

## Knife Sheaths Using KYDEX® Thermoplastic Sheet

TB - 144

### Advantages of KYDEX® Sheet Sheaths & Holsters

There are a number of different ways to construct a knife sheath or gun holster. Within this technical brief are some of the more common ideas in the construction of knife sheaths and gun holsters when using KYDEX® sheet. It is generally used because the sheet is easily formed under the heat from a heat gun and it is also resistant to normal wear and tear from the knife blade. The most common thicknesses range from 1.52mm (0.060") to about 3.18mm (0.125").

- Highly durable for continuous use
- Great color selection including custom color matching
- Easily molds to contours of the knife or gun
- Water, chemical, and stain resistant
- Can be remolded
- Easily cleaned off with household cleaners
- Can be used as a liner for leather sheaths and holsters

### Possible Tools for Sheath Construction

- Hair dryer or heat gun for heating KYDEX® sheet
- Foam, neoprene, small towel, etc. to wrap around knife or gun before pressing sheet around knife or gun
- Masking tape to tape off towel, neoprene, etc.
- Sheath Press to form KYDEX® sheet to the shape of the knife or gun
- Adhesive compatible with PVC (solvent cement, adhesive, hot gas weld)
- Rivet Press and rivets for seams of holster
- Drill and drill bits to pre-drill rivet holes
- Belt loop pre-molded or fabricated
- Screws to attach pre-molded belt loop to sheath or holster
- A type of saw to cut out the molded piece of KYDEX® sheet
- Sandpaper or scotch brite pad to finish the sheath once constructed

### Tips for Sheath or Holster Construction

- A 0.30m x 0.30m (1' x 1') sheet is a recommended size for making a sheath or holster
  - The sheet may be cut with a circular saw or band saw
- A heat gun is a much faster way to heat the KYDEX® sheet, but with patience a hair dryer may be used.
  - It is important to keep the KYDEX® sheet to about 166-193°C (330-380°F) while forming. The sheet will burn at a temperature greater than 204°C (400°F).
  - Cotton or heat-resistant gloves are recommended during the heating and forming.
  - Never use an open flame to heat KYDEX® sheet because it will burn.
  - An area that is stress whitened may be reheated to bring the color back into the sheath being formed.
  - If a desired shape is not acquired, the KYDEX® sheet may be reheated and reformed for desired results.
- To form the product, a sheath press is recommended when forming the KYDEX® sheet to the knife/gun.
  - Sheath presses may be constructed out of wood & neoprene foam or may be purchased at [www.knifekits.com](http://www.knifekits.com).
  - A towel or neoprene can be wrapped around the blade to create space during molding so the knife/gun can be released from the sheath/holster and keep the blade from being scratched.
  - KYDEX® sheet can be wrapped around the knife/gun like a common leather sheath/holster or be made into two pieces.

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### Tips for Sheath or Holster Construction

- A band saw or another type of saw may be used to trim the edges of the formed KYDEX® sheet.
- Be careful to leave enough material to connect the edges of the sheath/holster for a strong bond by rivets and/or adhesive.
- Rivets are a good way to connect the edges of the knife sheath/gun holster.
- A high strength adhesive is also recommended when using a bonding agent to connect seams of the sheath in conjunction with rivets. (see TB 150-E)
- Leaving a small slot or hole at the bottom of the sheath/holster will allow for better drying when cleaning.
- Belt loops may be constructed with the extra material not used in the forming operation.
- Finishing of rough edges after sheath construction may be done with sandpaper, etc.

For supplies or more information, contact or visit the following websites:

#### Classic Knife Kits

Sales: 1.888.250.5650 (Toll Free)  
 Sales: 770.463.4881 (International)  
 Product Support: 740.965.9970  
[www.knifekits.com](http://www.knifekits.com)

#### Texas Knifemaker's Supply

Toll Free (Continental US) 888.461.8632 Orders Only  
 Information 713.461.8632  
[www.texasknife.com](http://www.texasknife.com)

#### Springfield Leather

Sales: 1.800.668.8518 (Toll Free)  
 Information: 417.881.0223  
[www.springfieldleather.com](http://www.springfieldleather.com)

#### Index Fasteners

Sales: 800.230.3964 (x15)  
 Sales: 909.230.4804  
[www.ifithermoplastics.com/](http://www.ifithermoplastics.com/)

#### Black Rhino Concealment

Sales: 1.847.783.6499  
 Product Support: [orders@blackrhinoconcealment.com](mailto:orders@blackrhinoconcealment.com)  
[www.blackrhinoconcealment.com](http://www.blackrhinoconcealment.com)

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