A Trio of Easy Enhancements

Three Mods For Your Mug

By Jim Wood

Published August 4, 2008
Last update: August 4, 2008
Printable PDF version available here
Submit or read comments about this article here

This article discusses three do-it-yourself enhancements that can help you reduce pack weight and improve the utility of your backpacking kitchen gear. You can use the links below to skip directly each section.

As a many backpackers have endeavored to lighten their loads over the past few years, an increasing number have simplified their kitchen kits and now use only one or two lightweight, all-purpose vessels for all their cooking and drinking needs.

In particular, titanium and aluminum alloy cups and pots with mug-style handles have become exceptionally popular and are now frequently used not only for preparing hot meals and beverages, but for consuming them as well. A few examples of this type of cookware are pictured below.

Snow Peak 600 (+)

MSR Titan Kettle (+)

Snow Peak Trek 1400 (+)

Mug-style handles are not necessary for a lightweight cooking vessel to serve as a drinking cup, however. Those with either longer pot-style handles or with no handles at all (see photos below) can also function in the same way, though perhaps not quite as elegantly.

Long-handle design
Evernew titanium 0.6L pot (+)

No-handle design
FireLite-1100-M (+)

While this reduced-weight approach can save the 6 to 12 ounces associated with the insulated plastic mugs that many of us used to carry, there are some problems. For example, anyone who has tried to drink a hot beverage directly from a metal cup or pot knows well about burned lips.

In addition, hot drinks contained in naked metal cups cool very quickly in cold weather, making it difficult to enjoy that leisurely cup of morning coffee or tea.

Despite these issues, metal cups and pots still offer several advantages over plastic insulated mugs:

- Aside from weight savings, metal cups allow most hot beverages to taste better since they don't impart the kinds of unpleasant flavors that are sometimes noted with their plastic counterparts.

- Most metal cups and pots are less prone to staining and are easier to clean (at least to clean well) than plastic mugs.

- Metal cups are often more durable—and certainly less prone to melting—than their plastic counterparts.

Jim's Pot Pick

I now mostly use the Snow Peak Trek 1400 titanium cook set (photo above) which includes an 8-cup main pot and 2-cup lid that can be used as a second pot or as a small frying pan.

I believe it to be one of the best all-around solutions for solo backpackers.

Though some ultralighters might consider it a bit large, I find that the extra volume helps to keep soups and stews from boiling over, is big enough to allow both steam and dry baking, cooks for two people in a pinch, and even makes popping corn possible.

- As long as a metal cup or pot is of a single-wall design (most are), it can be placed directly on a stove to easily re-heat cooled liquids without having to first transfer the liquid to another vessel.

- Over the years, there have been periodic medical concerns about the potential health hazards associated with drinking hot liquids from plastic cups.

  More specifically, the plasticizers (chemicals used to enhance the physical properties of certain plastics) that are added to some polymers used in beverage mugs are thought by some researchers to leach into the hot liquids they contain, possibly elevating the risk of cancer.

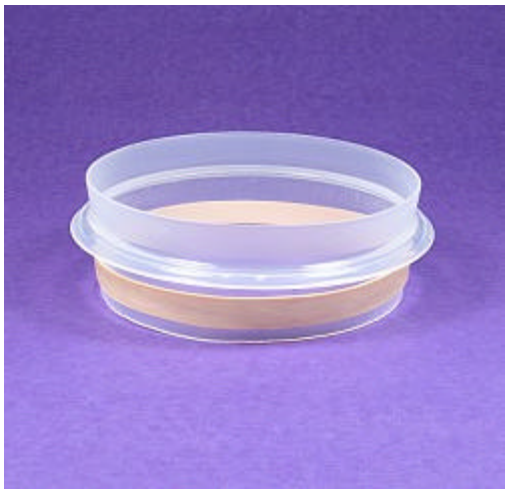
  Likewise, recent concerns about BPA (Bisphenol A) escaping from plastic vessels that contain this chemical into even cold beverages have caused a lot of people to rethink the kinds of drink containers they use.

  Whether you believe these concerns have merit or not, they become non-issues when using metal cups and pots.

The three easy modifications described in this article are designed to overcome the problems associated with metal cups and pots, allowing them to serve as first-rate insulated drinking vessels. The combined weights of all three components, depending on materials used, will probably range from about 1½ ounces for small-to medium sized mugs to 2½ ounces for full-sized solo or two-person pots.

Mod #1 - The Drink Ring

A drink ring is simply a plastic insert that fits into top of your cup or pot that serves as a thermal buffer between your lips and the hot metal. The easiest way to describe it further is with a couple of photos:



Drink ring with flange and rubber band gasket (+)
weight as shown: 0.8 oz

Drink ring inserted into MSR Titan Kettle (+)

The ring needs either to be tall enough (about 1½" or so above the rim of the pot) to protect your lips when drinking, or to contain a flange near the top of the pot that can serve as a lip guard. An example of the flange type is shown above. Depending on the size of your cup or pot and upon the materials used, most drink rings will probably weigh an ounce or less.

