

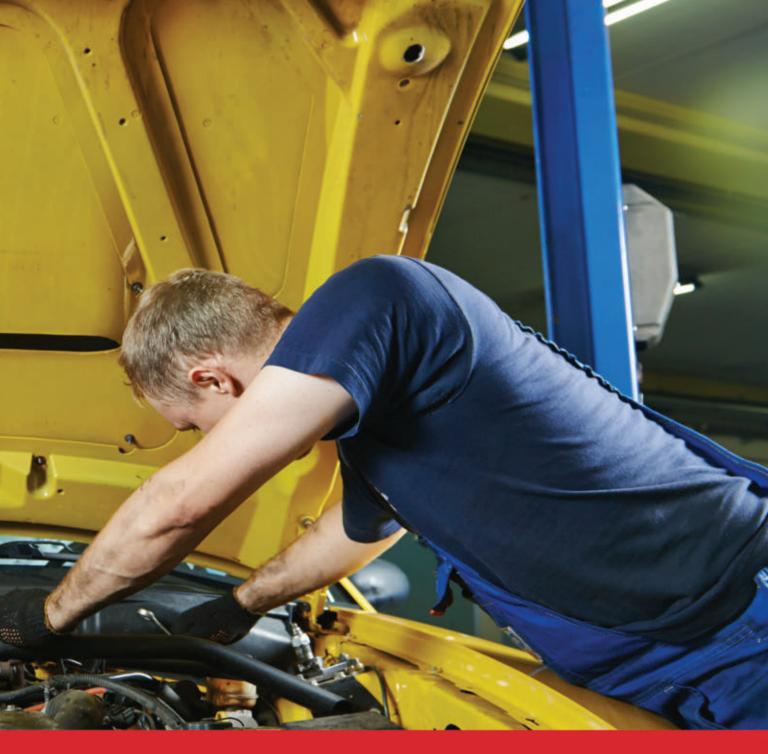


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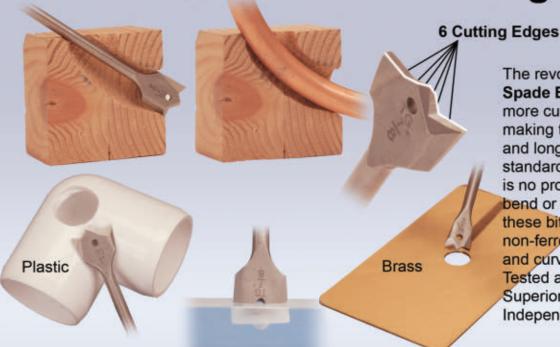


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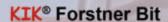
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# From The Editor-In-Chief

ome improvement projects will soon take off like a rocket, according to the *The Wall Street Journal*. New construction of single-family homes remains 40 percent lower than a decade ago. The number of for-sale listings as a percentage of occupied U.S. homes hit a record low this year. Experts say the low inventories of homes for sale, which often leads to price appreciation and bidding wars, is prompting many homeowners to stay put and improve the home they already have. Forecasts project that U.S. residential remodeling and repairs this year will surpass records set during the housing boom.

Another factor driving the remodeling craze is the fact that America's homes are getting older. Homes built more than 30 years ago now make up 65 percent of the nation's housing stock, up from 47 percent in 1995, according to census data analyzed by John Burns Real Estate Consulting.

Financially savvy homeowners often want to invest in an improvement project that offers the most bang for the buck. Exterior work on a property, from new siding to windows, typically adds the most value to a home. A potential home sale can be made or broken by that first impression alone. Buyers assume that if the house exterior hasn't been maintained, then the interior hasn't either. For this reason, an entry door replacement (steel) can recoup up to 98 percent of your investment at resale, according to *Remodeling Magazine*'s 2016 Cost vs. Value Report. Garage door replacement can recoup 97.2 percent. You can also get significant returns on installing manufactured stone veneer and adding a new wood deck.

Inside the home, you can expect a return of about 87 percent on a minor kitchen remodel, 73.5 percent on a basement remodel, and 70 percent on a bathroom project. Notably, *Remodeling Magazine* reports you can recoup a whopping 130.9 percent of the cost of adding extra attic insulation (fiberglass), plus you'll save on the resulting reduced

energy bills while you still occupy the house.



Consider your return on investment when prioritizing future remodels. It's nice to enjoy the upgrades while you live in the home, but in the long run you'll be glad to have increased the home's value.





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it you'll need a can of quality spray adhesive, so don't skimp and buy the cheapest stuff. Some products are actually specified as "Headliner and Fabric Adhesive." Before applying the spray to the ceiling, you need to scrub or sand off the old powderized foam that caused the headliner to fall. Use your fingers, a sanding pad or stiff-bristle brush to scrape away all this material, removing it until you reach intact material that won't fall away like dust. Apply the spray adhesive to headliner backing. and to the backside of the fabric, and then wait 5-10 minutes before attaching the fabric.

• I inherited a house from • a cigarette smoker. How can I remove the residual odor?

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Will plastic sheeting be an okay moisture barrier to use beneath hardwood flooring?

• Avoid plastic sheeting on wood subfloors because it only serves to trap moisture and can lead to mold growth under the right conditions. For a wood subfloor you need a vapor retarder that allows some degree of permeability which allows it to "breathe." Installation of a vapor retarder reduces the potential for moisture- or vapor-related problems, but won't guarantee complete elimination of moisture. Asphalt felt or asphalt kraft paper are acceptable moisture barriers over wood subfloors, but consult your local building codes for specific requirements.

• I'm planning to install vinyl siding on a detached garage that's built on a concrete slab. The siding • instructions suggest that I "compress the floor plate" before installing. What does that mean?

• It's often necessary to weigh down the elevated subfloor of the room where vinyl siding is going to be applied (often by stacking drywall in an empty house under construction). This allows for floor-plate compression, which, if not addressed, can result in buckled siding where the floor meets the wall. But if you plan to install the siding on a slab-mounted building, then that slab is unlikely to move so weighing it down won't be necessary.



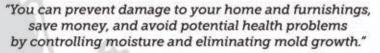




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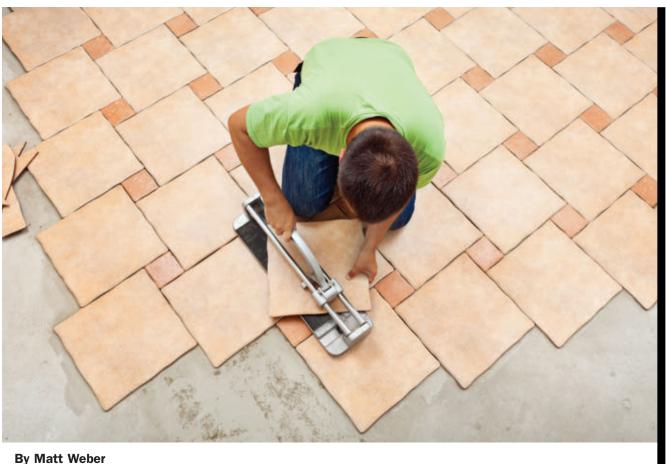
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#### **Tool List for Floor Tile**



ile is a versatile building material that can be used for floors, walls, countertops and more. However, tile's hard, brittle nature and method of installation requires specialty tools that you'll need for a successful project. Here's a checklist of the basics along with a few how-to tips thrown in for good measure.

Chalk line. When planning for tile layout you should never assume a room is perfectly square, but make sure that your tile pattern is. Before laying your first tile, snap a couple of intersecting chalk lines in the center of the room to guide the

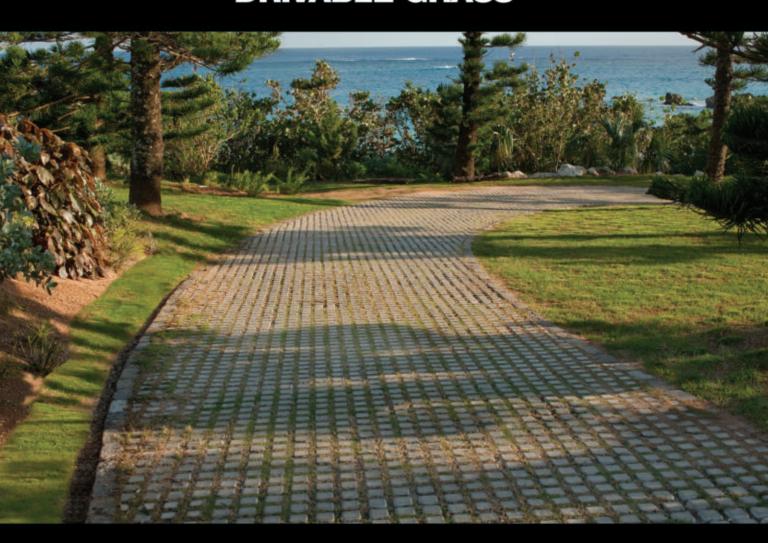
installation. Working from the center of the room gives you plenty of space to work outward to the walls and ensure a symmetrical pattern. After marking the midpoint of all four walls, snap the chalk lines at the center point of the site, forming a square cross. Use the 3-4-5 rule to check that the lines form right angles. If that's not the case, then readjust your chalk lines. Use the lines to guide installation of a dry run, which will help you determine your preferred tile pattern and check for potential problems.

Tile spacers. To ensure distinct, consistently sized grout joints, use plastic grout spacers between the edges of the tiles to keep them



To lay out a tile floor, use a chalk line to snap two intersecting lines at right angles in the center of the room. Use the lines to guide a dry run, and adjust your layout plan as needed before installing.

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#### TOOL SCHOOL

even. These are a must because the tiles tend to shift around during installation, and grout lines that vary in size will be extremely noticeable. The spacers come in different sizes (1/4, 3/8 and 1/2 inch), and the size of the grout lines depends largely on personal preference. Keep in mind, however, that floor tile will get lots of

foot traffic, which will get the grout lines dirty. For this reason, many homeowners prefer small joints in floor tile and they often choose a grout color that will best disguise dirt and grime.

Tile cutter. Tile installation typically requires cutting the tiles to size where they meet a wall or obstruction, and the standard goto tool is called a snap tile cutter. To make straight cuts, first mark the cut line on the tile. Place the tile on the cutter's base plate, use



A snap tile cutter scores the face of the tile so you can break it cleanly along the score line.

Picture © kolonist1982 / 123RF

the guide bars to align the cut line, and lower the carbide-tipped cutter onto the line. Draw the carbide wheel or blade across the tile surface to score it. Then press down on the handle to break the tile along the score line. One limitation of this tool is that it can only make straight cuts that extend across the entire tile, from one edge to the other.

Tile nippers. Although they look like a pair of pliers, tile nippers take patience and practice to master. They provide a simple way to make small partial cuts that can't be made with a straight-cutting tool. In many cases you must cut a notch in tile for a pipe or other obstacle. In other cases you may need to remove a corner to install around



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a set of cabinets. By taking small bites (1/8 in.), you can remove material in a controlled fashion as you progress from the outer edge of the tile toward your cut line.

