

NEED & CUSTOMER REQUIREMENT

Need: Current anti-ballistic armor is heavy, limiting its use, and compromising mission range and capabilities. Level IIIA protection can be achieved with layers of ballistic fabrics. Unless they are encapsulated in a fire safe, non-absorbent material they would be unsafe to use aboard an aircraft. A minimum of level IIIA protection is needed, safely encapsulated in a material that is fire safe and non-absorbent.

Value to the Warfighter: Lightweight ballistic protection will be used. It will save lives and be used because it will not compromise the mission as much as heavy armor does.

Customer Specifications: Aircraft onboard ballistic is to be 2 lbs/sq ft. or less. It must be fire-safe, non-absorbent and fastened securely to the airframe. The level of protection is open to discussion.

Technology Description: Kennon's light weight ballistic protection is achieved with layers of hollow domed or hemispherical inserts that spreads the energy of the projectile, slows it, turns it and initiates its internal disintegration. The projectile is caught in Armorfelt™, a ballistic cloth developed by Dr. Thomas of Auburn University.

Operational Gap: Heavy monolithic armor interferes with the load capacity of aircraft. The heavier the armor, the less fuel, people or cargo the aircraft can carry safely. Plated armor is expensive to conform to curved areas. A lightweight non-rigid system would help bridge the gap.

SPONSORSHIP of original SBIR/STTR Topic

SYSCOM: NAVAIR

Transition Target: V-22

Original Sponsoring Program:
NAVAIR PMA-275

TPOC Phone Number:
301 342 9398

Note:
Initial Topic N06-016 for attachment clamps was expanded to include insulation and anti-ballistics capabilities



TECHNOLOGY DEVELOPMENT MILESTONES (SBIR/STTR)

Milestone	TRL	Risk	Measure of Success	TRL Date
Ballistic testing at the Army Research Lab, Aberdeen	4	Low	Optimized protection at minimum weight	08/2010
fabrication	5	Low	durable, fire safe, consistent QA	08/2010
qualification testing	6	Moderate	passes environmental testing	10/2010
limited production run	8	High	meets QA standards	12/2010
operational testing	9	High	meets customer's expectations	04/2011

N68335-08-C-0021 Final Report

TECHNOLOGY TRANSITION OPPORTUNITIES (PHASE III)

Other Potential Applications:

Military helicopters and transport aircraft.

Business Model:

Kennon is a manufacturer of aircraft support equipment. The clamp will be manufactured either by Kennon or other qualified fabricator.

Objective:

The company wishes to supply or license the product to prime integrators.