DRINK RING MATERIALS

The easiest way I've found to construct a drink ring is to cut the top 2 inches or so from an existing plastic cup, bowl or food container of the right size. While I've tried other approaches, such as by forming rings by joining straight plastic strips end-to-end, I've never been able to achieve either the right rigidity nor to get these kinds of rings to seal properly.

So after a good bit of trial and error, I now believe that the use of a pre-molded ring is the best way to go. This type of ring is also quite durable and, at least for me, has held up well to extended use on the trail.

Rubbermaid food container (+)

Dollar store food container (+)

To keep beverages from dribbling down your chin, a leak-proof seal between the outside of the ring and and the inside wall of your pot must be formed. The snug fit must also account for the fact that when the metal is heated, it will expand slightly more than the plastic ring, causing the seal to loosen up a bit when warm.

So, the only tricky part of this project is finding a plastic cup or bowl with just the right dimensions and other characteristics to fit your pot. To begin, I'd search the aisles of grocery stores, Wal-Mart and dollar stores looking for:

- A food-grade plastic cup or bowl that's rigid enough to maintain its shape when inserted into your pot or cup (probably with some vigor), but that's also thin and flexible enough to be easily cut with a pair of household scissors.

- A plastic cup or bowl whose shape is round and whose outside surface is smooth. You don't want highly textured sides or a shape that includes facets (they'll keep your ring from sealing properly against the sides of your pot).

- A plastic cup or bowl whose walls are as close to vertical as possible. A slight taper is usually OK, but a significant tapering of the walls from top to bottom won't work well. A flange near the top rim that can serve as a lip guard is also a plus, but is not mandatory.

- And of course, a plastic cup or bowl that when cut to size, fits your pot or mug properly. This requirement can be a bit tough to gage since the store you're visiting probably won't appreciate your cutting the top from a plastic bowl to determine if the fit is close enough to warrant a purchase.

  Instead, you'll probably first need to measure as closely as you can, then if the candidate cup or bowl's dimensions look pretty close, buy the item, make the cut, then test the fit. There will probably be some amount of trial and error at this stage.

  When evaluating fit, the naked ring should ideally nest inside the pot as snuggly as possible, but if it's a bit loose at first, don't worry since the effective diameter can be increased as described below. On the other hand, if the ring is too large, it obviously won't work at all.

DRINK RING CONSTRUCTION

To build your ring, you'll need the items pictured below, though the tape and rubber

bands may not be necessary if you get lucky with initial fit.

Principal drink ring materials (+)

Having acquired a properly sized plastic cup or bowl, simply cut the top 2 inches or so from the top using a pair of sturdy household scissors (discarding the bottom section). You don't want the ring to be taller than necessary (adding weight), but you also don't want to remove so much material that structural rigidity is impaired.

Container with cut line (+)

Ring after cut (+)

Once cut, you'll now need to conduct both cold and warm seal tests.

First, insert the ring into your cold cup or pot. The fit needs to be quite snug. If that's the case, test the seal by adding some water to the vessel, then tilt the vessel slightly so that the water meets the edge of the seal as if you were drinking. If you observe no leakage, then you've past the cold test.

Now remove the ring and heat some water in your vessel to around boiling temperature using your stove of choice. Once the water's been heated, re-insert the ring noting the tightness of fit (it will probably be a bit looser than before). If it's still reasonably tight, repeat the water tilt test. If there's no leakage at all, then you're finished.

Unless you've been lucky enough to find exactly the right ring size, however, it's likely that there will be some leakage with either the cold or warm tests. If that's the case, you can probably achieve a tight seal through one or both of the methods described below.

ACHIEVING A TIGHT SEAL

If the ring is a just bit too loose to seal tightly against the walls of your pot, you can try adding a gasket to the ring. The best option I've found for this purpose are wide rubber bands. Available from most office supply stores, size # 84 (3½" long x ½" wide) has been perfect for the rings I've built for my own cups and pots.

#84 rubber bands (+)

If the ring fit is a even looser, however, you can try this fix: First increase the effective ring diameter by applying a few wraps of standard ½" or ¾" wide plastic electrical tape around the outside surface, adjusting the resulting tape thickness as appropriate.

Because I've found that the electrical tape by itself doesn't seal as well as a rubber band and also because direct contact with liquids will eventually cause the tape to fail, you'll next want to apply the rubber band gasket described above on top of the tape (so you'll need to allow space for both).

It's best to try to position the rubber as close as possible to the lower edge of the tape in order to protecting the tape from direct liquid contact.

**Center ring uses tape plus rubber band gasket,
others use rubber band gaskets only (+)**

DRINK RING USAGE NOTES

Your new drink ring can now be used to comfortably consume all kinds of hot beverages directly from your metal cup or pot without burning your lips.