The smaller the nibbles you make with the nippers, the more control you have of the cut and the less likely the tile will crack or shatter beneath the pressure of the





Use tile nippers to take small, controlled bites out of tile when fitting around an obstacle. *Picture* © feferoni / 123RF

blades. Practice on a scrap piece of tile to get the feel of the tool before making critical cuts in your installation.

The nipper's teeth usually leave a fairly ragged edge along the cut. This may not be an issue if the cut will be concealed with a plumbing escutcheon or some similar device. However, in areas where looks matter, it may help to smooth the rough edges of the cut with a file.

Wet saw. A wet saw might not be absolutely crucial for tile installation, but they sure are nice to have at your disposal. A wet saw uses a circular blade with an integrated water reservoir (often with an electric pump) to cool the cutting action. Wet saws are available in a variety of configurations, such as a table-saw



Wet saws use diamond-tipped cutting wheels to remove ceramic and stone material with great precision and minimal heat buildup.

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#### TOOL SCHOOL

type or a bridge-saw. Handheld versions are also available. Wet saws are generally equipped with diamond-tipped cutting wheels to remove ceramic and stone material with great precision and minimal heat buildup.

Although the circular blade of the wet saw enables only straight cutting, unlike a snap cutter it can be used to cut partially through a tile (instead of only edge to edge). This allows the ability to make two intersecting cuts from different angles. (Note: The overspray from wet saws can be very messy, so use them outdoors.)

Notched trowel. Tile trowels come in several shapes and sizes, from a 3/16-in. v-notch up to the 1/2-in. square notch. Generally speaking, the trowel size should

match the tile size: The smaller the tile, the smaller the trowel; the larger the tile, the larger the trowel. Floor tiles require a thick mortar bed to withstand foot traffic, which requires a bigger trowel than wall tiles. Another consideration is flatness of the subfloor. If installing tile on a floor that slopes, you will probably need to back-butter some of the tiles slightly thicker to compensate.



Tile trowels come in several shapes and sizes, from a 3/16" v-notch up to the 1/2-" square notch.

Tile spacers maintain distinct joint lines in a consistent size.



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#### TOOL SCHOOL

For mosaic tiles up to 4-1/2 inches, use a 3/16- to 1/4-in. v-notch trowel. For tiles measuring 4 to 8 inches, use a 1/4-in. square-notch trowel. For 8- to 16-in. tiles, use a 1/4- to 3/8-in. square-notch trowel. And for tiles that are 16 inches or larger, use a 1/2-in. square-notch trowel.

Tile bits. When you need to mount fasteners in tile, glass-and-tile bits for boring the pilot holes have an arrowhead-shaped tip designed for penetrating brittle materials. Begin drilling the hole at a slow speed and use a spray bottle of water to cool the cutting surface, which helps drilling performance and extends the life of the bit.

For cutting larger holes in tile, you can select from carbidetipped masonry bits or diamondtipped hole cutters. Just like the smaller bits, the cutting action of the carbide bits should be lubricated with water to reduce heat. However, unlike smaller bits, the diamond-tipped hole cutters are designed to drill at higher speeds and can even cut dry. They create holes with large diameters for pipe and cable access located in the center of a tile. To use a hole cutter, chuck the bit tightly into a drill or rotary tool. Turn on the tool so the bit reaches full speed. Gingerly tilt the bit into the tile so its edge begins to penetrate the surface. Once the edge of the saw begins to make a cut deep enough to keep the bit in place, slowly tilt the tool upright so the rim of the bit contacts the surface on all sides. Continue cutting until the bit plunges completely

through the tile. Although holecutters can cut dry, lubricating with water will still prolong bit life.

Straight edge. Pro installers often use a level, but the flat edge of the tool is what's actually important to make sure the tile floor is even throughout. Lay the straight edge across the tops of the neighboring tiles each time you install a new one. Make sure the tiles lay perfectly flat in the mortar bed and there is no discrepancy in elevation that can create a "toe catch" in the floor, as shown by any gap at the bottom of the straight edge.

Rubber mallet. Use one of these heavy-headed hammers to tap the tiles into the mortar bed and help it set evenly against the adjacent tiles. The fat face distributes the striking force, and the





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#### TOOL SCHOOL



Use a rubber mallet to set tiles into the mortar bed, and use a straight edge to make sure they're all installed evenly at the same elevation. Picture © cnikola / 123RF

rubber surface protects the tiles from damage or marring.

Rubber grout float. To apply tile grout you need a sharp-edged, rubber grout float. Its flexible rubber bottom screeds grout off the tile and into the joints without damaging the surface or edges of the tile. Hold the float at a 45-degree angle to the joint, spread the grout diagonally, and press firmly to ensure the joint is completely filled. Then, holding



To use a rubber grout float, hold it at a 45-degree angle to the joint, spread the grout diagonally, and press firmly to ensure the joint is completely filled.

the float at a 90-degree angle, pull diagonally across the joint to remove excess grout, using the edge like a squeegee. The angled stroke helps prevent the float from digging into the filled joints and pulling out the grout.

Abrasive sponge. For best results, remove the grout haze as you work, using a sponge and a 5-gallon bucket of water. Just wipe up the grout film, rinse the sponge clean, wring it until damp and repeat. Lightly work the sponge in a circular motion, loosening grout residue while making the joints smooth. Change the water often. Check the work as you clean, and repair any low





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#### **TOOL SCHOOL**



spots with additional grout. The day after grouting, you'll need to repeat the sponging process to remove remaining haze and any grout sand stuck to the floor surface—and that's where having an abrasive pad attached to the sponge really comes in handy.

These are the basic tools of tile installation. The good news is that most of the smaller items are inexpensive, and the more costly items like a wet saw can usually be rented from your local rental outlet to help save a little money on your next do-it-yourself project.

Use a damp sponge to clean excess grout as you apply it. Be prepared to repeat this procedure the day after installation. A sponge with an abrasive pad helps to scrub off dried grout sand and residue.

Picture © thodonal / 123RF

#### HOW TO CUT CURVES IN TILE

Although the circular blade of the wet saw enables only straight cutting, you can use the saw to make irregular cuts. When you need to fit a tile against a post or molding, simply scribe the profile of the curve or irregularly shaped obstacle on the tile. Then, make a series of closely spaced parallel straight cuts up to the profile line. Use tile nippers to remove the thin strips of tile between the kerfs.











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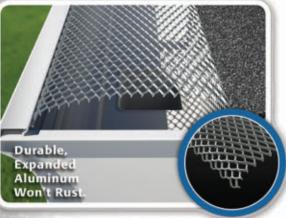
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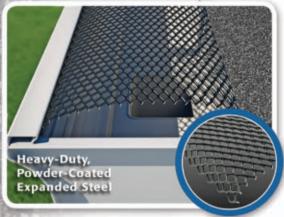
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## **Dampen Sound with Stone Wool**



By Matt Weber

eith and Toni Lively built their new home with an eye on the future. They wanted a large place for their kids and grandkids to congregate, plenty of rural property for off-road action, and ultimately to offer the new house and scenic playground as a destination place for newlyweds.

Of course, family reunions and wedding activities bring plenty of noise, and Keith and Toni wanted to keep the high volume out of their master bedroom. They turned to Roxul stone wool insulation for a solution.

Stone wool is a rock-based mineral fiber insulation comprised of basalt rock and recycled slag.

Basalt is a volcanic rock, which is abundant in the earth, and slag is a by-product of the steel and copper industry. The minerals are melted and spun into fibers that are made into batts.

For sound control, Roxul offers Safe 'n' Sound stone wool batt insulation designed specifically for interior wall and floor/ceiling applications. Suitable for residential wood and steel stud construction, these non-combustible, lightweight batts have excellent acoustical dampening properties. Its high density makes it an ideal solution for reducing sound travel between rooms

Sound comes from vibrations travelling through air, water or solids. When a baby cries. For instance, the vibrating vocal cords cause air particles to radiate out in all directions. These radiating air particles exert force on other air particles, causing more vibrations, which in turn, collide with more air particles. The density of stone wool material helps to absorb and block this airborne noise.



The Roxul Safe N' Sound product comes in ready-to-install stone wool batts that each measure roughly 3" thick.

Additionally, stone wool in general has excellent fire ratings, does not burn and can add valuable time for evacuation in the event of a fire. The material will not promote corrosion, plus it's resistant to water, rot, mold, mildew and bacterial growth. The batts are also dimensionally stable, which makes them ideal for easy friction-fitting into walls, ceilings and floors.

#### **INSTALLATION**

The Roxul product is a breeze to install. The only thing that could be easier is if maybe the batts unpackaged themselves and then leapt into to their new homes between the wall studs. The batts



#### **DO IT YOURSELF**

come in precut sizes to fit between common 16-in. on-center stud spacing. To install simply push the 3-in. thick batts between the studs. That's it. The pliable batts compress to fit and then the springy material pushes outward against the framing, which holds the batt in place. Zero fasteners are required. The spring-back nature of the material completely fills the wall cavity and prevents

the insulation from sagging in the future.

**Tip:** Completely peel off all the plastic wrapping from the packages, because the batts can tear if you try pulling them out while they're trapped in the wrapper.

The Roxul material is very easy to cut. A simple bread knife will do the job well. We also used an



Completely remove the plastic wrapper to avoid tearing the insulation material.

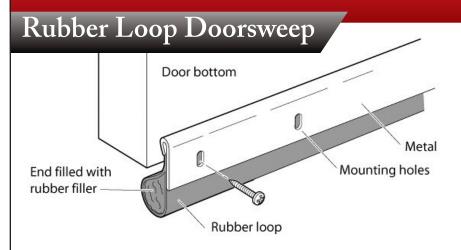


Place the batts vertically or horizontally as needed, or cut them to fit.



The batts can be cut precisely with a serrated blade and trimmed for the best possible fit around electrical and plumbing.

#### **BLOCK NOISE FROM ROOM TO ROOM!**



This 36" wide specially modified rubber loop doorsweep is perfect for blocking sounds coming from under the door bottom gap. Everything you need to install is included in the kit. Plus **FREE Shipping** via USPS to the 48 contiguous states!

- · Stops noise and drafts, too!
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## NOT YOUR AVERAGE CABLE RAIL.

Cable railing's popularity is soaring among residential and commercial clients for good reason. These days, many manufacturers are offering some version of this stylistic railing. But what you see in this image is not just your average cable rail.

Unlike most cable railing manufacturers which utilize aluminum structural components, AGS Stainless provides a prefabricated system comprised entirely of stainless steel – from the posts and top rail to the cable and hardware.

The result is one that reflects the intrinsic quality, value and beauty of stainless steel. High-end homes deserve more than just the form and function provided by aluminum railing. Stainless steel's durability is uncompromising and its distinct luster provides a striking visual impact enhancing any setting or décor.

Discriminating homeowners turn to AGS

Stainless for custom-designed, prefabricated stainless steel railing systems that they can install themselves.

