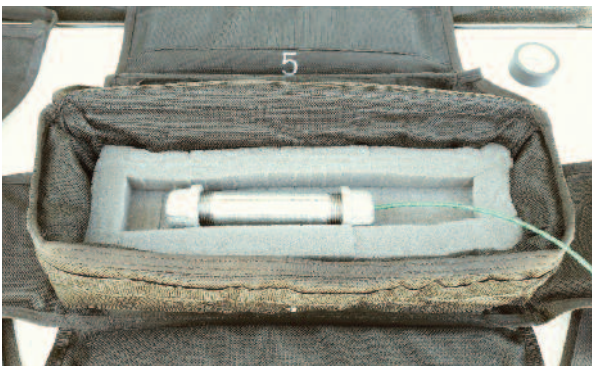




## **Bread Box** Protective Bag for Small Explosive Transport



Hazard Protection Systems, Inc. (HPS), is introducing the **Bread Box**, a protective bag for transporting small explosives and energetics.

HPS is the market leader in passive, fabric-based fuel tank fire suppression (FTFS) kits for U.S. Army and Marine trucks. Since 2007 HPS has equipped over 23,000 tactical trucks with its patented FTFS kits. These kits prevent hydrocarbon fuel combustion from roadside bombs (IED, EFP, or RPG) directed at fuel tanks.

The **Bread Box** provides a passive fire suppression element, incorporating the same dry-chemical extinguishing agent as military truck FTFS kits. Should the device explode inside the **Bread Box**, the thermal effect is dramatically reduced/eliminated as the pressure and fragments release extinguishing agent into the ambient area.

The **Bread Box** was tested under observation by certified explosive specialists (CES) from the U.S. Bureau of Alcohol, Tobacco and Firearms (ATF). The tests were designed with ATF input as to real-world threats generally seen across different geographies. The ATF observed numerous tests, which results were corroborated by independent test lab Chesapeake/NTS.

Transporting a device inside the **Bread Box** dramatically reduces threats of overpressure, injury from fragmentation, and thermal effect in the event of deflagration. The **Bread Box** is designed for small explosives under 1 lb. TNT equivalent. PSI reduction at arm's length (3 ft.) at 1 lb. TNT equivalent is 32% (cast booster 400g of TNT/PETN mix). PSI reduced by approximately 85% with a typical pipe bomb.

### Typical Uses

Nationally and world-wide, the use of small explosives varies widely. The **Bread Box** was tested to provide protection and mitigation for many scenarios, including:

- Retrieving and transporting a typical pipe bomb: PVC, black pipe, or copper, 5"-8" long, up to 1.25" diameter
- Retrieving and transporting a single small grenade
- Transporting blasting caps/small charges from pit to pit during demolition operations
- Carrying breaching charges. On scene, the charge(s) can be used and the bag left behind. SWAT personnel can retrieve the bag when the scene is secure. Charges no longer have to be carried on the vest of the operator.
- Recovering crickets (CO<sub>2</sub> cartridges) at crime scenes
- Collecting and transporting evidentiary fragments for forensic analysis

# HAZARD PROTECTION systems, inc



## Technical Properties

- Textile-based bag, containing benign, dry-chemical extinguishing agent
- NIJ Level IIIA soft armor protective reinforcement within bag walls
- Secure, foam “cradle” prevents the target from rolling during transport
- Approximate weight 10 lb., approximate dimensions 18” x 8” x 6”
- Does not interfere with X-ray imaging
- Portable in one hand with arm outstretched, leaving second hand free
- If handling a potentially volatile target, the bag can be carried with a stick or dragged with a carabiner and rope, chain, or strap
- D-rings on each end for hanging, dragging, storage, and robot handling
- Velcro flap **EMPTY**/**HOT** as visual reminder on range and during transport
- Independent test sensors measuring PSI at 3ft. (arm’s length) from deflagration show blast pressure declines to nearly zero when target is enclosed in the **Bread Box**. Surrogate target was 5”, galvanized, pipe bomb. PSI *reduction* versus baseline of bare pipe bomb was approx. 85%.

## For more information:

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***Hazard Protection Systems, Inc., market leader in passive fuel tank fire suppression for side-saddle military trucks***



## Disclaimer

There are no guarantees or warranties in survivability with the use of the Bread Box. The Bread Box, when used as intended, by trained personnel, and with reasonable safety protocols, greatly reduces overpressure, fragmentation threat, and thermal effect. The Bread Box is designed for small explosives and energetics below 1 lb. TNT equivalence (RE). Explosives or threats greater than this level require different safety protocols. Large explosive charges (RPG, IED, EFP) should never be transported with the Bread Box. Use of the Bread Box with a live target is reserved for trained personnel: military EOD or munition demolition specialists, state/local police or fire fighting bomb technicians, SWAT breachers, and federal agency bomb technicians/explosives specialists..