When heating those liquids the for first time, you'll want to make sure that the drink ring is removed, since continued exposure to the stove heat that flows up the sides of your pot will probably cause the drink ring to melt or deform.

If, however, you're just doing a quick re-heat of say, a cooled cup of coffee, you might be able to leave the ring in place if you keep the stove flame low and exposure time short. Your backcountry common sense will need to prevail here.

HEALTH QUESTIONS

The materials that generally work best for drink rings are the kinds of pliable, often clear or translucent, FDA-approved, food-grade polymers that are commonly found in commercial plastic cups, bowls, and food storage containers. Usually made from some form of low density polyethylene (LDPE), these plastics are almost always free—according to my research—of the BPA chemical that is often found in plastic polycarbonates, such as those used in the older hard-sided Nalgene water bottles and about which so much has been written in recent months.

The only other project components that could possibly make contact with hot liquids are the rubber band gasket and (possibly) the plastic electrical tape. Though certainly not certified by the FDA, both materials are probably safe for this application since only a small section of the ring circumference, and then only the edges, of these components can contact the beverages being consumed.

Because hot liquid exposure surface areas are so small and exposure times so brief, I seriously doubt that there are any potential health risks associated with the use of these components as described. Remember that almost all liquid-to-container contact will be between the hot beverage and a safe metal cup or pot. Nonetheless, if you have lingering doubts, then I'd suggest you pass on this project.

Mod #2 - The Insulated Lid

Since much of the heat loss that occurs when a hot beverage is contained within a cup is through the open top of the vessel, it makes sense to use an insulated lid if you want to slow that process down. Once you've built the drink ring described above, it's easy to add an insulated lid.

Insulated lid (+)
weight as shown 0.4 oz

Before proceeding, I should note that while it might be possible to add the kind of lid described below to a cup or pot that doesn't use a drink ring, achieving a good fit is usually more difficult. Likewise, it's hard to position it in a way that allows drinking from the cup while the lid is in place. And of course, without the ring, you'll still probably burn your lips.

If you want just a lid with no drink ring, however, your best bet is probably to try to find a disposable, commercial, coffee-style lid that just happens to mate securely with your cup or pot. I actually got lucky with the one shown below, which snaps tightly onto my Snow Peak 600 titanium mug.

It's not insulated, but even so, it does slow down heat loss while also serving as a lip guard. Unfortunately, these kinds of lids are not very durable and tend to break easily with normal trail use. By the way, for anyone who happens to own the Snow Peak 600 mug and is interested in such a lid, the model number is noted in the photo caption. I happened to find this one several years ago, but comparable lids seem to still be available.

Snow Peak 600 with Dixie model D9550 plastic lid (+)

It's also good to see that some outdoor equipment suppliers are finally beginning to add drink lids to some of their products. REI, for example, recently introduced a double-wall, titanium mug that includes a heat-resistant, coffee-style lid. Unfortunately, its fluid capacity is only 10 ounces (too small for me), and its double-wall construction is not nearly as flexible, in my opinion, as single-wall vessels.

INSULATED LID BUILD INSTRUCTIONS

To build this simple lid, you'll need the materials shown below. The core of the lid is made from a disk of styrofoam insulation ½" to ¾" thick and cut to a diameter that's appropriately sized for your drink ring. When complete, the disk should nest securely inside the ring.

Principal lid materials (+)

Step 1: The styrofoam can be harvested from an inexpensive ice chest from Wal-Mart

or equivalent source that has side walls that are as straight and smooth as possible. Alternative sources of styrofoam include large hardware stores, such as Lowe's or Home Depot, that sell this insulation in sheets (a section of which shown in the photo above).

Step 2: Once you've secured your raw materials, you can use the inside edge of your drink ring as a template to mark the foam for cutting. Your ring will probably have a slight taper from top to bottom, so you'll have to judge the best size for the foam disk. When measuring your cut size, it's usually preferable to error on the side of a bit too large, rather than a bit too small, since you can always trim it later if necessary

