Recycled Yarn Projects:
Plastic Bag & T-shirt Weaving Techniques
Tote from Recycled Plastic Bags

ANNE MCKENZIE

For some time I’ve been making shopping totes from recycled plastic bags or from used plastic tablecloths. It is rewarding to take my handwoven totes to the grocery store, especially now that we are all being encouraged to bring our own bags. These totes are sturdy and washable, and it’s always fun to see what sort of pattern the plastic strips create!

Finding recycled plastic bags to use for making shopping totes may become harder to do as more stores reward us for bringing our own bags. You can look for other sources for plastic bags (ask at your local recycling center). Old plastic tablecloths are also a great option.

Design considerations

There are several variables that can affect the specific design of your bag, including the thickness and color(s) of the plastic itself. For warp, I use either 8/4 cotton/polyester rug warp (as for the yellow bag shown here) or 8/2 polyester (as for the black-and-white bag on page 2). I usually sett the 8/4 cotton/poly at 10 ends per inch and the 8/2 at 12 ends per inch.

Depending on the colors in your plastic strips, you can also use color in the warp (a single color, alternating colors, or colors arranged in stripes). Both 8/4 cotton/poly and 8/2 polyester are available in a wide range of colors.

Almost any heavy yarn (or bundle of yarns) can be used for the handles. I weave this yarn into the bag as part of the weft and either braid or macramé the section that extends as the handle.

Anne McKenzie of Elk Lake, Ontario, is a retired sheep farmer who now weaves, quilts, and teaches weaving in both Ontario and Florida.
STEPS FOR WEAVING AND SEWING THE SHOPPING TOTES

1. Cutting the weft strips

Wind a warp of 200 ends 8/4 cotton/polyester rug warp or 224 ends 8/2 polyester 2 yd long for one bag (add 1 yd to warp length for each additional bag). Use your preferred method to warp the loom for plain weave. (For complete warping steps, see Resources at handwovenmagazine.com.)

2. Making box corners

Cut off any handles and cut open the bottom of each plastic bag so that the bag becomes a tube. Place the tube so that the openings are at the sides and fold over the top edge of the tube two times, leaving about 3" below the fold. With rotary cutter or scissors, cut through only the folded section 1 1/2" from one edge (and parallel to it) and then continue making parallel cuts each 1 1/2" apart. Unfold the sections and make slanted cuts through the uncut area to create one continuous strip. Repeat for each bag (about 7-10 bags per tote).

3. Wind the strips on a stick shuttle. Weave a 1" header in plain weave using the same yarn as in the warp. Weave 5" plain weave with the strips. To start the first handle: Place each of 3 strands of a very thick or bundled yarn each 2 yd long in three successive plain-weave sheds so that they each extend 1" from the same edge (and about 51" from the other). Weave 5" plain weave with strips. Now braid or macramé the three 51" strands to form a handle the length you like (about 10" long for the yellow bag, 20" for the black-and-white bag). Weave the 3 strands back into the bag using the next 3 plain-weave sheds (allow the extra length to extend from the opposite edge). Weave 9 1/2", insert strands for second handle, weave 5", finish the second handle, weave 5", and end with a 1" header as at the beginning.

4. Remove the fabric from the loom. Machine zigzag inside the headings about 1/8" from the first plastic strips.

Very thick or bundled yarn for handles, 24 yd. 8/4 cotton polyester or 8/2 polyester for headers, about 14 yd each.

Warp and weft spacing

Warp: 10 epi (1/dent in a 10-dent reed) or 12 epi (1/dent in a 12-dent reed). Width in the reed: 20".

Welt: 8 ppi (yellow bag) or 9 ppi (black-and-white bag). Woven length (measured under tension on the loom): 36".

Warp order and length

200 ends for yellow bag, 240 ends for black-and-white bag, 2 yd long (allows 9" for take-up and 27" for loom waste).

Finished dimensions

After assembling and sewing, amounts produce one bag 16 1/2" x 18 1/2" with a 10" or 20" handle.

PROJECT AT-A-GLANCE

Weave structure for totes

Plain weave.

Equipment

2-shaft or 4-shaft loom, 20" weaving width; 10-dent or 12-dent reed; 1 stick or ski shuttle, 1 boat shuttle; rotary cutter (optional).

Yarns

Warp: 8/4 cotton/polyester rug warp (1,680 yd/lb), 400 yd, or 8/2 polyester (3,360 yd/lb), 480 yd, natural or white or colors to match plastic strips.

Weft: plastic strips 1 1/2" wide, 170 yd (yellow bag), 190 yd (black-and-white bag).

Yarn sources

8/4 cotton polyester rug warp is available from Great Northern Weaving, 8/2 polyester from Maurice Brassard et Fils.

Notions and other materials

Matching sewing thread; seam binding if desired.