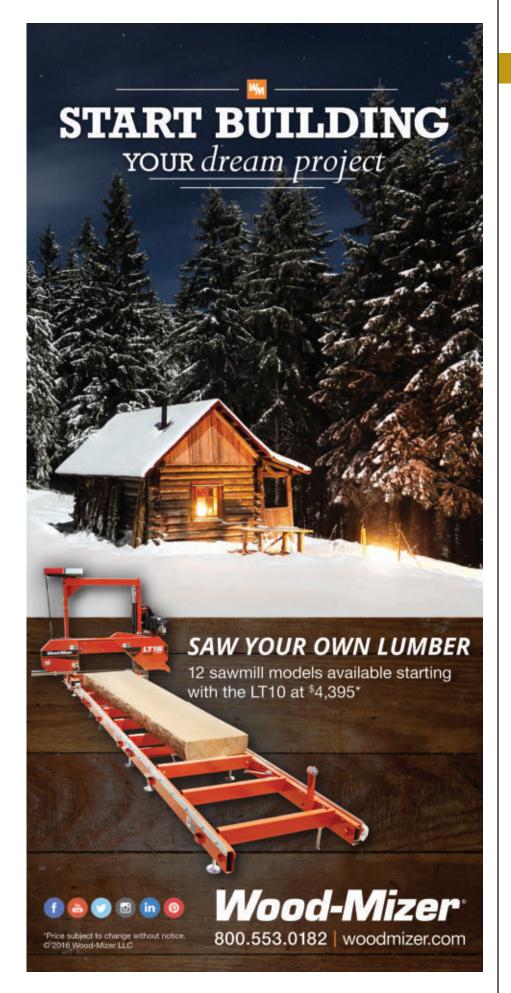
No, this is not your average cable rail... not even close.



AGSstainless.com/EHT 888-842-9492

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#### **DO IT YOURSELF**



The Insul-Knife from Cepco Tool proved to be a particularly effective tool for making straight cuts on this job.



The long blade of the Insul-Knife allowed us to cut more than one batt at once.



this project entailed insulating both the walls and floor joists of a master bedroom.

Insul-Knife from Cepco Tool, which has a long, wide blade for making deep, straight cuts in thick insulation material. The length of the Insul-Knife blade also enabled us to cut a few stacked batts at one time, which sped up our progress.

Since the Lively's master bedroom was located in an upstairs

corner of the house, Keith's strategy was to insulate the wall separating it from the adjacent entertainment room, as well as insulate the floor joists that separate the room from a large downstairs banquet area.

If the wall's stud spacing varies or an outlet box is in the way, you can easily notch the batts in place with a serrated blade. If the spacing is too large for a vertical batt, simply turn the batt sideways, cut it to fit horizontally, and stack the batts until the space is full.

By the time the job was complete, the ambient sounds we experienced working inside the room changed dramatically. Without a doubt, the Roxul Safe N' Sound dramatically reduced noise transfer between the newly insulated walls. And with a couple of us working together, we knocked out this easy DIY job in just a couple of hours. **EHT** 

For more information on stone wool sound insulation, visit www.roxul.com.



Shown here is the finished project.



## ROXUL TOUR ENDS IN A BLAZE

The *EHT* staff recently toured the Roxul manufacturing factory in Marshall County, Mississippi. The new 600,000 sq. ft. facility was built in 2012 to produce a variety of the company's insulation



products. We learned how the stone wool insulation was made, and we were treated to an impressive demonstration of the material's fire resistance.

The team at Roxul enlisted the local fire department to conduct what they called a "controlled burn." Essentially, they built a large birdhouse from the company's ComfortBoard Insulated Sheathing (a stone wool product that has enough structural integrity to assemble the structure). We then watched as a dish of chocolates was placed inside the birdhouse. Sitting



atop a column of kindling that the firemen stoked into a raging inferno, the birdhouse was soon engulfed in flame. After blazing for several long minutes, the fire was extinguished and the Roxul staff retrieved the dish of chocolates from the smoldering birdhouse. The chocolates hadn't even softened despite all the intense heat. To watch a video of Roxul's controlled burn, visit the *Extreme How-To* at blog.extremehowto.com.



# FOR TOP NOTCH

# By Mark Clement -

nstalling tile is one job I consider deceptively easy. A quality job looks awesome but it is equally unforgiving; you can't sand it, caulk it or re-nail it. Installation takes a lot of work, too. Don't be fooled by TV shows that make it look so easy a baby could do it. From what I've seen those shows omit most of the home-improvement skills that matter.

For tile magic, you can always pay a pro to design and install it. Or, go DIY style, and get your game-face on. Here are ingredients to a tile job you'll love.

### **DESIGN**

My wife Theresa's eye for color, balance, texture and space never fails to amaze me. For this job, she chose TileBar's succulent wood-themed large format Cerpa Arena plank tile to anchor a look she's calling "basement sophisticate." In the world of tile it provides a sensational look for a large but intimate room. The Cerpa's length unifies the spaces. Its color shift creates cohesion.









For this job, we installed TileBar's succulent woodthemed large format Cerpa Arena plank tile.



If you have dips in the subfloor deeper than 1/4", mix up some floor leveler and apply it as needed.

Conversely, a square tile like a 12-by-12 (better suited for a kitchen, perhaps) might have a pixilating effect in the room.

Choose a tile pattern that works best in your particular space, accounting for the room's shape and surrounding house features. Thoughtful design like Theresa's matters a great deal.

### **HOW-TO**

A crappy installation ruins the design.

In my search for the best products and procedures my job as co-host of the MyFixitUpLife show brought me to the International Builders' Show in Las Vegas. That's where I met the guys from Custom Building Products. Those guys know tile and they set me up with the right stuff to make this job a success.

Make sure to familiarize yourself with every phase of a tile project before beginning the job. Check out some of Custom Building products' online instructional videos and even consider buying a how-to book for detailed instructions.

# **LEVEL UP**

In most remodeling applications we use floor leveler to flatten the floor, not actually make it level.

If your floor has pocks or bellies (some people call them "bird baths") deeper than 1/4 inch, then mix up some self-leveling floor underlayment and pour it on.

The key is getting the right viscosity: A little more viscous than

water—but not much. It needs to be fluid enough to flow so gravity can draw it into a low spot. Strike off edges with a flat trowel.

### **CRACKED**

Tile doesn't move, but the things around it do.

Even huge things, like this basement floor will expand and contract with temperature shifts.



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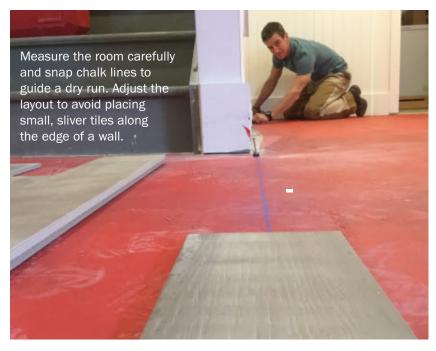
Walls and counters move too. As the best insurance policy against tile cracking from this movement, use a waterproof crack isolation membrane.

I used a product called Red Gard, which is kind of like using rosin paper under a wood floor. It works as a 'bond-break'. If the slab moves, the membrane flexes under the tile. It's also waterproof and helps keep moisture and humidity from groundwater in check. The membrane is ideal for bathroom and wet service renovations too.

The product was preposterously easy to apply. Roll on with a paint roller and let dry.



Thinset mortar is easiest to apply when mixed to a peanut-butter consistency.



## **LAYOUT**

Here is the last thing you want on your finished tile job: A lilylivered sliver-cut on your last row. It's one of those things that doesn't sound important, until you see it. Then, you can't un-see it.

With a few exceptions, the first row of tiles should be the same width as the last row—no matter what the size of the room is.

The bigger the room, the harder this is. And the more criteria there are, like notches around room features. The staircase in this reno is one such example. I chose to avoid the risk of sliver cuts (or worse, tapered sliver cuts) at the stairs in this room because it is the most frequently traveled and seen part of the space.

To avoid the small tiles I used DeWalt's uber visible green laser to cast a line. It was ridiculously fast to set it up where I wanted my first course of tile. I then measured the rest of the room. I divided the room measurement by the size of the tiles (plus grout joints) to determine how many would fit per row. If only a sliver would fit at the end, I knew to lay the first row with partial tiles to allow room for larger tiles at the end. I made small adjustments to the layout until satisfied, then snapped my final layout line in chalk.

## **MIX IT UP**

Thinset mortar should be mixed to a peanut butter consistency.

# TILE SUBSTRATES FROM SCHLUTER SYSTEMS

Kerdi-Board from Schluter Systems provides an easy way to create flat, level, plumb and square substrates for tile installation. In addition to being much lighter and easier to cut than cement backerboard (requiring only a utility knife), Kerdi-Board is inherently waterproof and vapor-retardant, and has workability similar to rigid foam-board insulation. It's an excellent DIY-friendly product that is exceptionally suited for areas with high moisture exposure, such as bathrooms, which can require a great deal of preparation and waterproofing. Visit www.schluter.com.



When you comb it with a notched trowel, it should flow but still stand up. The reason is the tile is pressed into the standing seam of the thinset. As the mud squishes behind the tile, that's what adheres the tile to the floor. If you mix it too watery, you risk having to replace a tile in a finished job.

Also, a paste-like consistency enables you to 'back-butter' a tile. Back-buttering is adding thinset to the back of the tile and the floor to elevate a tile that is setting too low compared its neighbors.

## **TILE TOOLS**

**Kneepads.** They're ugly, mostly uncomfortable and hot. They're also 312 percent better than kneeling on the floor all day.

**Drill.** With a 0-450 rpm in low gear, my cordless drill turns at just about the right speed to mix the mud without whipping it up.

**Trowels.** There is zero 'mud' jobs I do—tile, hydraulic cement, drywall repair—where I do not use my margin trowel. This \$9 tool is gold for mixing small batches of material, scooping it from the bucket and spreading it around the floor.

I also used a 3/8-by-3/8-in. notched trowel and learned on this job that it doesn't take much for these trowels to wear down. My old notched trowel was worthless, so I had to upgrade from 1/4-in. and saw a huge difference between new and old. Large format tiles like a large format trowel.

Before combing out the thinset, I also use a flatedged trowel to screed a layer over the floor. For plank tiles, comb the thinset perpendicular to the tile length.

**Saw.** A quality wet-cutting tile saw is the only game in town. There's no such thing as one that doesn't spray water, so set it up where it can get wet and you



Never underestimate the value of knee pads. After spending all day on your knees, you'll be glad you have them.







can clean it up without wrecking things. My DeWalt saw is great at containing overspray, but be ready for water no matter what.

### **DIY HACKS**

In a large project like this I enlisted some ingenuity to make life easier.

Things on wheels move easier. I built carts—my wife calls them carpenter's carts—and rolled supplies whenever possible. I mainly used mine for mixing thinset. My water and tools stayed in the same place. Yet, as I moved, all it took was a nudge to wheel everything with me. Saved me hours.