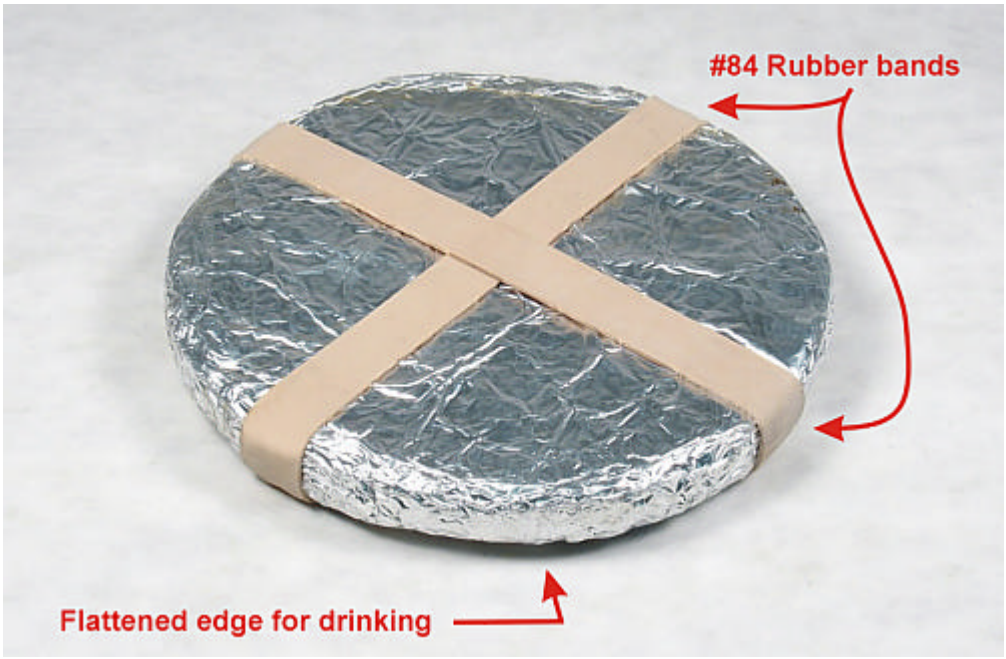
You'll also want to mark the foam with a writing tool such as a pencil that won't deposit ink on your drink ring. You can now cut the disk using a sharp kitchen or filet knife.

Step 3: To keep the freshly cut disk from shedding particles of styrofoam when in use, to help keep it from absorbing liquids, and to improve its insulating properties, you'll next want to cover the disk with a layer of household aluminum foil.

Cut a sheet of foil large enough to cover the top, bottom and sides, then just press it into place. The excess foil can be gathered and pressed onto the bottom of the lid, where it will help keep the covering in place.

Step 4: If you'd like to be able to drink from you mug with the lid in place, you'll need to form a drink hole. The easiest way I've found is to simply flatten one side of the lid a little by pressing that side firmly onto a hard surface. If properly sized, this flat spot will allow beverages to easily flow out while allowing some replacement air to flow back in (so that a partial vacuum that could restrict the liquid flow is not created).

Step 5: Finally, I'd suggest you add a pair of the same kind of rubber bands used for the drink ring gaskets above to the top of the lid place at 90 degree angles to one another.



Completed lid (+)

The rubber bands serve a number of purposes:

- They increase the friction of the lid against the ring sides, thereby helping to keep the lid securely in place.
- They create small air gaps at ring contact points which help the replacement air noted above to flow evenly back into the vessel.

- The point at which the rubber bands cross in the middle can serve as a convenient lift point for the lid, thereby eliminating the need to install a knob or similar lift mechanism.
- The rubber bands help to hold the aluminum foil cover in place.
- The rubber bands can serve as spare gaskets for the drink ring.
- And finally, the tops of the rubber bands can serve as anti-skid surfaces when the lid is used as a trivet as described below.

LID BONUS USE

Another great use for the insulated lid is to serve as a backcountry trivet. A trivet is simply an insulator that protects a surface from a hot food or beverage container. On the trail, the surface I most commonly need to protect is my bare hand.

If you eat hot foods directly from bags (perhaps oatmeal or freeze dried meals) you know that holding those bags in your bare hands can be quite uncomfortable. Instead, you can place the insulated lid between the bag and your hand to serve both as a stabilizing platform and as an insulator.

If using a cook set such my Snow Peak Trek 1400, you can also use the titanium lid as both a stabilizer and containment vessel to protect against bag breakage (which sometimes happens with oatmeal in pint-sized freezer Ziplocs) and place the styrofoam lid underneath for thermal insulation (see photo below).

Use of the insulated lid in this way also works well if you also eat directly from your cook pot, though the cozy described below probably offers a better solution.

Lid used as a trivet with hot oatmeal in a pint-sized Ziploc freezer bag (+)

Mod #3 - The Pot Cozy

A cozy is simply a layer of insulation that fits around a cook pot that's designed to (1) help keep hot foods or beverages contained inside from cooling too quickly, and (2) to keep those hot pots from burning your hands, especially when you're eating directly from them.

While I don't claim to have invented the pot cozy, I have been using such insulators for a couple of decades, beginning long before I heard of anyone refer to them as "cozies".

The first insulators I made were from sections of closed cell foam. They worked well, but were a bit on the heavy side. I've since switched to a material called "Reflectix" which, in recent years, seems to have become the backpacker's de facto standard for pot cozies.

