# BALLISTIC HELMETS

## NIJ-VPAM-DEA / FBI TEST STANDARDS

40 years ago, stopping the fragment/bullet was enough. However, as technology has improved, so has the expectation that helmet systems must work in the most extreme environments and subjected to the harshest conditions. Secondly, reducing Traumatic Brain Injury (TBI) is recognized as a significant goal, as limiting energy transfer into the skull during a ballistic event offers long term officer safety as well as the ability to stay 'in the fight'. The following chart outlines the main Helmet Testing Protocols over the past 40 years, and their primary focus/testing features.

| STANDARD | NIJ (1981) | VPAM (2009) | DEA-FBI (2019) |
|---|---|---|---|
| Penetration - 9mm | ● | ● | ● |
| Penetration - 44mag | ● | | |
| Multi-Shot (Total Rounds) | ● 20 Shots total (5 rounds per helmet x 4 helmets). | ● 29 Shots total | ● 44 Shots total (6 rounds on 4 helmets, 5 rounds on 4 helmets). |
| Shot Placement | Pre-determined: Front, Back, Side(s) & Crown. | ● Random, unknown shot locations. | ● Pre-determined: 44 unique locations/conditioning tests. |
| Backface Deformation (Energy Transfer into the skull) | | ● Measured by utilizing ballistic soap and technical apparatus showing amount of kinetic energy transfer. | ● Measured by using 'Peep-sight' clay headmold and FARO 3-D imaging technology to determine backface deformation and energy transfer. |
| Edge Testing | All shots are placed 50mm (2") from edge. | ● Multiple Shots at 20-25mm from edge. | ● Multiple Shots at 25mm from edge at ambient, cold and hot temps. |
| Hardware (Bolts & Connecting Screws) | | ● All bolts shot during testing. | ● Connecting Bolts shot directly as well as 'near-bolt' shots placed adjacent to hardware to ensure no secondary fragmentation internally. |
| Wet Conditioning | ● 2 of 4 Helmets tested wet. | | ● 2 of 8 Helmets submerged in water before tested. |
| Extreme Cold | | ● -20℃ | ● 2 of 8 Helmets cooled to (-40F) before tested. |
| Extreme Hot | | ● +70℃ | ● 2 of 8 Helmets heated to (+140F) before tested. |
| Blunt Impact/Energy transfer | | ● Measured to less than 25 Joules. | ● Drop test of 25ft/Sec to simulate fall from Helo. |
| Shell Compression | | | ● Subjected to 300lbs Shell Compression for shell integrity |
| Retention & Harness | | | ● Dynamic & Static Harness Strength testing. |

# IMPACT/RESCUE HELMET AMH-2

Providing excellent impact protection, the AMH-2 is a lightweight, yet extremely durable helmet ideally suited to urban & field rescue operations, training scenarios where ballistic weight is not ideal, and dynamic movements in aerial and vehicular situations.

| DESCRIPTION | SPECIFICATIONS |
|---|---|
| **Certification** | ---- |
| **Model** | AMH-2 |
| **Sizes** | S, M, L y XL |
| **Weight** | ------ |
| **Materials** | SMC reinforced thermoplastic fibers<br>2K anti-scratch paint.<br>EPDM rubber edge<br>EPP-1 / CPP-1 Anti-impact system |
| **Shape** | Single Curve / HIGH CUT |
| **Special properties and accessories** | Special module for gas mask and other accessories.<br>Extra impact protection EPP and CPP<br>Anti-impact pads,<br>Adjustable patented wheeldial with multi-size, quick-detach chinstrap system<br>Rail mount for accessories |

HIGH CUT WITH RAILS

| | |
|---|---|
| *Ballistic protection* | - + |
| *Energy Transmission* | -+ |
| *Protection area* | -+ |
| *Modules* | -+ |
| *Weight* | -+ |

SAFECO® ARMOR

ADVANCED PROTECTION SYSTEMS

NIJ

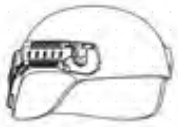
# BALLISTIC HELMET BUSCH® AMP- 1E NIJ IIIA+

AUTHORIZED DEALER

Lightweight aramid ballistic helmet, ideal for any public safety operation, be it Patrol, SWAT or Fire / Rescue. Available configured in high, medium or full cut, the AMP-1E offers excellent ballistic protection against both IIIA (9mm and .44mag) and STANAG 2920 fragmentation threats.

| DESCRIPTION | SPECIFICATIONS |
|---|---|
| Certification | **Backface testing according to HPW - TP0401-018 Sec. 9**<br><br>**NIJ-STD-0106.01 IIIA, NIJ-STD-0108.01 (Chesapeake)**<br><br>**STANAG 2920, 17 grain fragment: V50= 680 m/s - 2230 fps**<br><br>**Advanced STANAG with autoclave accelerated aging V50 = 653 m/s - 2144 fps**<br><br>**Shock absorbing according to DIN EN 397**<br>**Blunt Impact testing according to AR-PD-10-US (@ 10fps less than 150 g)** |
| Model | AMP - 1E |
| Size | Unisize 52 - 63 cm / 6 1/2 to 8 |
| Weight | 1450 g - 3.2 lbs including harness & pads<br>1550 g - 3.4 lbs including rail system |
| Materials | Kevlar Fiber<br>2K- Paint<br>EPDM rubber edge<br>CPP-1 E+ Pad System |
| Special Properties and Accessories | • Heat-resistant helmet shell<br>• Compatible with most gas masks and hearing protection<br>• SCS (Speed-Connect-System) visor mount compatible with all visor models<br>**Additional accessories:** NVG-shroud, velcro kit, bungees, visors, helmet covers, counter weights, tactical helmet bag |

FULL CUT WITH RAILS



MID CUT WITH RAILS

HIGH CUT WITH RAILS

| | |
|---|---|
| *Ballistic Protection* | - + |
| *Energy Transmission* | -+ |
| *Protective Area* | -+ |
| *Modularity* | -+ |
| *Weight* | -+ |

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