Bridge. To literally keep from

# TRENDS IN TILE

As you've seen with the the woodgrain-style tile shown in this article, tile design goes far beyond the limited colors and natural stone selections available at you nearest big box store. Check out tile specialty stores as well as online suppliers to explore the vast array of options which can greatly impact your interior décor.



Rustico offers Mexican-style tile that is shipped worldwide. Rustico's Saltillo tile is a form of terracotta floor tile handcrafted from durable clay that only exists in the Mexican city of Saltillo, Coahuila. Saltillo tile is an attractive option for extremely durable flooring that comes in a variety of sizes, shapes and colors. Rustico also offers a durable cement tile as a throwback to centuries-old encaustic tile in numerous designs and patterns, from geometric shapes to classic Moroccan style tiles. Visit www.rustico.com.

Looking for a more contemporary style? From a simple floral corner to complex intertwining patterns, the wide range of floor and wall tiles in the Odyssey Grande collection from UK-based Original Style was inspired by various items and places around the world. Odyssey Grande combines contemporary and classic designs to create striking patterns suitable for use in both modern and traditional settings. Visit www.originalstyle.com.





Would you like pavers or stone tile for you home but can't afford them? Olde World Stone and Tile Molds, Inc. helps inexperienced people save money by casting their own concrete stone products. Do-it-yourselfers learn to make stone veneer, tile, bricks, pavers and other concrete building products like cobblestones and steppingstones using molds and concrete. Free instructions on how to make, finish and install the products made with these inexpensive molds are available with each mold purchase, and on the company's Training website. No special equipment, knowledge or location is needed. You'll learn to use concrete stone molds, concrete stains, colorants, sealers, additives and other supplies used by professionals to make custom man-made stone, pavers, brick veneer and tile. You'll find hundreds of different styles and sizes of molds available at www.TheMoldStore.us.





# Schluter®-DITRA-HEAT-TB

Electric floor warming system with integrated thermal break

Schluter®-DITRA-HEAT-TB is the only electric floor warming system with an integrated thermal break, and is ideal for tiled floors over concrete.



- · Heating, uncoupling, and a thermal break in a single layer
- Warms tiled floors up to 70% faster over concrete substrates
- Saves energy by directing heat to the tile, not to the subfloor
- All-in-one system means faster and simpler installation
- · Only 5/16"-thick to minimize construction height



# 10 year warranty!

We stand behind our products.

Our comprehensive warranty covers materials and labor.





To literally keep from tiling myself into a corner, I make a bridge.



By using premixed grout you spend more time grouting and less time mixing.

tiling myself into a corner, I make a bridge. On one end there's a carpenter's cart (I lock the casters, of course). On the other there's a bag of thinset. Then, when I run out of room, I simply end the day and walk across my bridge out of the room. I finish the final tiles the following day.

# **GROUT**

The final step in any tile job is grout. Custom Building Product's pre-mixed, super-stain resistant grout rocked! No-mix means I spend time grouting, not mixing grout. It went down lickety-split. I applied it in small areas at a

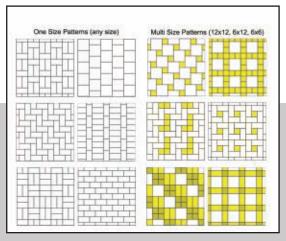
time because it dries quicker than mix-type grouts I've used. The client loved it!

One important key to grout application is to change the water often. Clean water cleans grout better, and a damp—not soaking—cloths work the best. **EHT** 



Consider the many options when selecting a tile pattern, which is one of the best ways to add your personal style. Pattern options are almost endless and each can dramatically change the look of a room. Use a single size for simplicity, or mix and match sizes to increase your layout options. Shown here are some of the most popular patterns.



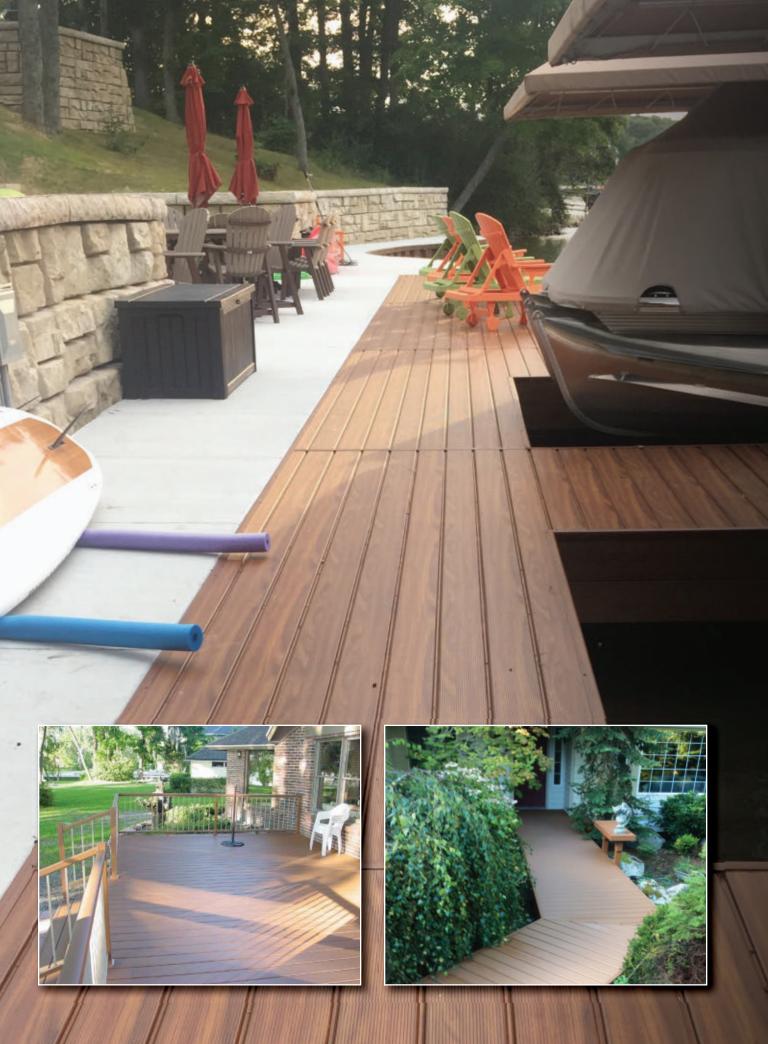


# WHAT WILL YOU CREATED



YOUR METAL-WORKING DIY HEADQUARTERS. SEE OUR NEW, UPGRADED LINE OF FORNEY WELDING AND PLASMA CUTTING MACHINES ALONG WITH OUR NEW SERIES OF AUTO-DARKENING WELDING HELMETS AT FORNEYIND.COM.





# Last-Deck and Last-Rail are the last deck and railing you will ever need.

Requiring no staining or sealing, just mild soap and water for cleaning. No warping, splitting, cracking, rotting, molding, lightweight and fire-resistant. Last Deck and Rail are available in a multitude of options allowing you to design your own luxury out-door space. Manufactured in the Midwest of all American made structural-grade aluminum – the same as an aircraft; Last Deck and Rail are built with high quality standards from our family to yours.

Last-Deck and Rail are available in 9 standard soft-touch colors and 7 sublimated "woodgrain" finishes.

Last-Deck customers have the freedom to mix and match railing, picket and deck board finishes; giving them the power of personal customization creating that amazing outdoor dream space all of their own.

Last-Deck is available in 3 different Series.

100 Series: If your deck is low to the ground with no need for a "dry space" below, to create a beautiful walkway or to refresh your lake dock or pontoon. The 100 Series is for you! With all of our planking weighing in at 1lb/ft. and easily cut with a standard carbide blade. The average install time of a deck is cut in half.

200 Series: Your desire is a "dry space" for storage or a patio beneath your deck. The 200 Series is your match. With the "watertight" 200 Series you are well on your way to the dream multilevel outdoor space or the "dry storage" space everyone has been needing.

300 Series: Your desire is a "dry space" that you may want to "change up" every once and awhile. With the "watertight" 300 Series individual planks can be replaced or changed without taking apart all the plank that come before it.



# www.lastdeck.com

information@lastdeck.com toll free: 866-527-8332





# BS PREVIEW

The 2017 Kitchen & Bath Industry
Show (KBIS) happens January 10-12
at the Orange County Convention
Center in Orlando, Florida. Held in conjunction with the National Kitchen and Bath
Association (NKBA), the convention is an interactive platform that showcases the latest industry products, trends and technologies. The voice of the kitchen and bath industry for 50 years, KBIS hosts hundreds of leading brands and thousands of new products. Here's a preview of some of the big names that will be exhibiting.

# WELLBORN CABINET'S HARMONY AND PRAIRIE SELECTIONS

Wellborn Cabinet's Harmony and Prairie selections bring even more design options to the company's Premier Series, which offers high fashion with dependable quality. The series offers 30,000 door styles, species and finish combinations, as well an extensive selection of stains and paints with glaze and finish technique options. Door overlay profiles come with Traditional, Transitional and Contemporary styling, with semi-custom offerings for more design flexibility. The wood species offered in the Prairie door style will be Cherry, Maple, Oak and Hickory. The Harmony door style wood species will offer Cherry and Maple. Visit www.wellborn.com or booth W1271.

# **EVOLUTION EXCEL GARBAGE DISPOSAL**

Nothing grinds more with less noise than the Evolution Excel garbage disposal from Insinkerator. It offers SoundSeal Technology that delivers ultraquiet performance allowing you to hold a conversation with normal voices in the same room. MultiGrind Technology delivers three stages of grind so you can stop worrying about what food you can put in your disposer.



The 1-horsepower Dura-Drive induction motor is engineered to specifications used for appliance motors, providing quiet operation and long life. The Jam-Sensor Circuit automatically increases torque to break through tough jams, and the Auto-Reverse grind system technology automatically reverses grind direction. Visit www.insinkerator.com or booth 1401.

# CLEARPATH CURBLESS SHOWER PAN SYSTEM

Fin Pan, Inc. has the ClearPath Curbless Shower Pan System, which provides an innovative way to construct a barrier-free shower entry that requires no structural modifications to the existing floor joists. It's designed to maintain independence in life while offering today's most fashionable designs,



and it works for both remodeling and new construction. The drain plate comes with an integrated drain assembly, and the water-proofing mat is pre-pitched for proper sloping. TI-ProBoard is a composite structural underlayment that offers the ability to install ClearPath directly on top of the floor joists. Visit www.finpan.com or booth S5835.

# KOHLER VEIL INTELLIGENT TOILET

Kohler's new Veil Intelligent toilet boasts sophisticated style,

an easy-to-cclean design and bidet technology in a sleek, contemporary fashion. Featuring clean, refined lines and a concealed tank, the Veil features an automatic opening/closing lid and flushing to minimize touch points, easing user concerns about spreading germs. The new Veil Intelligent toilet uses cuttingedge technology to integrate bidet functionality in a seamless manner. A stainless steel bidet wand offers warm water cleaning with adjustable spray shape, position, water pressure, temperature,



ABOVE GROUND TREATED JOISTS AND BEAMS REMAIN BUILDING CODE COMPLIANT FOR DECK CONSTRUCTION

# THE BEST CHOICE FOR ABOVE GROUND



Wood treated to meet the AWPA standards is third-party inspected and bears the CheckMark® of Quality on end tags.



