

# Fireplaces in Porches



## Installing a prefab firebox can extend your clients' outdoor-living season without breaking their budget

by Bobby Parks

Adding a fireplace transforms a porch from a summer refuge into a cozy outdoor room that can be used on cool days and nights through the spring and fall, and even in the winter in milder climates. Porch fireplaces are also excellent upsells — and easier to install than you might expect. They can be retrofitted onto existing porches, too, which is something to keep in mind if you're looking to fill an empty calendar: A great way to do more business with former clients is to offer to build them a fireplace.

My company, Peachtree Decks and Porches, is located in Georgia. We build a number of porches with fireplaces every year, mostly with prefab, or zero-clearance, units that rest right on the wood framing. They look great, at a fraction of the cost of a masonry fireplace, and can be faced with cultured or real stone for a stunning effect.

Zero-clearance fireboxes fit inside a chimney chase (zero clearance is a misnomer, as some small clearances are required). The chase is stick framed, sheathed, and sided like a house wall; an insulated flue passes through it (**Figure 1**) to the top, where a sheet-metal cap or shroud keeps out the elements.



**Figure 1. So-called zero-clearance fireplaces do in fact require some clearance to combustibles but so little that wood-framed chases are typical.**

The same codes that apply indoors apply outdoors. The main considerations are flue and firebox clearances, chimney height, hearth size, and clearance around the firebox opening to combustibles such as a mantle. Some of these are addressed directly in the IRC; the rest are in the manufacturer's instructions. Be advised that it's important to schedule the inspection carefully: If the inspector wants to see the inside of the chimney, you'll obviously need to have him or her come by before it's closed up.

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### Carrying the Load

The framing and siding of a chimney and firebox — and especially the weight of stone facing and a hearth — create a concentrated dead load that requires extra beams and footings. If the project doesn't include stone facing, it's easy enough to adapt beam and header sizing from the IRC.

When there is stone facing, though, I ask the stone supplier to provide the weight per square foot, which I then use to size the beams and footings (see "Designing Pier Footings," January/February 2007; free online at [deckmagazine.com](http://deckmagazine.com)). If that's beyond your expertise, spend a few hundred bucks on an engineer. The peace of mind alone is worth it.

The configuration of the joists and the beam below will depend on the fireplace orientation (more on this later). Wherever point loads are transferred through joists onto a beam, solid blocking is needed between the joists to prevent them from rolling under load.

### Framing a Chase

Typically, the chase's depth is based on the fireplace manufacturer's clearance specifications — as little as 2 feet to as much as 3 feet. I prefer to make the width of the chase 6 feet because that allows enough room for a significant stone facing and mantle, plus it makes for efficient use of sheathing and siding materials.

The floor framing for fireplaces is similar to the rest of a deck or porch. You can either continue the porch flooring into the chimney chase to create a floor, or just use plywood. As with decking, affix the sheathing to treated-wood framing with fasteners that are hot-dip galvanized or stainless steel.

If you're familiar with standard wall framing, you can build a chimney chase. The walls are framed on the floor and raised, like they are in home construction. Don't side right over the studs — sheathing the walls with 1/2-inch OSB or plywood is important for strength, and heavy stone facing will require the lateral support (be sure your mason ties real stone to the chase with an appropriate quantity of brick ties). The sheathing also provides sheer bracing needed to resist the force the wind exerts on the chimney chase, which offers quite a sail area.

The chase must have fireblocking at the level of the porch ceiling. This is usually accomplished by building the first section of wall to this level and capping it with a floor of 3/4-inch-thick plywood or OSB. The fireplace installer will cut out the floor around the flue and install a metal flange.



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**Figure 2.** A fireplace in a corner of a porch projects some distance into the room, taking up considerable floor space.



**Figure 3.** Side-wall fireplaces take up little floor space and can hide the view of the neighbor's yard.



**Figure 4.** Particularly when paired with cathedral ceilings, end-wall fireplaces can make a dramatic, if expensive, statement.

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Once the chimney chase is framed, temporarily attach a piece of OSB or plywood and a tarp over its top to keep rain out until the cap and shroud are installed.

My three-man crew can usually frame a chase and its floor in one work day.

