 Block Picture (Click to Enlarge)

| Expansion <br> (square inch) | Retained Weight <br> (grain) |
| :---: | :---: |
| 0.339 | 136.3 |

Shot 3 Recovered Projectile (Click to Enlarge)


| Shot Number | Impact Velocity <br> $(\mathrm{ft} / \mathrm{sec})$ | Penetration Depth <br> (inch) | Expansion <br> (square <br> inch) | Retained Weight <br> (grain) |
| :---: | :---: | :---: | :---: | :---: |
| 1 | 1363 | 11.6 | 0.420 | 135.5 |
| 2 | 1320 | 12.2 | 0.306 | 137.1 |
| 3 | 1306 | 11.8 | 0.339 | 136.3 |
| Average | 1330 | 11.9 | 0.355 | 136.3 |

## Heavy Clothing + Gelatin terminal Performance

Shot 1 Block Picture (Click to Enlarge)


Shot 1 Recovered Projectile (Click to Enlarge)


Shot 2 Block Picture (Click to Enlarge)


Shot 2 Recovered Projectile (Click to Enlarge)


Shot 3 Block Picture (Click to Enlarge)


Shot 3 Recovered Projectile (Click to Enlarge)


| Shot Number | Impact Velocity <br> $(\mathrm{ft} / \mathrm{sec})$ | Penetration Depth <br> (inch) | Expansion <br> (square <br> inch) | Retained Weight <br> (grain) |
| :---: | :---: | :---: | :---: | :---: |
| 1 | 1309 | 14.1 | 0.497 | 219.8 |
| 2 | 1338 | 11.8 | 0.745 | 220.0 |
| 3 | 1310 | 12.3 | 0.685 | 219.7 |
| Average | 1319 | 12.7 | 0.642 | 219.8 |

## Automobile Windshield + Gelatin terminal Performance

Shot 1 Block Picture (Click to Enlarge)


## Shot 1 Recovered Projectile (Click to Enlarge)



Shot 2 Block Picture (Click to Enlarge)


| Impact Velocity <br> (ft/sec) | Penetration Depth <br> (inch) | Expansion <br> (square inch) | Retained Weight <br> (grain) |
| :---: | :---: | :---: | :---: |
| 1357 | 16.3 | 0.377 | 208.2 |

Shot 2 Recovered Projectile (Click to Enlarge)


Shot 3 Block Picture (Click to Enlarge)

| Impact Velocity <br> (ft/sec) | Penetration Depth <br> (inch) |
| :---: | :---: |
| 1327 | 13.1 |

Shot 3 Recovered Projectile (Click to Enlarge)

## Slide Velocity

The slide velocity of a semi-automatic handgun is an important metric as it is relative to the recoil felt by the shooter and the feed reliability of the firearm. Slow motion video analysis of the tested Remington R1 1911 is presented below.

## Remington R1 1911 in 460 Rowland shooting (Click to watch the video)



Slide Velocity graph

Buffalo Bore 460 Rowland 230gr XTP
Remington R1 1911
Rearward Slide Travel - Slide Velocity


## Muzzle Flash

When a small arm is fired, three target signatures emerge at the muzzle: noise, flash and smoke. Reducing the muzzle flash of a defensive firearm is important because it reduces the likelihood of an opponent visually determining your firing position. While this is most relevant to the world of rifles, a small muzzle flash from a handgun is also important as a means to minimize your "night blindness" after shooting and secondarily important as a means to conceal your firing position from attackers located at some distance from your location.

Remington R1 1911 in 460 Rowland muzzle flash (Click to watch the video)


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