Warp order and length

200 ends for yellow bag, 240 ends for black-and-white bag, 2 yd long (allows 9" for take-up and 27" for loom waste).
A Dressed-Up Recycled Bag

VIRGINIA BALCH

Since we’ve learned how plastic shopping bags have been making their way into the oceans and killing marine life, such as birds, turtles, and dolphins, weavers have been looking for ways to recycle and reuse. Recycled materials—especially plastic bags—are finding their ways to weavers’ looms! As with Anne Mckenzie’s shopping tote (June’s Bag of the Month), this version is perfect for everyday runs to the grocery store.

My first project with strips cut from plastic bags was a tote, but once I found out how versatile this fabric is, I was off weaving runners and placemats using the same technique.

I prepare the plastic bags by laying them out flat and cutting off the handles and bottoms so that the bag forms an open tube. Instead of using a rotary cutter (Anne Mckenzie’s technique), I use a pair of sharp scissors. I cut the bags starting at one end, cutting through only one layer and “spiral” the cut to create one long continuous strip of plastic.

For bag fabrics, I keep the strips about 3/4” wide. Each bag requires four or five plastic shopping bags.

Designing fun

Color in the warp creates long vertical stripes. Strips cut from tan-colored bags used as weft accentuate and unify warp colors. A blue cotton border provides a finished look for this bag.

Resources


Virginia Balch of Torrington, Connecticut, is a member of the rigid-heddle group on Ravelry .com. Her avatar is shown here.
**STEPS FOR WEAVING THE BAG**

**1. Warp color order**

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<tr>
<td>91</td>
<td>5</td>
<td>5</td>
<td>6</td>
<td>9</td>
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Each end in this chart is a doubled thread of 8/2 cotton.

**Step 1** Wind a warp of 91 doubled ends following the warp color order in Figure 1 and the instructions in the Project at-a-Glance. Thread the loom for plain weave using your preferred warping method. (For complete warping steps, see Resources at handwovenjournal.com.)

**Step 2** Using scrap yarn, weave a few picks to spread the warp. Wind a boat-shuttle bobbin or a stick shuttle with tripled ends of Navy. Weave 2” in Navy with a firm beat (about 9 ppi).

**Step 3** Wind a second shuttle with the plastic strips. Weave 29” of plain weave for the body of the bag. Switch to the Navy shuttle and weave another 2” with a firm beat.

**Step 4** Remove the cloth from the loom. Machine stitch raw edges. Fold the bag in half, right sides together and stitch side seams with a ¼” seam allowance. Turn right side out. Fold the Navy border section 1” to the outside, and machine stitch in place, and then fold the top section to the outside another 3½”. To create a boxed bottom, fold to form a triangle at the bottom of each corner and stitch across the hypotenuse; see Figure 2. Cut fabric for the lining to the match the size of the bag plus ½” seam allowances. Sew side and bottom seams including the boxed bottom. Slip the lining into the bag wrong sides together. Fold in and pin the top of the lining about 1” from the top of the bag. Cut two straps webbing 14½” long each. Place them with 2” tucked between the lining and the bag. Topstitch to join the lining and the bag, securing the straps in place.

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**PROJECT AT-A-GLANCE**

**Weave structure for bag**

Plain weave.

**Equipment**

Rigid-heddle loom or 2- or 4-shaft loom, 11¼” weaving width; 8-dent reed; 2 shuttles.

**Yarns**

Warp: 8/2 unmercerized cotton (3,360 yd/lb), Navy #2636, 217 yd; Red #3611, 42 yd; White #8001, 28 yd; Silver Birch #8418, 32 yd.

Weft: strips cut from tan plastic bags ¾” × 65 yd; 8/2 unmercerized cotton (3,360 yd/lb), Navy #2636, 36 yd.

**Other supplies**

½ yd cotton denim fabric for lining, 1 yd nylon or cotton webbing.

**Yarn sources**

8/2 cotton is available from Webs and most weaving retailers.

**Warp order and length**

91 doubled ends 1¾ yd long (allows 4” for take-up and 26” for loom waste).

**Warp and weft spacing**

Warp: 8 epi (1 doubled end/dent in an 8-dent reed).

Weft: 8/2 cotton, 9 ppi; plastic strips, 7 ppi.

Woven length (measured under tension): 33”.

**Finished dimensions**

Bag 10” x 9½” x 2” with 12½” handles.

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Prepare the T-shirts for weft by cutting across the T-shirt at ½" intervals to make loops, then chaining the loops together. (For directions with photos, see Resources or download directions at weavingtoday.com). Note that the ½" thickness will be doubled when you weave because of the loops.

Before I began weaving, I was inspired by Kay Gardiner and Ann Shayne in their first book, *Mason-Dixon Knitting*, to make “calamari” T-shirt yarn. This involves cutting loops (these are the “calamari”) from the circular parts of clothing—the trunk of a shirt, the sleeves, the legs and hips of pants and leggings—and then joining those loops together to form a continuous strand. I tried knitting with the resulting monster-yarn (on size 50 needles!) but gave up because the knitted rugs wouldn’t hold their shape and always ended up looking like someone had dropped a very bulky towel on the ground.