### Fireplace Locations

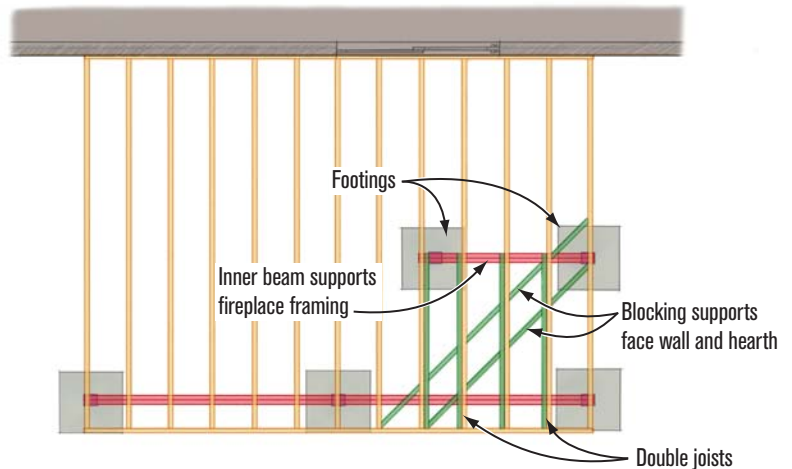
Fireplaces can be in one of three places on a porch (see illustrations, right): in a corner, on a side wall, or on the outer wall that's parallel with the house. Each has its advantages.

**Corner** fireplaces are the most cost effective (Figure 2, page 3). There's little extra floor framing, and there are only two outside walls (as opposed to three) until the chimney meets the roofline. However, I think they're the least attractive option. The way the upper part of their facing meets a vaulted ceiling looks a bit odd, although they look fine in a porch with a level ceiling. Also, corner fireplaces extend farther into a porch, infringing more on usable space than other configurations.

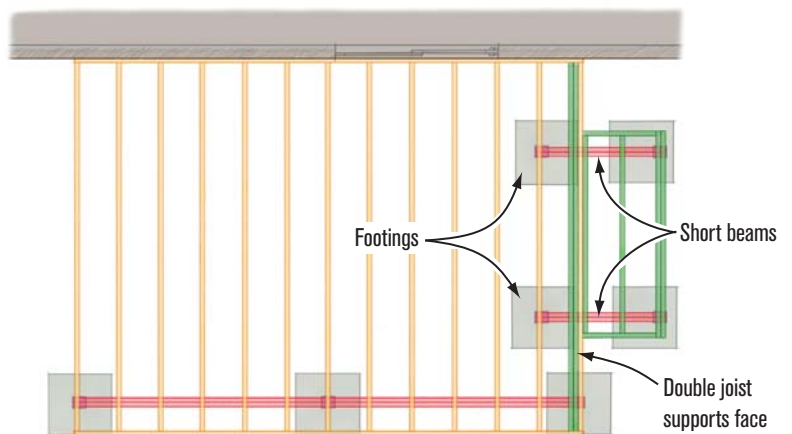
**Side-wall** fireplaces don't obstruct the view from inside a house, they provide privacy from neighbors, and because the chimney chase can project outside the porch, they infringe on the usable space only by the depth of the hearth (Figure 3, page 3). The bump-out doesn't affect the porch wall framing and allows for a continuous side-wall beam, which eases roof framing.

**Outer-wall** fireplaces create the most dramatic finish (Figure 4, page 3). They become the focal point of a porch and, with open gable porches, show a lot of stone work. Of course, that additional stone work costs more money, and the chimney has to extend past the roof peak, not just the side of the roof, so it will be taller. The customer should also consider whether the fireplace will block a desirable view from the inside of the house. But the cantilevered bump-out is simple to frame, as it's a simple extension of the main floor framing.

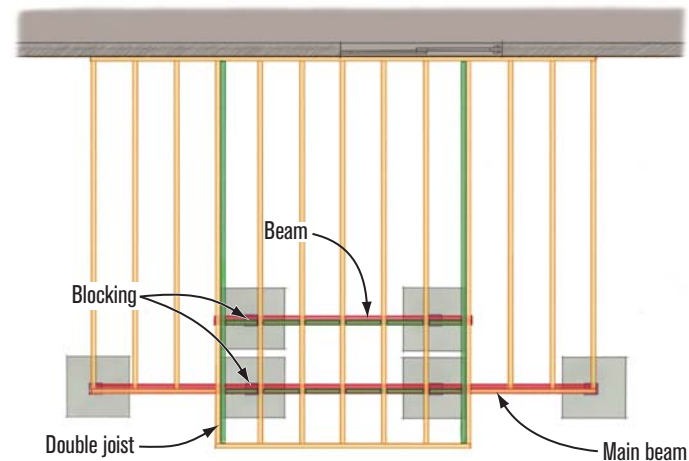
### Framing for a Corner Fireplace



### Framing for a Side-Wall Fireplace



### Framing for an Outer-Wall Fireplace



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### Flue Height and Location

The code governing flue height may limit where you can locate the fireplace, because code requires the flue to extend 2 feet higher than any point of the structure within 10 feet — measured on a level plane — of the flue cap (**Figure 5**). For example, let's say you're adding a porch to the first level of a two-story house and want to locate the fireplace on a side wall. If the flue is within 10 feet of any part of the house, you may need to build a chimney that towers more than a full story above the porch. Not only would this look terrible, it would add considerable cost and perhaps some structural concerns too.