Vintage foam cozy (+)

Newer Reflectix cozy (+)

There are many sites on the web that provide detailed instructions on how to build cozies, so my intent here is not to overwork the subject. Instead, I'll just provide a brief summary of the construction technique that I use. I should also note that AntiGravity Gear offers a wide selection of prefabricated Reflectix cozies that may suit your needs if you're not interested in building your own.

COZY MATERIALS

First, you'll need to obtain a supply of a suitable insulating material. As noted above, I currently favor Reflectix, an insulting material that's widely available for home and industrial use.

Sold online and at building supply retailers such as Lowe's or Home Depot, it comes in rolls and looks much like bubble-wrap but with silver metallic front and back surfaces.

The air trapped inside the bubbles helps prevent conductive heat losses, while the shiny exterior surfaces reduce reflective heat losses.

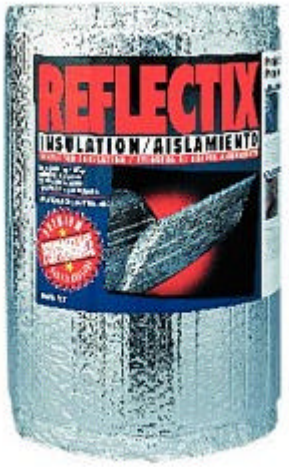
The smallest quantity available for sale of which I'm aware is a roll that's 16" wide x 25 feet long, priced at about $15. That much material will probably be sufficient to build a lifetime's worth of cozies for you and your friends.

Cooking With Retained Heat

Helping to keep the thermal energy that's contained in foods from escaping into the environment allows pot insulators to help you save stove fuel by cooking with retained heat.

Some foods, such as dried beans, can make great trail meals, but can also take a long time to cook (a half hour to 45 minutes or more).

Using cozies, you can heat such dishes to boiling, then place the hot pot in either a single or double cozy for the duration of the cook time, thereby eliminating the need to keep the stove running on simmer.



Reflectix roll 16" x 25' (+)

A completed Reflectix cozy will probably weigh about an ounce (plus or minus, depending on pot size). It's heat-resistant enough that you can remove a vessel of boiling water from your stove and place it directly into a Reflectix cozy without having to worry about melting the insulation.

Cooking in this way also allows you to walk away from the meal-in-progress and do other things while not having to worry about tending a stove.

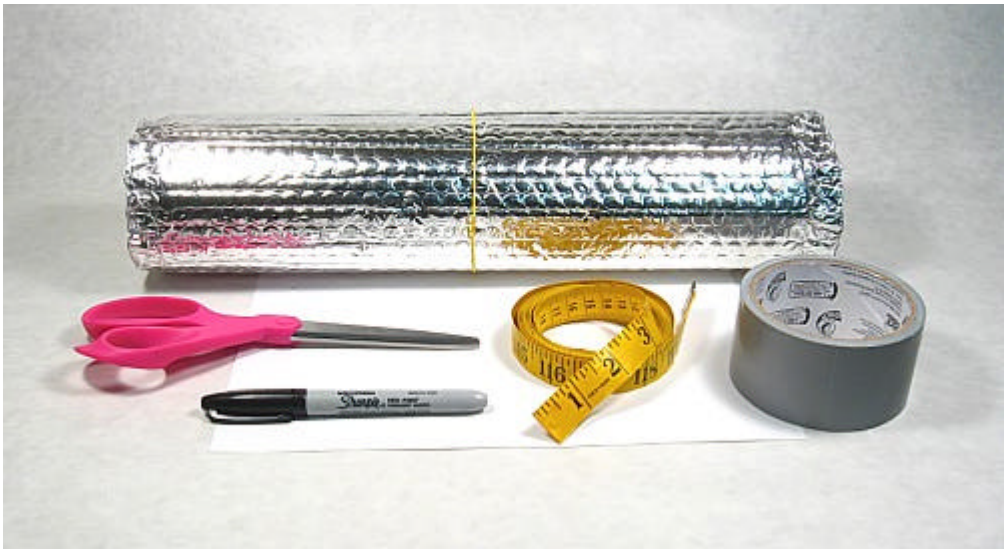
I've conducted several temperature-monitored cooking experiments over the years and continue to be amazed at how well single and double cozies retain heat.

Though a detailed discussion of "cooking with cozies" is beyond the scope of this article, I'll note that most writers on the subject suggest adding half again as much cook time for any given dish when using cozies as compared with stove-based cooking.

In other words, if a dish has a suggested stove simmer time of half and hour, you'll probably want to start with a 45 minute cozy cook time.

It's also very easy to work with, and despite some reports I've seen to the contrary, the silver metallic coating is quite durable doesn't easily rub off onto the hands.

After you've rounded up a few other items (see photo below), you can begin constructing the cozy. Note that the adhesive shown is standard 2" wide gray duct tape. Clear packaging tape of the same width also works, and creates a cozy that some may find more aesthetically pleasing. I've found, however, that duct tape tends to be a bit more durable (and also shows better in these photos).



