

## DIY Advanced Dry Bags

You can make dry bags to fit specific items, such as sleep pads, chairs, etc., by taking a few measurements and making allowances for seams, the bottom pleat and the roll-down closure. These items are what make this dry bag “Advanced”. A basic dry bag would be a flat envelope without a pleat and keep in mind that there are times when a flat bag would be best. For example, a flat item you want to slide into that space between other items and the hull. In any case several smaller dry bags are much easier to effectively pack and use the available space than a few really large dry bags. Following are instructions and photos of the steps you can apply to your particular project.

Tools and materials needed are:

1. Basic sewing machine with needles and thread
  2. Iron and ironing board
  3. Heat sealable Oxford or similar heat sealable water proof material. (See appendix 1 for sources)
  4.  $\frac{3}{4}$ ” Wide polyester\* web and side release buckle. 1” Wide web & buckles may be used if you allow more length for the closure. I like to use  $\frac{3}{4}$ ” wide web on small opening bags (less than 12”) and 1” wide web on large opening bags (greater than 12”)
  5. Tape measure, scissors, metal binder clips, straight edge and pencil or tailors’ chalk
  6. Lighter or candle to melt end of closure web to prevent fraying
- \* Nylon web can be used but polyester does not tend to wick water and is more appropriate for this use

Steps to create a dry bag

For this project I will make a dry bag for my cell phone & wallet. Staked up, my wallet and cell phone are 3.5” wide x 6” long x 1.5” thick.

### 1. Determine size

The fabric length will be 26.5” (.75” for the pleat\* + 6.5” for the roll-down closure\*+ 6” for the wallet length x 2 sides = 26.5”)

\*\*When the pleat reaches 1” or more you should add it to the roll-down closure on each side as well. Think, bottom pleat + item length + effective top pleat + 6.” for the roll down. \*\*The roll-down closure needs a minimum of 4 turns, 5 or 6 is better.

The fabric width will be 6.5” (.75 for the seam + .75” for the thickness x 2 sides = 3” + 3.5” for the wallet width)

The roll-down strap will be 17” (fabric width x 2 + 4” for the buckle extensions)

The flat finished bag will be 6.5” x 12”.

2. Cut fabric to measurements. The shiny side will be inside (this is the bondable side). Draw a line widthwise down the center of the fabric on the dull side (outside) with the pencil or tailors’ chalk. This will be the center of the pleat on the bottom of the bag. Draw a parallel line .75” on each side of the center line to form the bottom edge of the pleat (see Figure 1).



Figure 1

3. Determine the correct length for the roll-down strap. For this project, a 17" strap length will be folded in half which will cover the 6.5" bag width plus with a 2" allowance for the buckle halves on each side (see strap & buckle assembly in Figure 2).

4. Fold the strap with the side release buckle halves on each end, bringing the strap ends together after sealing with the lighter or candle. At this point it is helpful to sew the strap ends together to form a loop. Place the strap on the dull (outside) side of the fabric .75" from the top edge. This extra material will allow for a fold of fabric over the roll-down strap (See example in fig 3). The strap with buckles should extend an additional 1" from the ends of the fabric.



Figure 2

5. Sew each long and short end of the roll-down strap onto the fabric, stopping at least .75" from each end. This space at the ends is needed to heat seal the edges (see the reverse (shiny) side of strap sewn onto top of bag in Figure 4). Note allowance for heat-seal weld and allowance at top of bag to start fold when closing bag. Also note lines drawn to fold pleat.



Figure 3



Figure 4

6. Cut a few strips of fabric about 1" wide and 3" – 4" long to test your iron for the correct heat sealing. I have found that the hottest linen setting with a contact time of about 5 seconds works well on 3 different irons. Allow the test fabric to cool completely before pulling it apart to test strength of the weld. Use a dry iron and don't allow the steam holes to stay in one place or you might not get a good weld in that spot.

7. Use small metal binder clips to hold the bag as you heat seal or carefully make several tacks with the iron. Do not use pins or anything that will puncture the fabric. Iron both sides of the bag from bottom to top making a bonded seam about .5" to .75" wide. Open the pleat and iron it on both sides of the center line separately. I found 5-8 pounds of pressure produced the best weld. Press down on the iron about as hard as it takes to lift an 8 pound weight (See figure 5, note how lines are used to fold pleat and binder clips hold every thing in place while you heat seal pleat and edges).



Figure 5



Figure 6



Figure 7

In Figure 6, see the use of a board to keep weld seam even at .5" to .75". I also use this board as a straight edge. In Figure 7, see why a .75" weld seam allowance was used and how to make a continuous weld seam from top to bottom. In Figure 8, see special attention paid to getting a good weld in the pleat.

8. After the bag has cooled, put a hand inside and try to pry apart to test integrity of the weld (see Figure 9). I suggest that you fill the finished bag about ½ full of water, roll the top down and apply light pressure to look for leaks. If you discover a leak, dry the bag overnight and re-iron the affected area again with a little more pressure.