The idea, and the calamari yarn, sat unused as I spent several years learning to weave and trying different things. When I finally got around to making rag rugs, I dug out some of the unused calamari yarn and used it on a warp I was working on—and finally found the perfect marriage of material and structure. Through additional research and after the production of many T-shirt rugs, I have tailored the calamari technique to best prepare the yarn for use as weft. Tom Knisely included an excellent photo tutorial of my technique in his 2014 book, *Weaving Rag Rugs* (see Resources).

I hope this perfect marriage will soon brighten your home, too.

RESOURCES


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1. Prepare the T-shirts for weft by cutting across the T-shirt at ½” intervals to make loops, then chaining the loops together. (For directions with photos, see Resources or download directions at weavingtoday.com). Note that the ½” thickness will be doubled when you weave because of the loops.

2. Wind 332 warp threads, 2½ yd long. Using your preferred method, warp the loom for plain weave following the warp color order in Figure 1 and centering for a width of 27¾”. Spread the warp with scrap yarn.

3. Using 2 strands of Dark Gray carpet warp, weave 3” for a rolled hem. Weave the body of the rug using the prepared T-shirt weft.


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Perfect Marriage T-Shirt Rug

AMANDA ROBINETTE

Old T-shirts are an abundant, if somewhat problematic, source of weft material for rag rugs. Knitwear fabric, such as that in T-shirts, can create uneven selvedges with excessive and erratic draw-in due to its stretchiness. A simple technique for preparing T-shirts and other knitwear produces a neat, tidy, and structured rug.

Allow the weft to lie loosely in the shed when beating to prevent stretching and subsequent draw-in. After throwing each pick and before beating, use your finger to tamp down the selvedge to make a neat turn and prevent the stretching of the weft from pulling in the selvedge, then beat. Change sheds and beat again. When the rug reaches 51” (including hem), weave 3” with carpet warp as you did at the beginning.
STRUCTURE
Plain weave.

EQUIPMENT
2- or 4-shaft loom, 28” weaving width; 12-dent reed; 1 ski or rag shuttle; 1 boat shuttle.

YARNS
Warp: 8/4 cotton carpet warp (1,600 yd/lb, The Mannings), Black #02, Slate #13, Dark Gray #60, Limestone Gray #36, Pale Blue #91, 115 yd each; Purple #25 and Lime #90, 54 yd each; Kentucky Cardinal #223, Burnt Orange #18, and Parakeet #48, 50 yd each.
Hem weft: 8/4 cotton carpet warp (used doubled), Dark Gray #60, 124 yd.
Rag weft: assorted T-shirts, approximately equivalent to 7–9 large adult shirts, cut into ½” wide loops and joined (see sidebar), about 160 yd.

OTHER SUPPLIES
Sharp fabric scissors or rotary cutter.

WARP LENGTH
332 ends 2½ yd long (allows 36” for take-up and loom waste).

SETTS
Warp: 12 ends per inch (1/dent in a 12-dent reed).
Weft: 12 ppi for hems (carpet warp used doubled);
4 ppi for rag weaving.

DIMENSIONS
Width in the reed: 27½”
Woven length (measured under tension on the loom): 54”.
Finished size after washing: one hemmed rug 27” x 48”.
Preparing the T-Shirt Yarn

- Selecting T-shirts: You need to make a design decision as to whether or not you want bits and pieces of screen-printing or letters to show in your rug. I normally choose T-shirts on which the design ends above the armpit seam, so there won’t be a design on any of my loops. Also consider your colors. The most common T-shirt color is white, but a white rug has limited uses because it shows dirt quickly. It can, however, make a nice bath mat. If you are going to use colored T-shirts, think about how you want the colors to show up in your final rug. For example, you could link the shirts together in sequence, one shirt at a time, for a striped rug, or mix all the loops together for a hit-or-miss rug.
- Machine wash and dry the T-shirts.
- Lay one shirt out flat on your cutting surface, matching the front and back hems and sleeves together as evenly as possible. Cut straight across the bottom just above the hem. Discard the thick hem loop, unless you want to save the hems to do an all-hem rug later.
- At ½” intervals, cut straight across the body of the T-shirt, through both layers, until you reach the armpit seam.
- Cut off and discard the sleeve hems. Cut the sleeves into ½” loops, the same as the body.
- Once you have cut up all your shirts and have decided on a color order (or lack thereof), it’s time to join the loops. Lay two loops out so they overlap slightly, with the right-hand loop on top. Lift the overlapped end of the left loop up through the right-hand loop, then reach under and through it to grasp the other end of the right-hand loop. Pull this end through, stretching both loops tightly as they lock together. This is the important step: As you pull the loops, the stockinette stitch of the T-shirt fabric curls back along itself and loses much of its elasticity. You are left with a much longer and thinner loop, but one that has much more stability as weft material.
- Continue joining new loops, pulling each one tight as you add it to the chain. Roll your finished weft material into a ball to keep it under control and for ease of winding your shuttle later. Two approximately volleyball-sized balls of yarn will make one rug.