

**Q** During a recent ICF pour, I received some “bad” concrete that caused defects such as voids that I found after removing the window bucks. Are there any special guidelines to follow when pouring an ICF foundation?

**A** Rick Arnold, author of *Working With Concrete* and a frequent presenter at JLC Live, responds: The typical concrete mix for a foundation wall includes 3/4-inch aggregate. But when you’re working with ICFs, it’s better to order the concrete with 1/4-inch aggregate, also referred to as “pea stone.” It is the same size aggregate usually used for flat work. ICFs ordinarily have a complex network of webbing and rebar installed inside the forms, and the smaller aggregate moves more easily in and around that maze to ensure better and more complete placement with no voids.

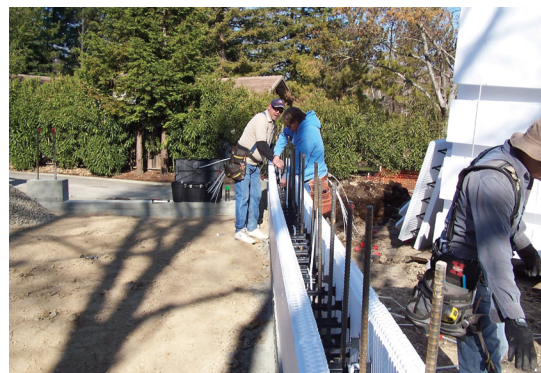
In my experience, most ICF wall defects are caused by placement practices; in other words, human error. But if your problems were indeed caused by a problem with the concrete, my first guess would be that one or more of the loads delivered were “hot.” It is common practice in my area for concrete trucks to leave unused concrete from an earlier job in the truck. That concrete then is mixed in with the new batch and delivered to the next site, creating what is known as a “hot” load. Depending on the amount of “old” concrete and how much time has passed since the first load of the day for that truck (there could be remnants of a couple of earlier batches in the truck), the concrete that you pour into the forms could set up in less than 20 minutes. If you didn’t know about the hot load and figured that you had plenty of time to vibrate and straighten the walls, you’d be in big trouble.

As a concrete contractor, I always asked the driver if there was any “old” concrete in the batch, especially if timing on the pour was critical. Most drivers will volunteer the information without being asked. If the load is “hot,” you can still place it correctly without defects; you just have much less time in which to do it.

You can also ask the ready-mix company to add a plasticizer, which will help the concrete flow more easily without the addition of water and is fine for ICF work. By the way, adding water can make concrete flow more easily, but it will reduce the strength of the concrete.

That said, here are some things to keep in mind when working with ICFs:

- Construct or alter the window bucks so that you have



ICFs typically have an intricate network of rebar and webbing that concrete must flow around to fill the forms properly.

plenty of access through the sill section. This lets you both fill and visually check that problem area.

- Never fill more than a third of the wall height at any time.
- Always start at the corners and work toward the middle of the wall.
- Always have some sort of vibration method on hand, even if it’s just a couple rubber mallets.
- If you use a mechanical vibrator, don’t use it too long in one spot.
- Always plan to have extra crew on hand so that you can pour continuously. Moving too slow can cause cold joints between batches, which can reduce the overall strength of the wall.
- Make sure to have on hand plenty of extra equipment, such as concrete chutes, shovels, and the like.

Finally, schedule the truck arrivals ahead of time to keep the pour progressing at an even pace. Scheduling is largely under the control of the dispatcher, but a few words to the ready-mix office ahead of time can help to ensure timely delivery and the correct interval of time between truck arrivals.

**Should the exit plumbing be pressure-tested for leaks in today's super-tight houses?**

**A** Steve Demetrick, a residential builder and remodeling contractor in Wakefield, R.I., responds: The integrity of the waste plumbing is definitely something to be thinking about when you're building any kind of house, including a super-tight one. We recently completed a new Certified Passive House in Rhode Island, and we made sure that the exit plumbing was pressure-tested before

attaching it to the sewer line (the attachment point to the sewer line was outside of the air barrier of the house).