Principal cozy materials (+)

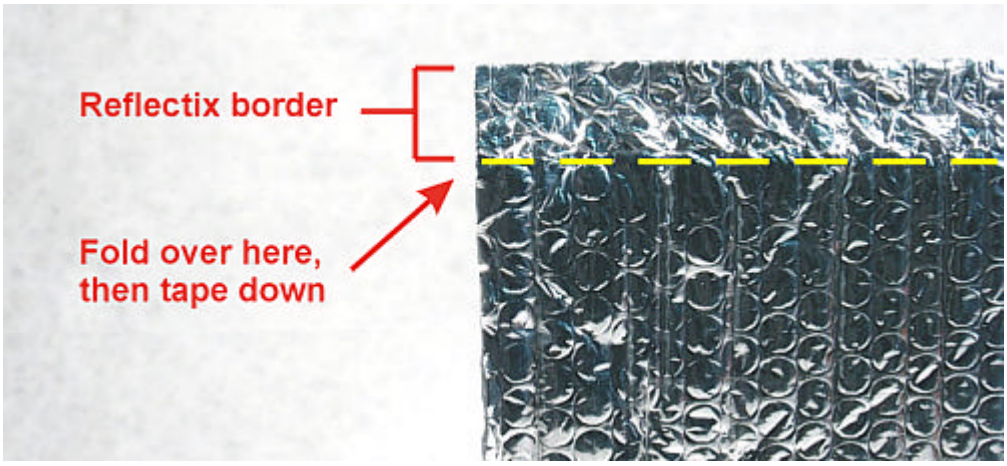
COZY BUILD INSTRUCTIONS

Step 1: The first step is to measure and cut the insulation material. Before so doing, however, note that the 16" wide Reflectix described above includes ¾" wide, non-bubble

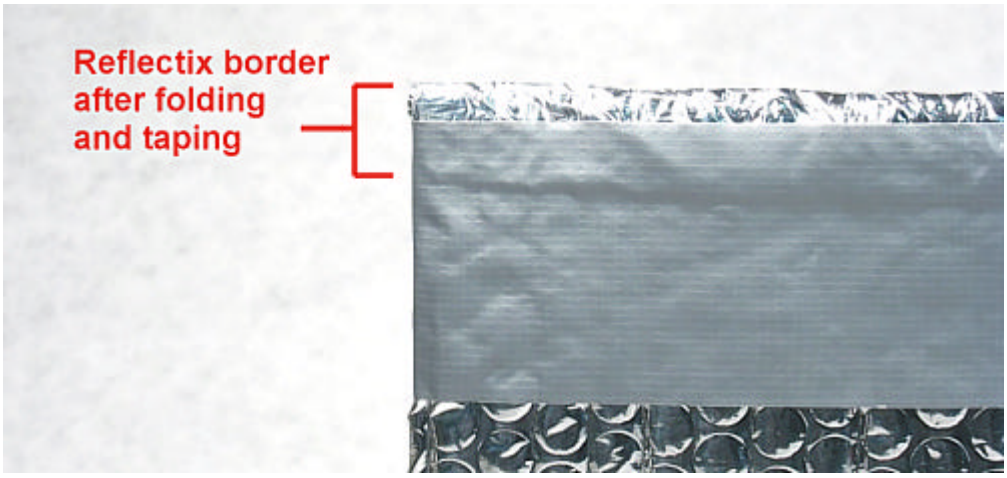
borders that runs along each edge. These borders are intended to hold staples when the Reflectix is installed as building insulation.

The first thing I like to do is to fold one of those borders over 180° at its base and tape it flush with the surface below using either duct or clear packaging tape. This taped edge will become the top of the cozy and will have a more finished appearance than would a cut edge (you'll probably want to place the side with the taped fold on the inside).

Incidentally, you'll probably find that the easiest way to tape this border down is to first affix about ½" of tape width to the border just above the base, then to fold the border (along with the attached tape) onto the surface below, pressing the tape into place.



Reflectix border before folding and taping (+)



