



UNITED CASE

*a UFP Technologies brand*

United Case™ Whitepaper  
Tool Control Foam for the Pelican 0450

## Tool Control Foam Inserts for the Pelican 0450 Case Custom Fabricated vs. Do-It-Yourself



## Background

Pelican's 0450 Mobile Tool Chest was originally developed for the US Army to be used as their General Mechanics Tool Kit (GMTK). The GMTK case was developed in partnership between Pelican (protective case shell), Armstrong Tools and UFP Technologies (United Case's parent company and fabricator of the tool control inserts).

In February 2009 Pelican made its 0450 case available for purchase to the public (without tools or foam). With its seven drawers and compact design the 0450 case is an excellent portable storage solution for a complete tool set. To protect tools from damage, provide proper storage and practice tool accountability a drawer organization system is essential for the 0450 case.

United Case benefits from the knowledge and fabrication capabilities available through our parent company, UFP Technologies, as a leading supplier and innovator of tool control solutions. Our custom foam tool control inserts were originally designed for the aerospace and defense industry as a way to prevent Foreign Object Damage (FOD) by using a two color shadow box layout. Tools that are missing from its insert are easily noticed enhancing productivity, tool accountability and asset management.

For Pelican's 0450 case, United Case offers two types of foam tool control solutions. The first being custom foam inserts designed and fabricated by United Case via CNC routing, water-jet cutting and/or die cutting. Our other solution is a do-it-yourself (DIY) foam tool control kit. The DIY Drawer Liner kit allows for the end users to hand cut their own tool control inserts. The following presents both foam tool control options for Pelican's 0450 case.

## Custom Fabricated Tool Control Inserts

Custom fabricated tool control drawer liners for the 0450 case provide the best protection and storage for tools. United Case's in-house engineering team utilizes the latest CAD software programs to design each inserts' layout.

- **Tool Library** - Over the years we as a company have amassed a library of the dimensions and weights of thousands of tools. For most foam inserts we need only the part numbers of our customer's tools to begin the design, which greatly reduces overall engineering time and costs.
- **Material Selection** - United Case has access to a variety of foam and plastic materials to fabricate inserts. Depending on the conditions the 0450 case is expected to face, United Case can recommend specific polyethylene foams, cross-linked polyethylene foams or rigid plastics - all in a variety



of colors. The US Army's GMTK case uses a cross-linked polyethylene foam, which is a closed cell material. This foam can withstand multiple uses and extreme weather conditions; it is also the most aesthetically pleasing foam.

- **Product Identification Systems** – United Case can help you enhance the organization and control of your tools by incorporating part numbers, names, or instructions to your foam inserts via our patented processes. Often, part numbers are added to the bottom layer of a two-color shadow box foam insert so that each tool compartment is unmistakably identified with its appropriate tool.



- **Fabrication Methods** - United Case's tool control inserts are most commonly fabricated via water-jet cutting or CNC routing. These two fabrication methods require no expensive tools and allow for quick changes to be made during production.

## DIY Tool Control Kits

United Case's *Case Fit™ Drawer Liner* kits provide end users of Pelican's 0450 Mobile Tool Chest a do-it-yourself foam tool control solution.

### Kit Specifications:

- Each kit includes six (6) shallow drawer foam sets and one (1) deep drawer set. Each foam set is pre-cut to fit the Standard Drawers for Pelican's 0450 case. Each shallow drawer set contains ¾" thick black foam with pressure sensitive adhesive and ¼" thick foam. The deep drawer set contains two (2) pieces of 7/8" thick black foam with pressure sensitive adhesive and ¼" foam. The *Case Fit Drawer Liner* kits are packaged with tracing paper to use when mapping out each tool's location.

### Specific Product Information:

- **Case Fit DL 45** - The *Case Fit DL 45* set is made of the same closed-cell, oil repellent cross-linked polyethylene foam that is used in the US Army's General Mechanics Tool Kits (GMTK). This durable foam tool control kit's color combination is available in black over red.
- **Case Fit DL PE** - The *Case Fit DL PE* set is made of a non-cross-linked polyethylene foam material. This foam set is recommended for applications where transportation of the 0450 protective case is kept to a minimum. The *PE* set's color combination is available in black over white foam.

The DIY Drawer Liner kits are perfect for an at-home application where space efficiency and aesthetics may not be as crucial. Without the use of CAD software the complete drawer system's layout may not be optimized, leaving required tools out of the case. Cutting the foam insert by hand will not provide the same precision as a fabrication solution. The semi-custom look may not project professionalism, degrading your brand's image in the field.

## Time & Cost Comparisons

The following time and cost data is based on creating a complete tool control system for a 0450 case.

### DIY Drawer Liner Kit:

- Typical 80 tool set
- Each kit includes 7 foam sets, one for each drawer
- Estimated time to layout and cut each drawer: 65 minutes
- Estimated time to customize 7 drawers: 455 minutes
- Estimated cost:
  - Assuming that the full burden for the person customizing the insert is \$40/hour, each DIY kit will approximately cost \$303 in labor
  - Approximate cost of the DIY Drawer Liner Kit is \$94

### Custom Fabrication Tool Control Sets:

- Typical 80 tool set
- Estimated cost of a complete tool control set for the 0450 case:
  - 5 systems at \$550/each
  - 10 systems at \$446/each
  - 25 systems at \$383/each

For additional information regarding United Case, 0450 solutions and case inserts please refer to the following links:

- [United Case](#)
- [0450 Solutions](#)
- [Project Photo Gallery](#)
- [United Case Online Store \(DIY Drawer Liner Kits\)](#)