Viance™ preservatives have been peer-reviewed and are listed in AWPA's Book of Standards and are reaffirmed every five years based on their approved use.



Above Ground wood treated to the AWPA standards remains IRC® and IBC® code compliant while using the appropriate amount of chemicals required to ensure performance.



Our Ecolife™ preservative contains a wood stabilizer designed to help treated wood stay straighter, with reduced checking and cracking.



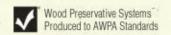
We stand behind our Above Ground treated wood with a Lifetime Limited Warranty.\*

# WE'VE ALWAYS BEEN STRAIGHT WITH YOU









pulsate, and oscillate functions for anterior and posterior positions. A soothing warm-air drying system with adjustable temperature settings provides additional comfort. The self-cleaning function uses UV light and electrolyzed water systems to sanitize the bidet wand surfaces. Visit www.kohler.com or booth W2000.

# PINNACLE CUSTOM CABINETS

Whether creating a door, sourcing a type of wood or fine-tuning a finish, the Pinnacle Series from Omega Cabinetry offers artisan craftsmanship built to exacting specifications. Pinnacle features over 128 modifications plus custom quoting for your perfect project. Change details on door profiles, center panels or even combine specifics from one door to another. Enjoy the luxurious beauty of natural-finish speciematched drawers and roll-out trays. When it comes to paint color selection, send the Pinnacle team a swatch. they'll match it and then send you a sample for approval. Visit www.omegacabinetry.com or booth W2171.

# MOEN KELSA FAUCET/SINK COMBO WITH QUICKMOUNT

The Kelsa pulldown faucet features a three-function spray wand that enables users to switch the water flow with just the push of a button. Constructed from sturdy 18-gauge stainless steel, the dual-mount sink can be installed as a top-mount or under-mount, depending on user preference and kitchen design. Its large size—33 by 22 inches—provides plenty of space for washing dishes. The 9-in. bowl depth easily accommodates tall pitchers or deep pots. Plus, Moen's new OuickMount installation hardware is an installer's dream come true. The innovative spiral shape keeps the hardware out of the









way when the sink is placed into the countertop. Then, it rotates itself into the correct position during tightening. No additional tools are required to complete installation. The hardware tightens quickly and easily under the sink with the included Moen installation tool. The new mounting stud accommodates a wide variety of countertop depths and materials. Visit www.moen.com or booth W2155.

### **AVALON SOAKING TUB**

With its perfectly curved form and deep interior, the Avalon NativeStone concrete bathtub provides beauty and optimum comfort. The Avalon's thick walls provide insulation to ensure a hot, deep, relaxing soak that will last. It is handcrafted of a breakthrough combination of natural jute fiber and cement known as NativeStone, making the tub much lighter than expected. Artisans hand-form, polish, finish and seal each individual



tub using contemporary craft techniques. The Avalon is available in 62- and 72-in. sizes and in three finishes: Ash, Slate and Pearl. Visit www.nativetrails.net or booth S5677.

# REV-A-SHELF FOOD STORAGE CONTAINER ORGANIZER

These new organizers feature sturdy dovetail construction, stylish chrome accents and Blumotion Soft-Close Slides. The adjustable dividers and pegboard allow limitless customization to fit your container needs. Available for 18- and 24-in. base cabinets, the new Food Storage Container Organizers let you reclaim your cabinet space. Visit rev-a-shelf.com or booth W1071.





# SCOTSMAN ESSENTIAL ICE MAKERS

Scotsman Ice Systems'
Essential line of ice machines are
15- or 20-in. wide, 38-in. tall and
24-in. deep. With 6-in. adjustable
legs they have the ability to fit
under 34-in. countertops with
an optional floor-mount kit. The
Essential line is easy to use with



its built-in sliding back door to conserve space and allow easy access to the ice bin. The machines have an ample access area complete with a large dishwasher-safe scoop to make it easy to reach the ice. Additionally, an intuitive control panel features a prominent on/off/clean switch and easy-to-see buttons to adjust ice thickness and harvest time. Visit www.scotsman-ice.com or booth S5617.

# VIKING PROFESSIONAL TURBOCHEF OVEN

The Viking Professional
TurboChef 30-in. wide Double
Oven is the fastest residential
oven in the world. Using patented
Airspeed Technology, the oven
prepares meals up to 15 times
faster than conventional methods.
The bottom oven features nine
cook modes: Bake, Roast, Broil,



Convection Bake and Roast, High and Low Broil, Warm and Proof, plus a probe. The top oven features seven "speed cook" modes: Bake, Roast, Broil, Air-Crisp, Toast, Dehydrate, and Favorites for fast a versatile performance. The oven has an easy-to-use display, a selfcleaning mode, and features more than 500 predetermined cooking modes pre-programmed to automatically determine cook time and temperature in the top oven, taking the guess work out of cooking. Visit www.vikingrange.com or booth W805.

# DACOR DISTINCTIVE COUNTER-DEPTH REFRIGERATOR

The Dacor Distinctive 36-in. Counter-Depth Refrigerator was designed with features specific to the needs of the homeowner who enjoys hosting guests. This Energy Star-certified refrigerator can produce 11 pounds of ice per day—the largest ice capacity for any refrigerator in its class. It offers 22 cubic feet of storage space in an elegant French door configuration. The refrigerator's

crisper drawers come complete with humidity control that extends the life of fruits and vegetables, along with blue-light technology that promotes photosynthesis to keep food fresher longer. This refrigerator incorporates Dacor's IonFresh technology which eliminates airborne bacteria and odor forming molecules by producing natural negative ions. Other notable features include an internal water dispenser, column LED lighting and an anti-fingerprint finish to keep the exterior bright and smudge-free. Visit www.dacor.com or booth W1581. EHT





# ONE-PIECE TOILETS

Sleek designs, easy-to-clean exteriors and small-space-friendly features are three reasons why today's homeowners are becoming more interested in one-piece toilets.

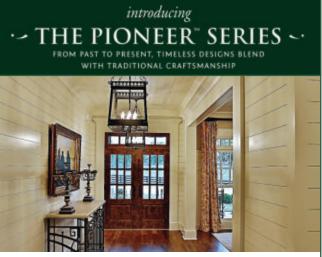
"For homeowners with a small bathroom a one-piece toilet can be an advantage," says Adriana Miller, product manager for Mansfield Plumbing. "And, you don't sacrifice style with a one-piece toilet. Because the tank and toilet bowl are molded as one piece, there's almost a sleek, modern aspect to the style of many one-piece toilets."

The seamless transition between the base and the tank has another advantage: easy cleaning. "There are no nooks or joint areas where dirt can hide," says Miller. "This makes exterior cleaning quicker and easier for homeowners. Another advantage is that installation generally goes faster for a one-piece toilet, since a plumber does not have to maneuver and secure the toilet bowl and then do the same for the toilet tank."

Mansfield Plumbing offers one-piece toilets in the Aegean style featuring an elongated front toilet bowl, a color-match SmartClose toilet seat, and low water consumption. They include high-performance MagnaFlush flushing technology, and a side-mount, chrome-plated metal trip lever handle complements the sleek design. Visit www.mansfieldplumbing.com or call 877-850-3060.







If you've watched any home design or remodeling show in the last year, you know that Shiplap is making a comeback for interior walls. From Craftsman to farm house to modern, the clean lines of Shiplap are in demand by home owners and designers across the country. Pacific MDF Products, Inc. has taken Shiplap to a new level with our Pioneer Series Interior MDF Wall Boards. People can now get the traditional Shiplap look without the worry of filling knots, priming, and trying to install warped boards. Our MDF Shiplap is already primed, and ready to install and finish. With our precision sizing, once you place your first run on the wall, the rest of the pieces are easy going. The 16 foot length of the boards also makes it easy to install over long walls which are popular with open concept living areas today. Ease of installation, pre-primed for time and cost savings, and consistency of product

make Pac Trim's Shiplap Interior MDF Wall Boards popular with building professionals.

# www.pactrim.com

Photo Courtesy of Simply Irresistible Photography





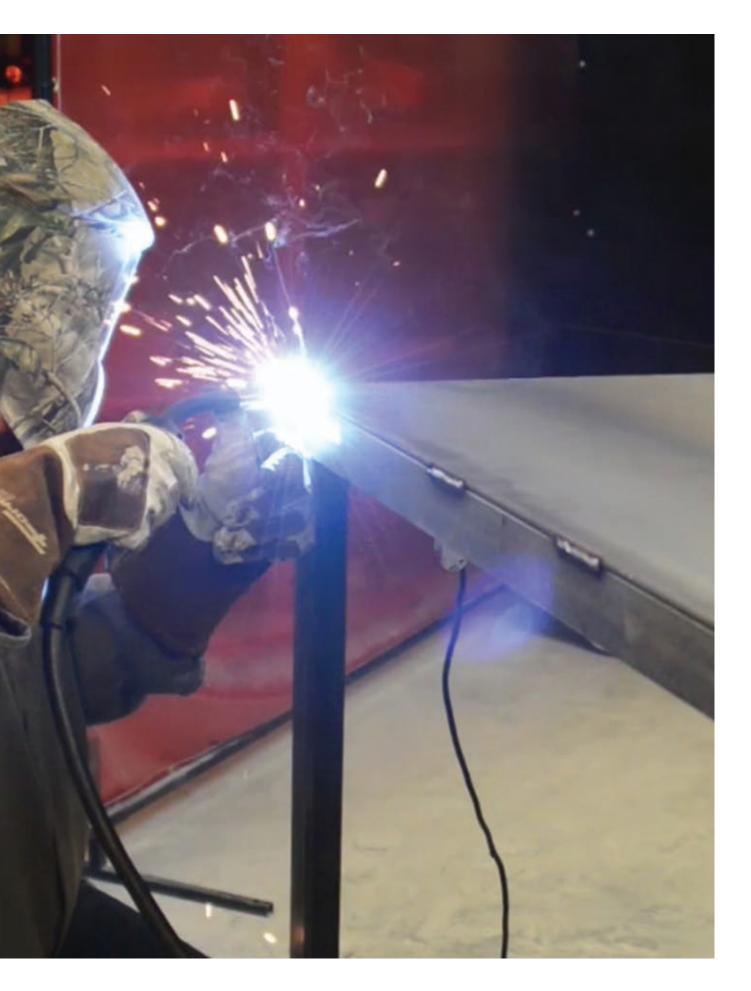
# SIMPLE SIMPLE WELDS PROJECTS

By Blair Weilnau

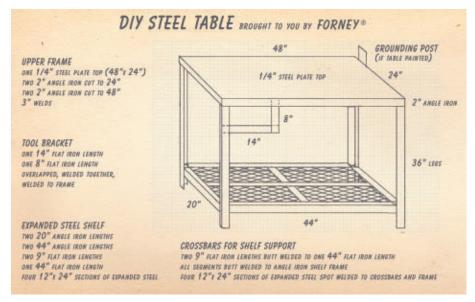
welding machine offers endless possibilities to your DIY needs, without being a burden on your wallet. Does your broken lawnmower need repair? Do you need to fix your metal trellis or gate? Would you like to build your own smoker or fire pit? Not only can you repair broken equipment but also be able to design and create your own sculptures, garden art or furniture pieces that will last a lifetime.