This edge now becomes the top of the cozy
(taped surface goes inside) **(+)**

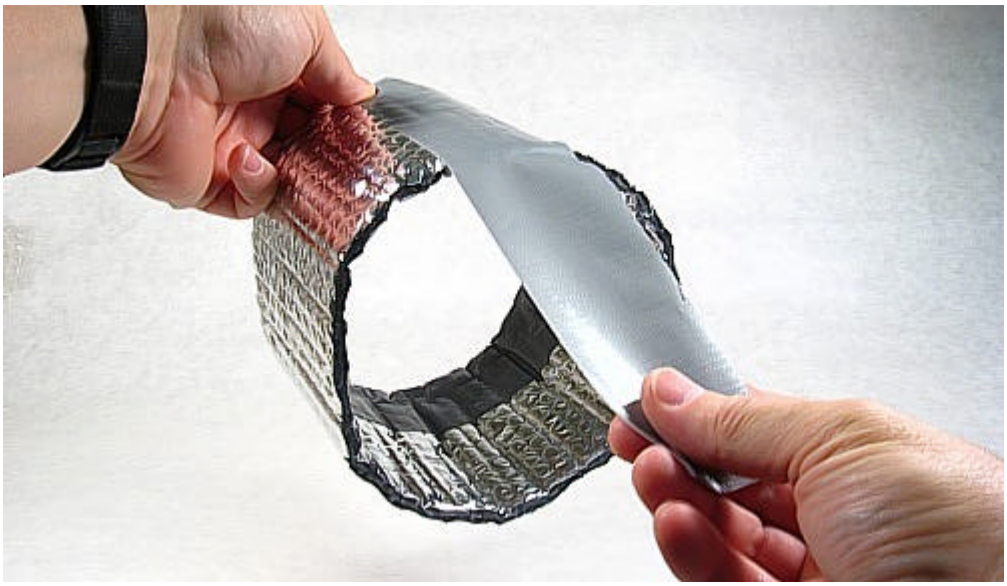
You can now measure the height and circumference of your pot or mug—perhaps adding a small margin to each to avoid undersizing—and cut a piece of Reflectix to those dimensions. Fine-tuning the cut size is discussed below.

Step 2: Wrap the cut piece of insulation around your pot or mug to test the fit. You'll want to evaluate the fit in the area below the handles, since the handles can interfere with this assessment. We'll deal with cutouts for the handles in the next step.

The length of the Reflectix should be adjusted so that the opposing ends just meet each other in this no-handle region. The objective should be to create a fit that will allow the vessel to slide easily in and out of the cozy but without excess wiggle room.

If the cold fit is too tight, it may be difficult to lower a hot pot (which will have expanded a bit) into the cozy. Conversely, if the either the hot or cold fits are too loose, the cozy will tend to drop off when the two are lifted together (although this problem can usually be fixed as described below (see Option #1 - Tightening the Fit).

Once sizing is complete, tape the vertical Reflectix seam using a piece of 2" wide duct or packaging tape that's long enough to seal both the inside and outside edges, making a cylinder that's open on both ends. By the way, when taping, it's usually easiest to first apply half the width of the tape to one side of the seam, align the edges, then press the second half into place on the other side of the seam.



Taping the seam (+)

Step 3: You can now create an opening of the appropriate size in the side of the cylinder to accommodate your vessel's handles. For both strength and cosmetic reasons, I usually like to locate that opening at the seam that was created in Step 2 (see photo below).

If your pot uses folding mug-style handles, you might also want to leave a section of Reflectix in place between the handles to protect your knuckles from the hot container when it's being held.

If that's the case, simply make cuts as shown below without removing the center section altogether. Doing so creates a tab that can be folded down to move it out of the way when lowering the pot into the cozy, then folded back up again so that it's positioned between the two handles when the pot's being held. If necessary, you can trim the sides of the tab a bit to achieve the best fit between the handles.

Notch cut for handles (+)

Notch tab in use (+)

Step 4: With the pot inside the insulator, turn it upside down and trace the inside edges of the circular bottom opening onto a piece of paper. Note that by leaving the pot inside the cylinder, it's easier to maintain the cozy's circular shape while tracing.

Next, cut the traced circle from the paper and use it as a template to mark the same size circle on a separate piece of Reflectix. Now cut the Reflectix disk noting that when properly sized, it will fit just inside the bottom walls of the cylinder as shown below.

Fitting the bottom disk (+)

