

**CUSTOMER SUPPORTED PROJECTS:**

- Army Combat Uniform (ACU)
- Dress Clothing
- Load Bearing Equipment & Accessories
- National Protection Center
- Joint Chemical/Biological Coverall Suit (JC3)
- Fuel Handlers Coverall
- Outer Tactical Vest (OTV)
- Gen III Extended Cold Weather Clothing System (ECWCS)
- Micro Climate Cooling Garment



# DESIGN, PATTERN & PROTOTYPE TEAM

## Warfighter Protection & Aerial Delivery Directorate

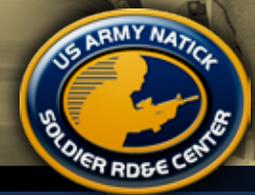


### US ARMY NSRDEC WARFIGHTER PROTECTION AND AERIAL DELIVERY DIRECTORATE

15 Kansas Street  
 Natick, MA 01760-5017  
 COMM: 508-233-4495, DSN: 256-4495  
 FAX: 508-233-6976  
 EMAIL: nati-amsrd-nsc-ad-b@conus.army.mil

**ON THE WEB:**  
[nsrdec.natick.army.mil](http://nsrdec.natick.army.mil)

**MEDIA INQUIRIES:**  
 (508) 233-4300  
[nati-imne-ssc-pa@conus.army.mil](mailto:nati-imne-ssc-pa@conus.army.mil)





# DESIGN, PATTERN & PROTOTYPE TEAM

## INTRODUCTION:

The Warfighter Protection & Aerial Delivery Directorate has a unique design and prototype facility. The Design, Pattern and Prototype Team designs and develops combat and dress clothing, and equipment items including ballistics and chemical protective items. This Team gives the Natick Soldier RD&E Center the capability to design and develop dress and combat clothing and equipment items to fabricate representative prototypes and furnishes computer-graded patterns.

## DESIGN FACILITY:

In the Design Facility, highly skilled clothing designers develop patterns and fabricate prototypes of end items. The facility has the various sewing machines, presses, fusing machines and ultrasonic machines necessary to accomplish this mission. These prototypes allow for initial fit/wear tests and assist in the preparation of technical data packages for large-scale procurement. Based on data collected, design changes are made and implemented, as necessary, throughout the development process, resulting in a proven final technical data package/purchase description and master pattern.

## COMPUTER AIDED DESIGN (CAD) SYSTEM:

The Computer Aided Design (CAD) System provides customers state-of-the-art technology. Pattern input into the system allows the option of lifetime electronic storage of patterns. Changes and updates can be made with ease and accuracy and patterns can be sized to individual specifications. Patterns can then be sent electronically directly to the contractor or be provided via oak tag, plotter paper or on compact disk (CD). The facility utilizes a cutting edge flat bed cutter that can cut out the patterns in a timely and accurate fashion and then the design shop will make the prototype.

## CAPABILITIES:

- Design & Grade Patterns
- Fabricate standard samples
- Technical/Quality assistance support
- Expertise in resolving clothing design/pattern issues
- Customized Embroidery
- Specialized Chemical/Biological Clothing Design Development
- Pattern Quality and Acceptability Inspections
- Quality Checks and First Article Inspections for Government
- Technical Data and Specifications
- Consultation Services:
  - Garment Design
  - Fit and Sizing, to include Anthropometric Measurements
  - Form, Fit, and Function
  - Complex Fabrication with unique materials
  - Seam Sealing
- Detailed Specification Drawings

## EQUIPMENT:

- Computer Aided Design (CAD):
  - Gerber Accumark CAD
  - Accuscan, Pattern Scanner
  - Accumark V-Stitcher, 3D Virtual Software
  - Web PDM (Product Data Manage Software)
  - Silhouette
  - Infinity Plotter
  - Gerber Cutter DCS 2500
- Prototyping Equipment:
  - Embroidery Machine
  - Ultrasonic Steam Press
  - Fusible Heat Press
  - Computerized Buttonhole
  - Box x
  - 301 Machine: Sergers, Flatlock
  - Fusing Machine
  - Seam Sealing Machine
  - Bar-tack
  - Cover Stitch
  - Zig-Zag
  - Snap & Grommets
  - Blind Hem Machine
  - Rotary Knife