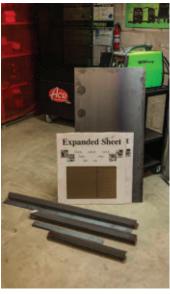
In addition to the basics, every welder needs a welding table to help them get started. It's an essential piece of being a successful welder and offers many benefits. A metal table allows you to easily ground your work and is sturdy enough to handle the toughest welding jobs – plus, it's easy to make on your own.

Here at Forney Industries, we needed a new welding table for our service area. We began by sketching out our metal table idea. We decided our table would be 3-feet tall, by 4-feet long and 2-feet wide.



# SIMPLE SIMPLE WELDS PROJECTS





### **TOOLS & MATERIALS**

We gathered all the tools needed for this project which included:

- 190 MP welding machine (in the 2T trigger mode, MIG option, CAT# 324)
- .030-in. MIG wire (CAT# 42286),
- 700 P plasma cutter (CAT# 303) or a reciprocating saw
- expanded metal (CAT# 49613)
- 2-in. wide and 1/4-in. thick steel (angle iron and flat iron)
  - 1/4-in. thick steel plate
- angle grinder with grinding and cutting discs
  - · chop saw
  - · heavy-duty magnets
  - · C-clamps
- welding helmet, safety glasses, welding gloves and fire-resistant jacket/apron.

### **PROJECT PREP**

Safety is paramount. Please remember your eye protection or welding helmet when grinding, cutting or welding. Also, a fire-resistant jacket or apron should be worn to protect your clothes and body along with work gloves and welding gloves when appropriate.

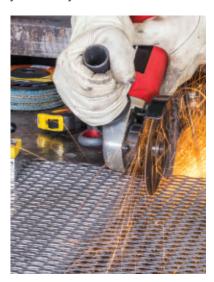
The first step is to cut all angle iron, flat iron and expanded metal to your desired length. We started with the frame of the tabletop. Using our Forney 700 P plasma cutter, we cut angle iron into two 4-ft. pieces for the length and two



2-ft. pieces for the width. Next, we cut the angle iron into four 3-ft. pieces for the legs.

The expanded metal will be used for the bottom shelf. We started with a 24-by-24-in. piece and cut it in half. Each 12-by-24-in. piece will fit a quarter of the bottom shelf and will be supported with flat iron. Using an angle grinder with a Type 27 cut-off wheel (Forney CAT# 71801), cut through the expanded metal.

**Pro tip**—Use a clamp or heavyduty magnet to help hold the expanded metal in place while you make your cuts.









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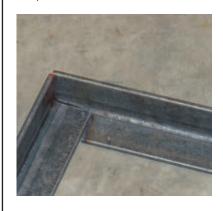
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# SIMPLE SIMPLE WELDS PROJECTS





On the two 2-ft. pieces of angle iron for the table top frame, cut out a section of the corners so the 4-ft. pieces of angle iron can rest inside of it. You will eventually weld these pieces together. We used a reciprocating saw to cut these small pieces. Grind down the edges if they don't match up; you want them to fit flush together. Remember to square up these pieces and ensure they create a 90-deg. angle; this will help the table maintain its rectangular shape.



If you notice that the edges don't meet exactly, grind them down rather than re-cutting. Grinding is easier and will help you get a snug fit. If you have a large piece that needs to be removed, revert back to your plasma cutter or reciprocating saw.



Arrange your pieces on the ground and make sure everything lines up and fits together well. We took measurements at this point to make sure the top was square and even, as this is the foundation for the rest of the table.

Cut the flat steel pieces for the shelf. One piece should be 4-ft. in







length and there should be two 1-ft. pieces. We used a chop saw with a 14-in. Type 1 cutting wheel (Forney CAT# 71874) to cut the flat steel.

Get your machine ready to weld. The machine we used was a 190 multi-processor unit (CAT# 324). We set the machine to 45 amps, 19.2 volts and put it in 2T trigger mode. We used .030-in. MIG wire (CAT# 42286).

# STEP-BY-STEP ASSEMBLY

To begin, you're going to weld the frame of the top piece together. Ground your clamp to the workpiece. This ensures the welder is ready to strike an arc. Use tack welds to secure your pieces together. Tack welding temporarily holds the pieces together.



Start by welding along the edges/corners. Once you confirm the frame is square and even, seal up the rest of the gaps.

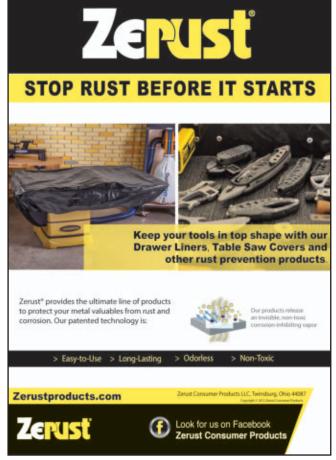


Next, weld the legs onto the frame (four 3-foot pieces of angle iron). We put the tabletop frame on a flat surface and used heavy-duty magnets to keep the legs in place. If you don't have heavy-duty magnets, use C-clamps. The benefits of using heavy-duty magnets are that they offer a stronger hold while C-clamps can get in the way or move

if you accidentally bump them. Complete one leg at a time and don't try to secure all legs at once. We used a level to make sure the legs sat flush to the frame and used tack welds to secure the legs in place. Weld the legs in place after leveling and tack welding is complete.



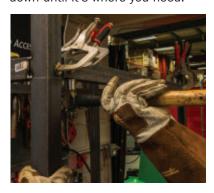




# SIMPLE SIMPLE WELDS PROJECTS

Next, add a bottom shelf to hold welders, tools, cords, etc. The shelf will be made from expanded metal, and the shelf frame will be made from angle iron. The cut angle iron measures 2-in. wide by 20-in. long and is 1/4-in. thick. We used C-clamps to hold the angle iron 9 inches from the bottom. We leveled the pieces and tack welded them to the legs.

**Pro tip—**If your shelf isn't level, instead of taking off the clamps and repositioning, try using a hammer to move the metal up or down until it's where you need.



After securing the shelf frame with tack welds, move the table to the floor and begin welding. Moving the table to the floor will give you more space to complete your welds.

Pro tip—We used a ratchet strap to help square the table and to close the gap between the legs and shelf. When welding, the heat can easily move your pieces; a ratchet strap will help keep everything in place and pull the legs together.



Add support cross bars for the shelf with flat steel (one 4-ft. piece and two 1-ft. pieces). Use a C-clamp to hold them in place, tack weld each side and secure the pieces to the shelf frame.

Take each 12-by-24-in. piece of expanded metal and spot weld it to the angle iron and flat iron pieces. A spot weld is more secure than a tack weld and is sufficient enough to fuse metal together for prolonged use. Spot welding will also help prevent



burn-through, which is caused by applying too much heat and burning a hole or gap in the metal. If you try to run a long bead, the expanded metal will get too hot. Spot weld the expanded metal on the bottom side of the table for a cleaner look. Use a metal weight or a heavy object to add pressure to the expanded metal so it's easier to spot weld.

**Pro tip—**Since you're welding on 1/4-in. steel, always start your welds on the 1/2-in. angle iron to prevent burn-through and work your puddle up.



We wanted to add a 90-deg. angle below the tabletop frame so we can hang our angle grinders. We measured one 14-in. piece and one 8-in. piece of 2-in. wide

# **GET INTO WELDING**

Learning to weld is relatively simple and inexpensive with the right equipment and gear. Start by choosing the best welding machine to suit your needs and invest in the proper personal protective equipment (PPE). Suitable PPE includes: a welding helmet, fire-resistant coverings, welding gloves and safety glasses. You will also need the correct filler metal, which refers to electrodes or wire depending on your machine. A few nice additions that will help clean up your welding projects are: wire brush, slag hammer, angle grinder and flap discs. Also, MIG pliers, C-clamps and heavy-duty magnets are helpful.

Implementing the fundamentals is easy by watching online tutorials and/or taking welding classes at your local community college.

Alternatively, if you know someone in the welding profession, spend some time with them to learn the basics. You can learn a lot about welding in a few hours. Then, with some practice, you will be welding in no time.

For beginners or the DIY enthusiast, you can get into welding for approximately \$300; for the more advanced DIY or farmer/rancher welder, you can spend closer to \$1,000. The possibilities are endless with the right welding equipment and your creativity.



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# SIMPLE SIMPLE WELDS PROJECTS

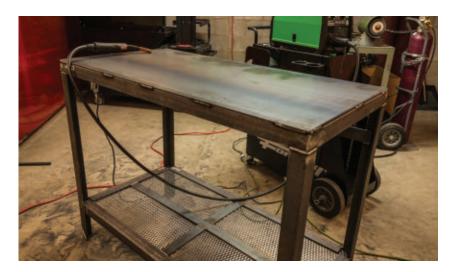
flat steel, clamped them in place with a C-clamp and welded them to the angle iron.



Finally, get ready to assemble the 1/4-in. steel plate to the top frame. You're going to clean and prep the steel plate with denatured alcohol to ensure a cleaner, more structurally sound weld. Using an angle grinder with a grinding wheel (CAT# 71987), grind down the welds that are on top of the frame to ensure the steel plate will sit flush.



Line up the steel plate and fuse it to the frame with 3-in. welds across the edges. Doing smaller 3-in. welds will keep the table aligned and prevent warping. If you do a continuous line, the heat will warp the table and you will end up with an uneven base. You can leave the 3-in. welds as is, or go back and fill in the gaps. You can also grind down the



edges or leave them to display your great work.

Finally, add a post to the edge of your table so you can easily ground your future workpieces.



If you decide to paint your table, however, remember do not paint the ground post. Painted metal will not ground.

Finish the table with paint or by polishing the table top to get the customized look you desire. The final result will be a working, sturdy table that will not only hold and store your welder and welding supplies, but assist you with future welding projects. **EHT** 

**Editor's note:** Blair Weilnau is copywriter at Forney Industries.



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# The War on Winter



By Tom Matthews

hen the temperature drops and cold weather rolls in, it's time to prepare your home for winter inside and out. Sealing off air leaks and installing adequate insulation are two of the most effective ways to save energy,

# **SEARCH FOR LEAKS**

Whether through walls, floors, the ceiling or ductwork, air leaks represent money out the window. In cold weather, warm air rises into the attic of the home. As it enters the attic, it leaves the living space, which you're paying to heat. It also pulls in cold outdoor air from other cracks and crevices in the home, around doors and windows, and through the basement. In essence, these leaks create a vicious cycle that can drain away energy and

money. Inspect your home carefully for any leaks, which can be difficult to find when hidden beneath insulation. Some common problem areas include the attic hatch, plumbing vents, wiring holes, recessed lights and the soffit boxes that contain them.

