

Sealing Bulk Food for Long-Term Storage

The Water & Food chapter's Tier 2 goal is bulk staples stored in Mylar with oxygen absorbers, in one line, with no actual technique behind it. Buying the bags and the food is the easy part; sealing them correctly is what determines whether that stockpile is still good in five years or has gone stale, buggy, or rancid in one.

How long will it actually last your household

Before sealing anything, it's worth checking whether what you've bought actually covers your household. The manual's own Tier 1 target is a flat **2,000 kcal per person per day**, the same baseline both general nutrition and disaster-response guidance use, adjusted up for children, larger adults, or anyone doing hard physical labor rather than down. Add up the calories in what you've stored, nutrition labels list servings per container and calories per serving, and check it below.

People in the household

e.g. 4

Calories per person, per day

2000

2,000 is the manual's own baseline. Raise it for children, larger adults, pregnancy, or hard physical labor; the manual doesn't treat this as a fixed rule.

Total calories stored

e.g. 168000

Servings per container × calories per serving, added up across everything you're counting toward this supply.

Calculate

Pet food isn't counted here

There's no sourced daily-calorie figure for pets on this site the way there is for people, feeding needs vary too much by species, size, and the specific food. Pet food is sized differently in practice anyway: check the feeding guidelines printed on the bag for your pet's weight, multiply by however many days you're planning for, and store that separately from the household's own calorie count above.

What this method is for

Mylar-and-oxygen-absorber storage works by blocking light, moisture, and oxygen, the three things that degrade stored food fastest. It's built for **dry, low-moisture, low-fat staples**: white rice, dry beans and lentils, oats, pasta, wheat berries, dry corn, sugar, and some dehydrated vegetables. Done correctly, these can stay good for well over a decade.

This isn't the right method for everything

Fats and oils go rancid from oxidation and heat regardless of how well you seal them, an oxygen absorber slows that but doesn't stop it, so treat high-fat foods (nuts, whole-grain flour, anything with real oil content) as a shorter-rotation item, not a decade-plus stockpile, no matter how they're packaged.

Materials

Item	Spec	Notes
Mylar bags	5–7 mil thick, food-grade, sized to your storage plan	Thickness is what actually blocks oxygen over years, not just at sealing time; 5 mil balances flexibility and durability for most staples, 7 mil for sharp-edged foods like pasta or hard beans. Gallon bags for smaller portions, 5-gallon bags to match a matching bucket
Oxygen absorbers	300cc per gallon of bag volume as a baseline	Round up rather than down; an absorber slightly too large does no harm, one too small won't fully displace the oxygen
Heat source	A dedicated impulse bag sealer, or a clothes iron/hair straightener set to a cotton or wool setting (roughly 380°F) with steam turned off	An impulse sealer applies heat in a thin, consistent line in 2–3 seconds and is the more forgiving choice for a first attempt; an iron or straightener spreads heat over a wider area and has to be dragged evenly by hand, which is where most beginner seal failures happen
A flat board or ruler	Anything rigid, a foot or so long	Slides inside the bag under the fold to give the heat source a firm, flat surface to press against; sealing without this backing is a common cause of wrinkled, leaky seams
Outer container (optional)	A food-grade 5-gallon bucket	Protects the Mylar bag itself from punctures and pests once sealed. One 5-gallon Mylar bag holds roughly 30–40 lbs of dry rice, wheat, or beans; four 1-gallon bags fit inside one 5-gallon bucket instead if smaller portions are the goal

Sizing the oxygen absorber

Bag size	Oxygen absorber
1 quart / small bag	About 100–300cc
1 gallon	300–500cc
5 gallon	2,000–3,000cc

When in doubt, size up rather than down. An oversized absorber just finishes its job faster; an undersized one leaves residual oxygen in the bag, which defeats the point.

Step by step

1. Have everything ready before you open a single oxygen absorber packet: bags filled and staged, sealing tool warmed up if needed. This matters because of the next step.
2. **Work fast once an absorber packet is open.** Oxygen absorbers start reacting with air the moment they're exposed to it, not just the air trapped in your bag. Get each one sealed into its bag within about **15–20 minutes** of opening the packet, or its capacity is wasted absorbing room air instead of the air in your food.
3. Fill the bag with food, leaving about 3 to 4 inches of empty bag above the contents, enough to fold and work with but not so much that you're sealing mostly air.
4. Drop the oxygen absorber in on top of the food, don't set it aside "for a minute", every minute it sits in open air is capacity lost.
5. Press out as much air as you reasonably can by hand. A true vacuum isn't necessary, the absorber handles what's left.
6. Fold the top of the bag over on itself two or three times to create a flat sealing surface, then slide a flat board or ruler inside the fold as a firm backing and smooth the Mylar taut with both hands to work out wrinkles before sealing; wrinkles left in the fold are the most common path a slow leak takes.
7. Run your heat source across the fold with firm, even pressure for about **3–4 seconds**, in one smooth pass across the full width of the bag.
8. Check the seal immediately by gently trying to pull the fold apart. If it separates at all, reseal that section.

Confirming it actually worked

Check every bag again within **24 hours** of sealing. A properly sealed bag with a correctly sized oxygen absorber will be noticeably vacuum-tight, the Mylar pulled snug against the food inside, since the absorber has consumed the oxygen that was left in the bag. Keep in mind oxygen is only about 21% of air, so even a perfect seal won't pull down to a hard vacuum, snug and wrinkle-free against the food is the real target, not rigid. Look closely along the seal line itself for any wrinkle or gap, that's the specific spot a slow leak comes from even when the rest of the bag looks fine. If a bag still looks puffy or loose after 24 hours, the seal likely failed somewhere; open it, replace the oxygen absorber with a fresh one, and reseal.

Storage and rotation

- Label every bag with the contents and the seal date, the same FIFO habit used everywhere else on this site.

- Keep sealed bags somewhere in the 50–65°F range with humidity under 60%, a basement or interior closet rather than a garage or attic that swings with the outdoor temperature. Every 10°F cooler roughly doubles expected shelf life, so where a sealed bag sits matters almost as much as how it was sealed.
- Store sealed bags inside a food-grade bucket where practical; the bucket protects the Mylar itself from punctures, rodents, and crushing.
- Check seals seasonally, and watch for small holes or frass (insect droppings) in grain and bean stores, exactly the inspection routine already called for in the Water & Food chapter's Tier 2 rotation guidance.
- Once a bag is opened, its long-term protection is gone; move the remaining contents to a shorter-rotation container rather than resealing the original bag and expecting the same shelf life.

Sources

- Utah State University Extension, food storage guidance for Mylar-packaged staples: [USU Extension](#)
- Oxygen absorber sizing per bag volume, activation timing, and seal verification technique: [Oxygen Absorbers; Discount Mylar Bags](#)
- Mylar bag mil thickness for long-term storage: [Brand My Dispo](#)
- Heat sealer temperature settings and iron/straightener technique: [TruePrepper](#)
- Fold-backing and wrinkle-free sealing technique: [BNPack](#)
- Seal troubleshooting and common leak points: [Cubit Packaging](#)
- Bucket-and-bag food quantity yields: [PailHQ](#)
- Storage temperature and humidity effect on shelf life: [Mother Earth News](#)