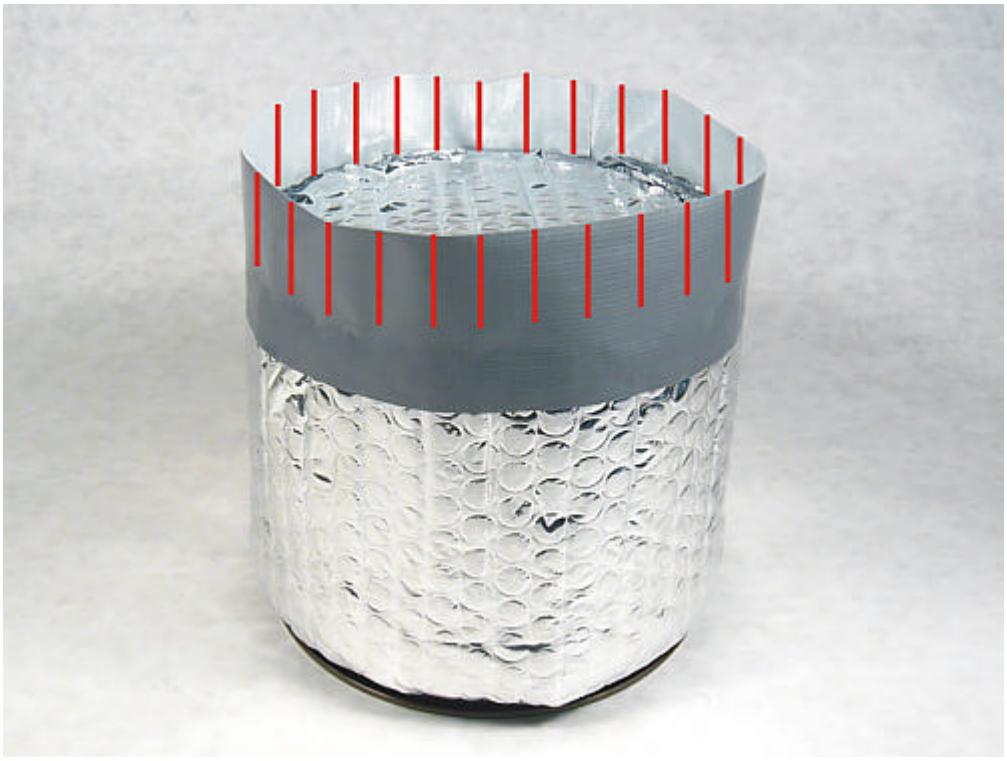
Step 5: Next, we're going to tape the disk in place. To do so, first cut a piece of 2" wide tape equal in length to the outside circumference of the cylinder, then fix it into place in such a way that it makes a circle around the end of the cylinder with half its width attached to the body of the cylinder and the other half extending (unattached) above the edge.

Then, using scissors, make a series of vertical cuts that start at the top of the tape and

extend only to the edge of the cylinder (i.e., about halfway through the tape).

The cuts should be spaced ½" to ¾" apart and should be made around the entire circumference of the tape (see red cut lines in the photo below). You'll probably find that it's easiest to judge the depth of each incision if you view the inside tape surface while cutting, so that you can see precisely where the tape meets the cylinder.

Once the cuts are complete, you'll end up with a ring of tabs around the tape circle.



Make a series of scissor cuts downward through tape starting at the top and extending only to the edge of the cylinder (+)

Finally, fold each of these tabs over onto the top of the Reflectix disk to secure it in place. As you're folding, point the middle of each tab towards the center of the disk.

I'd suggest that rather than starting at one point on the ring and all folding the tabs sequentially around the circumference, first fold a tab on one side of the circle, then fold another on the opposite side. Move 90° around the circle and repeat the process, continuing to fold tabs that are opposite each other until complete. Folding the tabs in this way makes it easier to keep the disk properly aligned while it's being secured into place (see photo below).

Tabs partially folded (+)

Completed bottom (+)
Note: this cozy, sized for the rather large Snow Peak Trek 1400 main cook pot, weighs 1.0 ounce

---

COZY OPTIONS

Option #1 - Tightening the Fit: You'll want your cozy to fit your pot or mug snugly enough that it doesn't fall off when you lift the combination. If the fit is too loose, you can tighten it by adding a velcro strap as shown below.

First apply two patches of hook-side, sticky-back velcro that are ¾" wide x 1½" long, one each to either side of the handle cutout.

Then, using about a 6-inch long piece of non-sticky-back (i.e., sew-in style) loop-side velcro, you can create a strap that tightens the cozy when in use. You can fold one side of the strap back away from the cutout (attaching it to the hook-side patch on that side if you wish) when lowering your pot into the cozy, then thread it either through or over your pot handles (depending on design) to attach it on the other side with enough tension to pull the cozy tightly to the vessel.

Velcro strap added (+)
Note that the strap is looped back onto the left pad to keep it out of the way

Velcro strap in use (+)
Tightened just enough to keep the cozy securely in place

Top

Home

prior to lowering the pot into the cozy when the combination is lifted

Option #2 - Covering the Edges: If you'd like to protect the exposed edges of the Reflectix where cuts were made, you can apply pieces of 2" wide duct or clear packaging tape. The photos above show these edges covered with duct tape.

Option #3 - Building an "Over Cozy": Should you wish to prepare meals that require the kinds of long cook times described in the sidebar above (Cooking With Retained Heat), you might want build a second cozy that's large enough to fit over your existing one. Doing so will more than double the insulating capacity. I say "more than" because aside from adding a second layer of Reflectix, you'll also be trapping a layer of air between the two insulators.

The "over-cozy" I now use is constructed just like the first except there are no handle cutouts. When in use, the pot handles are collapsed against the walls of the first cozy (the "under-cozy" if you will), then the over-cozy is slipped upside down over the two, so that its bottom becomes the top of the combination. Likewise, I add a loose Reflectix disk under the setup to offer more insulation for the underside.

Over-cozy with bottom disk (+)

Over-cozy upside down over the pot plus "under-cozy" (+)

You can submit or read comments about this article here.