A simple way to check for air leaks is to use a burning candle. On a cool, windy day, close all doors and windows and turn off the furnace. Turn on all the vent fans in the house to encourage the leaks. Move the lit candle around the edges of doors and windows. Look for the smoke to flutter or the flame to flicker, which indicates a leak.

Test the rooms' temperature. If temperatures differ more than 1 or 2 degrees in various areas of a room, it may be poorly sealed.

A quality caulk/sealant is your go-to product for sealing small gaps on finished surfaces. Use caulk/sealant at all areas of the home home that don't move, and use weather-stripping on the movable parts (i.e., doors and window sashes).

Apply weather-stripping and/or caulking as necessary, then retake the temperatures. (If the differences persist, you may have an HVAC airflow problem.)

Certain spots in the home are particularly vulnerable to air leaks. Check round the furnace flue or the duct chaseway (the box that hides the ducts) for leaks. Next, investigate indoor areas including heating and dryer vent penetrations, gaping baseboards and cracks along sill plates and floorto-wall junctions. On the outside, look for leaks at the bottom of siding edges where they meet the foundation, along garage ceiling and wall joints, and all electric, gas and A/C penetrations. Also examine the basement rim joists and all windows and doors.

Consider investing in an infrared thermometer for a DIY home energy audit. For as little as a hundred bucks, handheld lasersighted tools can help detect energy loss around doors and windows, insulation, ductwork and other areas throughout the home.

### FILL THE GAPS

Once you've pinpointed air leaks, close them off. Use caulking between nonmoving parts of the home with caulking/sealant. You can use a wide variety of products,

# SERIOUS LEAK PREVENTION















# **PROJECT NEXT**

such as caulk with foam backer rods (for large gaps), as well as silicone-, water-, or rubber-based sealants.

The easiest way to parse the many options in caulks/sealants is

to pay close attention to the indications on the packaging, making sure they match the job at hand. Whether the product is flexible, waterproof, paintable, or contains a mildewcide additive, all features should be listed prominently on the label, and you generally get what you pay for.

Another popular sealant is spray-in expandable foam, which comes in an aerosol can. It's important to select the right insulating foam for the job; too much expansion in the wrong place can



Expanding foam is a popular sealant for unfinished areas of the home that will be covered with trim.

put unwanted stress on the construction. Use the "no warp" formula of expandable foam around windows and doors.

Seal leaks between moving parts of the home with various types of weather-stripping:

Compression Strips include open- and closed-cell foam or rubber tapes, as well as tubular strips. The open-cell tape will give you a quick fix until you can properly measure and fit a permament solution. Closed-cell tapes allow you to correctly size the gap you are working with and are more durable for doors and windows that are used often. Use where there is a pressure stress: along the bottom of vertical sliding windows, around attic hatches or on hinged windows and doors.

Tension Strips made of spring vinyl or spring metal are used in similar applications as compression strips. The spring mechanism





Thresholds attach to the floor to seal the gap beneath a door, and some can fill a gap up to 1-3/8".

adapts to long unequal distances from the weather-strip to the door or window.

Combination Types include spring-loaded, self-adjusting strips or magnetic strip systems, which are both effective for doors and hinged windows.

Door Sweeps, Bottoms and Thresholds seal the gap between the door and the floor. Sweeps and bottoms are often made of vinyl or rubber and attach to the bottom of a door. Thresholds attach to the floor, require clearance beneath the door, and include a vinyl or rubber strip for an excellent draft seal.

# **ELSEWHERE AROUND THE HOUSE**

Your local hardware store or home center is likely stocked with a number of specialty sealer products for areas of the home that often go overlooked. When giving your house its annual physical exam, don't forget these crucial areas.

Windows. Ideally, your home should have doublepane and low-emissivity coated window glass. You can also insulate your windows using heat-shrink plastic insulation. One option for wooden-frame windows is to cover the

outside with heavy plastic to reduce cold air infiltration. Staple the sheeting over the outside, leaving a 4-inch overhang at the perimeter. Secure the edges with wooden furring strips, fasten to the outside window frame, then trim off the excess plastic.

**HVAC.** Have an HVAC technician do a full inspection of your furnace for proper performance. If the furnace is made of old-fashioned



### **PROJECT NEXT**

sheet metal ductwork, consider replacing it with insulated ducts, including the plenum. If you use propane or heating oil, ensure that the tank has been filled. Use an insulated air-conditioner cover over window units to do the same.

**Outlets.** Consider using fitted foam gaskets around electrical outlets (behind the switch-plates)



Use fitted foam gaskets to stop airflow behind electrical switch-plates—a commonly overlooked area of the building envelope.

to prevent air transfer. This is a commonly overlooked gap because it's hidden from view.

**Plumbing.** Insulate outdoor hose bibs and exposed plumbing, including those in unheated crawlspaces. If you go on a winter vacation, leave your heat set to at least 50 degrees Fahrenheit so pipes don't freeze.

Gutter and Roof. Replace worn or damaged roof shingles or flashing, and clean out the gutters to prevent ice dams. An ice dam is a ridge of ice that forms at the edge of a roof and stops melting snow from draining. This causes backed-up water to leak into the home. Clean your gutters to ensure proper drainage, and install gutter covers to prevent debris accumulation. Proper attic ventilation also removes heat and keeps the roof deck evenly cool to prevent uneven melting of the ice.

Chimneys. Have a pro chimney sweep inspect, clean, and repair any fireplaces, flues, or wood stoves. Add chimney or flue caps to keep out birds and pests. Tuckpoint or repair any loose masonry, and make sure the dampers work on fireplaces and stoves.

**Attic.** Inspect the attic for evidence that the weather seal of the house has been broken.



Check for any wet or damp insulation and moldy, rotted attic rafters or ceiling joists, any of which could indicate a leaky roof. Address any problems before they can worsen.

Basement/Foundation. Install covers over the crawlspace ventilation openings. Cover basement windows with plastic shields. Rake leaves and debris away from the foundation. Seal foundation cracks and other openings to keep out mice and other pests.



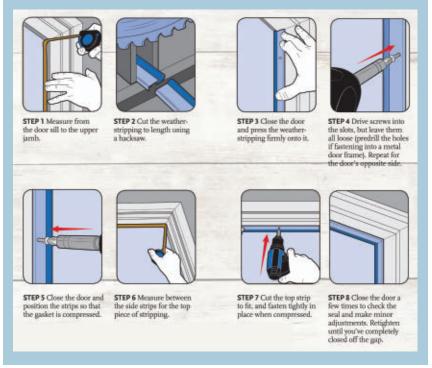
Covers for attic doors and window air conditioners can reduce drafts during winter.

### SEAL LEAKY DOORWAYS

Even the most energy-efficient HVAC systems can still cost plenty if warm or cool air is wasted through leaky doors. As a house settles over time, door frames often shift, creating a gap around the perimeter. A general rule of thumb: If you can see light between the closed door and the jamb, you have a problem. If this happens to a door leading outdoors or to an unconditioned living space, it equates to leaving a window cracked. The solution here is to install a simple weather-stripping kit.

One of the best types for doors has a rigid aluminum bar along with a soft rubber gasket, called a bulb. The bulb compresses against the closed door to prevent the passage of air and moisture. The kits are usually sold with three pieces—one for the top and two for the door sides (screws included). The pieces often come in standard door heights, but any of the three components can be trimmed to size.

The only tools you'll need are a drill/driver, measuring tape and a hack saw.





### **PROJECT NEXT**

#### **KEEP PESTS AWAY**

Some pests disappear during winter, but not all. In fact, cold, wet or snowy weather is likely to drive pests to seek the warmth and shelter of the indoors. Sealing your home will go a long way toward keeping them outside. Eliminating conditions in your home that appeal to pests, such as open food containers, will also help reduce the attraction. Sink and floor drains often accumulate gunk that can attract pests and provide an ideal breeding site, especially for small flies, so clean and disinfect these areas. Store recyclables outside and away from your home and make sure all containers are thoroughly rinsed and have tight-fitting lids.



To reduce flying bugs around doors and windows, replace standard mercury vapor lights with high-pressure sodium vapor or halogen lights. Bulbs that have pink, yellow or orange tints are less attractive to flying insects.

The EHT staff periodically sprays our homes with the same household insect repellents commonly available at homes stores. In many cases, the insecticide is the same chemical used by professionals, although professionals occasionally rotate use of different products on the same property to reduce the likelihood that pests will develop a tolerance to a particular type.

Before applying any spray pesticide treatment, send kids and pets outside to play or to another room in the house. Apply the product along baseboard areas, around doors and windows,

Seal your home not just from cold weather but from pests also. Radarcan offers an electronic pest repeller that wards off mice and cockroaches by emitting ultrasound waves.

and to any problem areas. Allow it to completely dry before returning to the treated area. Some products, such as foggers, require you to leave your home altogether.

If you aren't comfortable with the chemical pollutants of pesticide, then consider one of the newer electronic pest repellers. Companies such as Radarcan offer a variety of repellers that emit ultrasound waves that are unbearable to pests such as mice and cockroaches, driving them away from the area for hundreds of square feet. It eliminates the need to set and empty mousetraps and provides an alternative solution for allergy sufferers or people with respiratory problems. **EHT** 



## SEAL ALL GAPS WHILE YOU CAN

A friend of the *EHT* staff, Keith Lively, contracted construction of a new house and decided to do much of the work himself. One night after the house was framed and the sheathing installed, he noticed something as the sun set: light. Lots of light shone throughout the house framing and sheathing panels. Anywhere light can



pass, so can unconditioned air, so Lively took the opportunity to seal his new house before the insulation and drywall were ever installed. Every pipe, seam and joint got a dose of caulk/sealant or expandable foam to keep air transfer low and energy bills to a minimum. If you ever build a home, or add a wing to your existing one, you should do the same and seal all the gaps while you can reach them.



# AIR SEALING THE "CRITICAL SEAL"

Air-sealing your attic floor (the "critical seal") is an important step in winterizing your homemore important than replacing your windows or adding more fiberglass. The reason is that heat rises, finds all the cracks and holes in your ceiling, and escapes into your attic. This accounts for roughly 40 percent of heat lost by a building





in the winter months. Air escapes through recessed lights, electrical wire penetrations, holes around pipes, air ducts/registers/boots, attic hatches, top plates and more. Fiberglass insulation alone will not stop this air movement, as evidenced by the dirt that accumulates in insulation around holes in your ceiling (the fiberglass acts like a filter). Stand-alone, expanding spray foam kits such as the FOAM605 kit or FOAM105 kit from Energy Efficient Solutions provide a true air seal, give twice the R-value per inch than traditional insulation, and expand to fill all of the cracks and crevices. Learn more at www.energyefficientsolutions.com.