Along the same lines, it is also wise to pay attention to any water line traps in a tight house, especially the smaller lines from minisplits that are hard piped into the drain lines. These traps are typically made from smaller-diameter pipes that only drain water during the summer. A long, dry winter can easily dry out one of these traps and allow sewer gases into the house under the right air pressure conditions.

I'm aware of this phenomenon from working on large summer homes in my area. A couple of times, clients who live elsewhere for nine months of the year wondered why their house smelled like sewer gas after I had remodeled one of the bathrooms over the winter. In every case, a trap in a different bathroom—which hadn't been used for all those months—had dried up and was letting sewer gas into the home. Summer homes with smart caretakers don't usually have that problem.

But for the gases to be drawn into the house, there has to be negative pressure inside. In a properly built super-tight house, the ventilation system should be balanced. A balance between the amount of intake air and exhaust air will minimize areas of negative pressure in the house, minimizing the chance of sewer gases entering the house.

For super-tight houses, it may be worth mentioning that if a trap does dry out, the gas won't necessarily flow into the house. In order for air to flow into the house, you need two openings—in this case, one would be the sewer line, and the other would be a hole somewhere else in the house—along with a pressure difference between the inside of the house and the outside. If this situation existed, it would create suction on the open sewer pipe and draw gases inside.

But that other hole and the pressure difference are less likely to exist in a super-tight house. To give you some perspective, when you open a window in a Passive House in the winter in New England, the cold air doesn't rush into the house, as it would in a normal leaky house. These houses are so tight that the air doesn't have anywhere to go.



## Sloped Basement Sidewall? We have the Solution.

Sloped wall basement doors are designed for installation on areaways with sloped sidewalls built into the homes foundation. These sturdy, steel doors can be installed on sidewalls of brick, stone, block, or poured concrete and are supplied with instructions and hardware for proper installation.

For more information, call (800) 854-9724  
or visit [www.bilco.com](http://www.bilco.com)



*It's only Genuine Bilco...  
if it says so on the handle*





**BUILDER BOARD.  
THICKER.  
MORE DURABLE.  
LAYS FLAT.**



**BUILDER BOARD™ is the most durable  
paperboard on the market.**

Independent data analysis  
proves Builder Board™ to be  
thicker and more durable than  
any other board on the market.  
Protect the job with the board  
that's ***tougher than the jobsite.***



**SURFACE PROTECTION  
DUST CONTAINMENT  
ADHESIVE TAPES**

 **surfaceshields.com**

© 2015 Surface Shields, Inc. All rights reserved. 'Builder Board' and 'Liquid Shield' are trademarks of Surface Shields, Inc.

**JLC**



**Check us out on Facebook!**

[facebook.com/JLCOnline](https://facebook.com/JLCOnline)



Like us for more exclusive JLC content,  
industry news and discussions.

hanleywood

## Q&A / Texturing Over Old Drywall

**I am currently working on a project that has old, untaped drywall that was never finished and has turned yellow. What is the proper procedure for texturing and finishing over drywall in this condition?**

**A** Myron Ferguson, a drywall contractor in Middle Grove, N.Y., and a presenter at JLC Live, responds: A few years ago, I taped and finished a cathedral ceiling that had remained untouched for a whole summer. The drywall had yellowed quite a bit, but I really didn't think that it would be a problem. I taped the seams and primed the ceiling with regular latex primer, and then applied the texture over that.

When the texture dried, I was surprised to see that yellow was bleeding through everywhere on the ceiling except where the seams had been taped. I figure that because the texture went on very wet and then took a while to dry, it must have drawn the yellow through the primer.

So, in your case, I'd start by taping the drywall seams. Then, depending on how badly the drywall has yellowed, choose what type of stain-blocking primer to use. If the yellow bleeds completely through the joint compound on the taped seams, I would seal it with an oil-based stain-blocking primer. But if the compound has covered up the yellow, you could probably get away with a water-based stain-blocking primer. When the primer has dried completely, apply the texture.

I always prime after applying a texture, so you will need to apply a second coat of primer anyway. If the yellow continues to bleed through after the texture is applied, I'd use a stain-blocking primer a second time; at this point, the latex version would most likely be fine. Just make sure the primer is totally dry before applying the finish paint.