9. Sew a bar tack or tight zigzag stitch at the ends of the roll-down strap over the pleat sealed area to strengthen it (see Figure 10).



**Figure 8**



**Figure 9**

10. I label each dedicated bag with its contents; my name and a contact number with a waterproof marker in case I lose it. (See example in figure 13)

Who knows - someone might return it. If you are kayak/canoe camping in groups, having your stuff labeled becomes useful.

See the finished dry bag in Figure 11. Notice the pencil lines that define the bottom plate. This pleat expands to produce a better fit for your items and your boat. I wrapped a rock about the size



**Figure 10**



**Figure 11**

of my wallet & phone in a paper towel, put in this bag and submerged it in a bucket of water for 12 hours. A small amount of water entered the first two wraps of the closure but no water got to the paper towel-wrapped rock. This water might have seeped through the closure strap seam stitches. I sealed the closure strap seam stitches inside the bag mouth with a product called Tear-Aid type A. (See example in figure 12) You should have some Tear-Aid in your repair kit; it is the best flexible adhesive repair tape I have found.

I made have many different styles of dry bags and find these steps constantly produced the best results. DIY dry bags cost a fraction of the price of commercial bags and they can be made to you exact needs. I have found that there is more than one way to make a dry bag. Pick up where I left off and come up with your own improvements.



Figure 12



Figure 13

### Measurement Method for a Custom Fit Bow Dry Bag

Figure 14, measure circumference of boat where dry bag will begin.

Figure 15, Measure of boat where dry bag will end when closure is rolled down.

Figure 16, Measure length of dry bag from beginning to end when closed.

Figure 17, copy any belly needed in bag to match bow shape and copy with a flexible curve or simply draw onto cardboard.

Figure 18, transfer belly and one half of each circumference to a folded piece of heat-seal fabric with the fold as the top of bag. Allow for end pleat and extra material to form an effective pleat to roll-down closure length. In this case the effective pleat would one half the beam at the beginning (figure 16) circumference.

Figure 19, fold pleat from top of bag.

Figure 20, completed pleat will form an inverted triangle from top of bag.

Figure 21, completed custom bow bag.

Figure 22, bow bag fills bow space with room for tent poles.



Figure 14



Figure 15



Figure 16

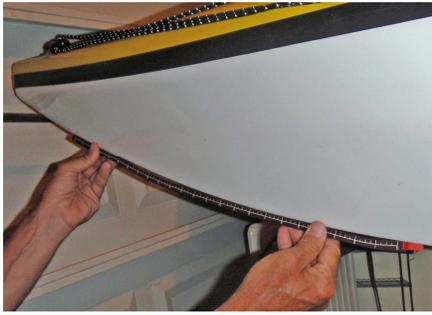


Figure 17

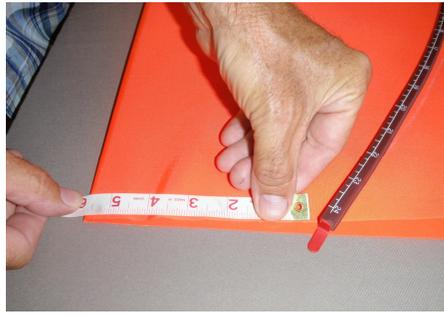


Figure 18



Figure 19



Figure 20



Figure 31



Figure 22

### Sources of Heat-Sealable Fabric

Seattle Fabrics, Web link: [http://www.seattlefabrics.com/dry\\_bag.html](http://www.seattlefabrics.com/dry_bag.html)

Seattle Fabrics will provide yet another article on making dry bags.

*Issue 24, Spring 1990, page 63: "Do-It-Yourself: Dry Bags" by Joe McKinstry: Dry bags, Do-It-Yourself*

Quest Outfitters, Web Link: <http://www.questoutfitters.com/coated.html#HEAT%20SEALABLE>

Look on the left side of Quest Outfitters site to find buckles and web strap.

Skin Boat School, Web Link: [http://www.skinboats.org/skinboats/contact\\_us.html](http://www.skinboats.org/skinboats/contact_us.html)

You will need to e-mail or call Skin Boat School because the heat sealable fabric is not listed on their site. Call 1360-299-0804 or 1360-420-6270 (urgent requests)

Rockywoods.com, Web link: <http://www.rockywoods.com/Fabrics-Kits/Heat-Sealable-Nylon-Fabrics>

The Rain Shed Inc, Web link: <http://www.therainshed.com/index.htm>

There is no shopping cart on this site which keeps your cost down. If you can't find it call.

Phone: (541) 753-8900

Fax: (541) 757-1887

Email: [therainshed@gmail.com](mailto:therainshed@gmail.com)

Tear-Aid, Web Link: <http://www.tear-aid.com/index.htm>

Be sure to request your free sample of this product, I am sure you will be amazed.