Order online at Amazon.com. Walmart.com. Target.com or pick up a copy at **Barnes & Noble. Books-A-Million**, Lowe's Home **Improvement Stores** and many other fine book retailers.

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### **Snow Guards for the Roof**



hould you install snow guards for your existing roof? If snow accumulation is a problem in your area, it's never too late to add them. Snow guards can help stop the "movement" of a snow avalanche from coming off your roof all at one time. They help break up the melting snow so it comes off in smaller amounts.

Snow guards don't have to be intrusive on your roof. Companies such as Rocky Mountain Snow Guards offer a variety of options that look good and work effectively. The company works with customers to determine snow load and retention, how many snow guards to specify and at which locations. Rocky Mountain Snow Guards, which manufacturers the snow guards used on

many DaVinci Roofscapes roofing projects, offers the following tips for retrofitting the SnowTrapper ST 11 snow guards.

Step #1 - Contact the snow guard manufacturer to work with them to gain a recommended layout and pattern for the specific roofing project you're working on. This will be based on several factors including the pitch of the roof, the geographic location and specific areas of the property that the homeowner wishes to protect from snow avalanches.

**Step #2** - Follow the layout pattern closely when retrofitting the snow guards.

**Step #3** – Installation methods may vary based on roofing material.

When installing the snow guards in a DaVinci shake or slate roof, there should be at least 6 inches of spacing between the snow guard pad face itself and the butt of the course above.

**Step #4** - Mark the location of each snow guard and then apply an appropriate sealant, like one part urethane sealant or thermoplastic sealant.

**Step #5** - Slide the snow guard up and under the course above and press it into place over the sealant.

Step #6 - Attach the snow guard with two fasteners into the strap in an offset pattern approximately 1-1/2 inches above the pad face, spaced 1 inch apart. Rocky



Mountain Snow Guards recommends the Woodbinder Eclipse 10 x 2.5 for this step.

Consider using snow guards located over key walkways, entry areas of the home, and landscaping elements to prevent a snow mass from "avalanching down" where it can damage property or pose a danger to people. **EHT** 

Learn more about snow guards at www.rockymountainsnowguards.com and check out DaVinci synthetic roof tiles at www.davinciroofscapes.com.





# PRODUCTS



#### HARDCORE SURVIVALIST HATCHET

Hardcore Hammer's pinnacle of hatchet design is the Hardcore Survivalist Hatchet. It's made from top quality 4140 tool steel (AKA "Ordnance steel" because it's commonly used for making breech and barrel parts for guns and cannons) for both toughness and edge retention, and ground to within a +/-.005-in. tolerance. The curved blade is designed for both optimal cutting and splitting wood. There's also a nail/tent-stake puller, and the hammer end (of course) has the company's patented recessed striking face. At 19 oz. on an 18-in. handle, it's perfectly balanced for any job, whether it's pounding nails, chopping and splitting firewood, or fending off the impending zombie apocalypse (now an official Kansas preparedness policy). This premium hatchet cuts like a full-size axe yet is small enough to fit in a backpack. It comes with a top quality custom fitted leather sheath. Visit www.hardcorehammers.com.

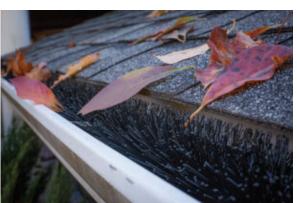
#### DICKIES PRO OUTERWEAR

The Dickies Pro integrated outerwear system provides customized protection for working in extreme weather conditions. The interior lining and outer shell can be worn separately or zipped together for the most thermal regulation. The Dickies Pro Jasper Extreme Coat (#BJCO1) is waterproof and breathable with 10k/10k lamination, including sealed and triple needle-reinforced seams. It comes with a removable, adjustable hood and an interior fleece collar with chafe-resistant neck guard. The Dickies Pro Glacier Extreme Puffer (#BJJO3) is made of 100-percent nylon taffeta with 4 oz. Thinsulate insulation to provide exceptional warmth without the bulk—plus it has components for attaching to the Jasper Extreme Coat. The Dickies Pro Frost Extreme Fleece is also an available option.



#### **GUTTERBRUSH**

Each year clogged gutters cause thousands of dollars in damage, including wet basements, cracked foundations, rotting fascia boards, ice dams, mold, etc. In addition to home damage, more than 90,000 people per year are admitted to the Emergency Room after falling from a ladder. Keeping your gutters flowing and keeping you off that dangerous ladder is good for your wallet and your health. Made in the USA, GutterBrush a simple, effective solution you can install yourself. This simple DIY leaf guard is a large



cylinder-shaped brush that fills rain gutters and protects them

year-round. It prevents buildup of leaves and debris while allowing water to flow. No tools are needed; just slide the 3-ft. sections end to end into the gutter channel and leave them there. At approximately \$3 per ft., GutterBrush costs much less than most gutter covers or screens and saves money vs. paying for regular gutter cleaning. Visit www.gutterbrush.com.

GutterBrush

#### **TUFFTALK EARMUFFS**

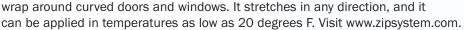
For the pros, the new Tufftalk Earmuffs are engineered with Sena Technologies's almost two decades of industrial wireless Bluetooth expertise. Tufftalk is a Bluetooth communication and intercom headset designed to meet the communication and connectivity needs of industrial applications. It sports the furthest working Bluetooth range of any product on the market today (1.4 km). Sturdy design and tough manufacturing offers up to 15 hours of uninterrupted intercom communication between up to four headsets. Coupled with its seamless compatibility with other Bluetooth and two-way radio devices, including Sena SR10i which allows for wireless two-way radio communication, Tufftalk far outpaces the competition. In rough and loud environments, safety is key, and Tufftalk's secure earmuffs help protect users from harmful noise with an audio attenuation of 24dB. The ambient mode allows users to amplify external sounds, generating



greater awareness of surroundings so important alarms or calls can be heard while still protecting hearing. And for more active applications, Tufftalk offers an optional hard hat mount package. Equipped with HD quality speakers, Tufftalk delivers crystal clear audio that mobile workers need to stay safe on busy and noisy worksites. Visit www.sena.com.

#### ZIP SYSTEM STRETCH TAPE

ZIP System Stretch Tape easily stretches to fit sills, curves and corners with a single piece without having to piece together tape segments. This avoids seams or joints. Made of a high-performance composite acrylic, the tape conforms to challenging applications and locks out moisture even over mismatched surfaces. And ZIP System Stretch Tape can be pulled up and reapplied for hassle-free installation, providing a tight, energy-efficient seal in no time. Use it to cover sills for window installation, close gaps around wall penetrations, seal sheathing joints,





#### **DEWALT DWF83PT FRAMING NAILER**



DeWalt has a nice new 30-deg. pneumatic framing nailer that has a compact and lightweight (8.1 lbs.) design plus a new engine designed to dampen recoil for smoother operation. The low recoil helps increase user control, reduce fatigue and allow for more comfortable use. This paper tape-collated framer has an industrial-grade design to with-stand harsh jobsite conditions, offer better drive quality and prevent jams. Included are standard tool-free features such as an adjustable rafter hook, depth-adjustment and a selectable trigger for bump or sequential firing mode. Visit www.dewalt.com.

# Signs of a Blown Head Gasket

One of the best ways to figure out what is going on with your car is to know how it normally operates so you can tell when something has gone awry. Most of the time while we're driving we're so distracted by the radio, the scenery or even worse our cell phones, that we can often overlook our vehicle's cry for help. Getting used to the way your car sounds, feels and looks normally can be the best way to help you detect the early symptoms of a problem so you can repair it before it leaves you stranded or does even more damage to your vehicle.

Every week or so, it would be a good idea to turn off your radio and really focus on the feedback your car is giving you. You should start this exercise from the moment you jump in your vehicle, even before you start the engine. Look for anything unusual around or under your car. Are there any puddles or drips under your vehicle? Are there any new scratches, dings or dents you don't remember? Is anything discolored, are your tires pudgy or getting cracked or have low tread depth? Observing all these things can help you catch problems early.

Also, pay attention to when you start your engine. Does it start easily? Does it make any funny noises or smells? Do any warning lights on your dash board stay on after the engine is running? Lastly, during your drive listen for the same types of things. Are there any clunks, rattles, whines, or grinding sounds? If so when do they happen? Does your car accelerate, brake and corner smoothly? Keeping an eye on these types of things can help you make sure your car is in great shape and help you catch a warning sign early.

Some of the signs you may be looking for, especially if your car model is prone to blown head gaskets, or you happen to have a lot of miles on your car, are the signs of a blown head gasket. Blown Head Gaskets can cause your vehicle to do some very strange things and give confusing symptoms, so we'll list the symptoms here so you can identify your problem early.

Signs of a Blown Head Gasket:

- · White smoke from the tail pipe
- . Bubbles or exhaust gas in your radiator
- · Coolant flowing out of your coolant reservoir
- White milky substance in your engine oil or around your oil cap
- · Loss of power
- · Overheating engine
- Coolant leak from between your engine block and cylinder head

Your head gasket serves as a seal between your engine block and cylinder head. It keeps the combustion gases in the combustion chamber while keeping the coolant in the water jacket. A blown head gasket will allow coolant to leak into the combustion chamber, or externally, or could allow combustion gases into the cooling passages.

If coolant leaks into the combustion chamber it will come out of your tail pipe as white smoke. It can also seep past your piston rings while your engine is off and contaminate your oil causing a milky white color. When your engine is running, the high pressures in your combustion chamber can push exhaust gases into the cooling passages causing coolant to bubble in the radiator and pressures to get so high that coolant will actually be forced out of the coolant reservoir.

If you are experiencing any of these symptoms within a few minutes of starting your vehicle's engine, there is a good chance you have a blown head gasket.

The good news is if you're paying attention to these symptoms and catch them early, you often can seal your head gasket leak without having to replace the head gasket. BlueDevil Head Gasket Sealer is a powerful formula that can seal head gasket leaks even in vehicles with very large cooling capacities like V8 engines and truck engines. BlueDevil Head Gasket Sealer is easy to use and can quickly and easily seal your head gasket leak.





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# RELAX. IT'S ONLY HARD WHEN IT DRIES.

Don't worry, you've got this. Because when you add confidence to the mix, success is sure to follow. We ought to know – after all, Sakrete has been helping do-it-yourselfers pour their hearts into projects large and small since 1936. Consistently providing top-of-the-line bagged concrete and other quality products has made us the brand homeowners trust to turn inspired ideas into enduring results.



# Roofing Nails



- ★ MAZE double hot-dipped galvanized ring shank roofing nails are Miami-Dade County Approved!
- MAZE roofing nails are available in hand drive and coils for easy application!
- MAZE roofing nails are available in both double hot-dipped galvanized and stainless steel!



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