You could extend the porch far enough that the flue would be at least 10 feet away from the house. However, most porches and decks gain their lateral stability from being attached to the house, and it's easier to stabilize them when they're wider than they are deep. So this isn't always a good idea.

Often, a better solution is to angle the flue to the far side of the chimney chase to increase its distance from the house. For instance, if you had a side wall that was 16 feet long and you centered the fireplace on the side wall at 8 feet, you could adjust the width of the framed chimney, angle the flue, and run it out of the chimney chase on the far side to meet a required clearance. The shroud would hide the flue cap. But a corner or the outer wall may be a better option if you're faced with this scenario.

Avoid locating a chimney close to overhanging limbs. Consider having them removed or locating the unit somewhere else. Although flues have spark arrestors to help keep embers from exiting the flue, why take a chance?

### Upper and Lower Fireplaces

Some customers request stacked fireplaces — one for a patio below the porch and one at the porch-floor level. Overall, this isn't difficult, although there are some considerations. For one, it requires a foundation to support both units (**Figure 6, page 6**). The foundation must be high enough above grade to meet code-required clearances between the wood chimney chase and the ground — typically 8 inches. For another, the flue coming out of the lower



**Figure 5. Because the top of the flue must be 2 feet above any part of the building that's within 10 feet, the location of the fireplace affects the flue's required height.**

firebox must be angled to run to the side of the upper firebox. This means you'll probably have to increase the width of the chimney framing to meet the required clearances and keep the upper unit centered. Also, a firebreak will be required between floor levels to meet code.

The savings and extra expenses generally balance out when stacking fireplaces — that is, a stacked pair costs about the same to build as two individual fireplaces. You use more flue pipe, but there's only one shroud and cap and one trip by the installers, and you save the cost of framing the portion of the chimney above the roof for one of the fireplaces. The only potential difference is the cost of the poured foundation versus what you may have charged for a bump-out. For stacked fireplaces, though, I still cantilever a bump-out when installing outer-wall units. The cantilever provides the platform for the upper unit and relieves the loads imposed on the footing.

### Choosing a Firebox Unit

Fireboxes come in different sizes, which are designated by the size of the firebox opening. The one I install most often is 24 inches by 42 inches, because smaller units don't look as good and aren't worth what little savings they provide, and the next size up can cost significantly more. To make the fireplace seem larger and provide a better view of the fire, I raise the firebox up about 8 inches by building a

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platform with 2x8s and plywood on top of the floor framing for the firebox to rest on.

Although stainless steel units are the best, they're also more expensive. Standard painted units can be used inside porches with good results — unlike outdoor fireplaces, porch fireplaces are not exposed to direct rain. An exception to this might be an area like the Northwest, where rain and humidity levels are constant or extreme, or on the coasts, where the salt air rusts everything.

I recommend a couple of upgrades: fireplace doors and blowers. Fireplace doors, if the weather's windy, can be closed to prevent embers from blowing out onto the porch. And blowers are well worth the extra cost, as moving warm air into a porch during the fall or winter will make the space more inviting. Units with blowers can be purchased for an additional \$250 to \$350, plus the cost of wiring.

### Trade Coordination

Adding fireplaces to your lineup means you'll need a short list of subcontractors. The key will be your ability to plan, coordinate, and manage the process, and obtain the services at a reasonable or wholesale cost. You or your carpenters can handle the framing with no problem, but you'll need a stone mason and a vendor for the firebox, flue, and shroud. Although you can learn to install these units, working with a fireplace vendor that delivers and installs is easier.

A good stone mason is crucial to the final look of the project. Because he or she will be working on finish decking materials, the mason must understand the importance of protecting the floor. I insist on tarps in traffic areas and a couple of sheets of OSB in the work area. Also, because customers often want input on the stonework, the better the mason is at communicating, the better off you'll be.

Other trades include a plumber to run the gas lines, an electrician to hook up blowers, and painters to paint the siding and trim. You'll also need to schedule the roofer so that the project is dried in as soon as possible.

Once you've got the contractors lined up, all sorts of sales opportunities will arise. Mantles, sconce lighting, television hookups, and outlets are common add-ons.



**Figure 6. Stacked fireplaces begin with a ground-level masonry footing (above). The flue is offset and passes to one side of the upper fireplace (top).**

### Safety

Structural safety and potential fire hazards are serious considerations with fireplaces. Different manufacturers require different clearances between fireboxes and flues, so it's important to check on that. Be careful to allow for the loads imposed on the structure — especially when using real stone, as the weight is significant. Finally, provide the customer with all manufacturer warranties and discuss the need for an occasional chimney sweep. ❖

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