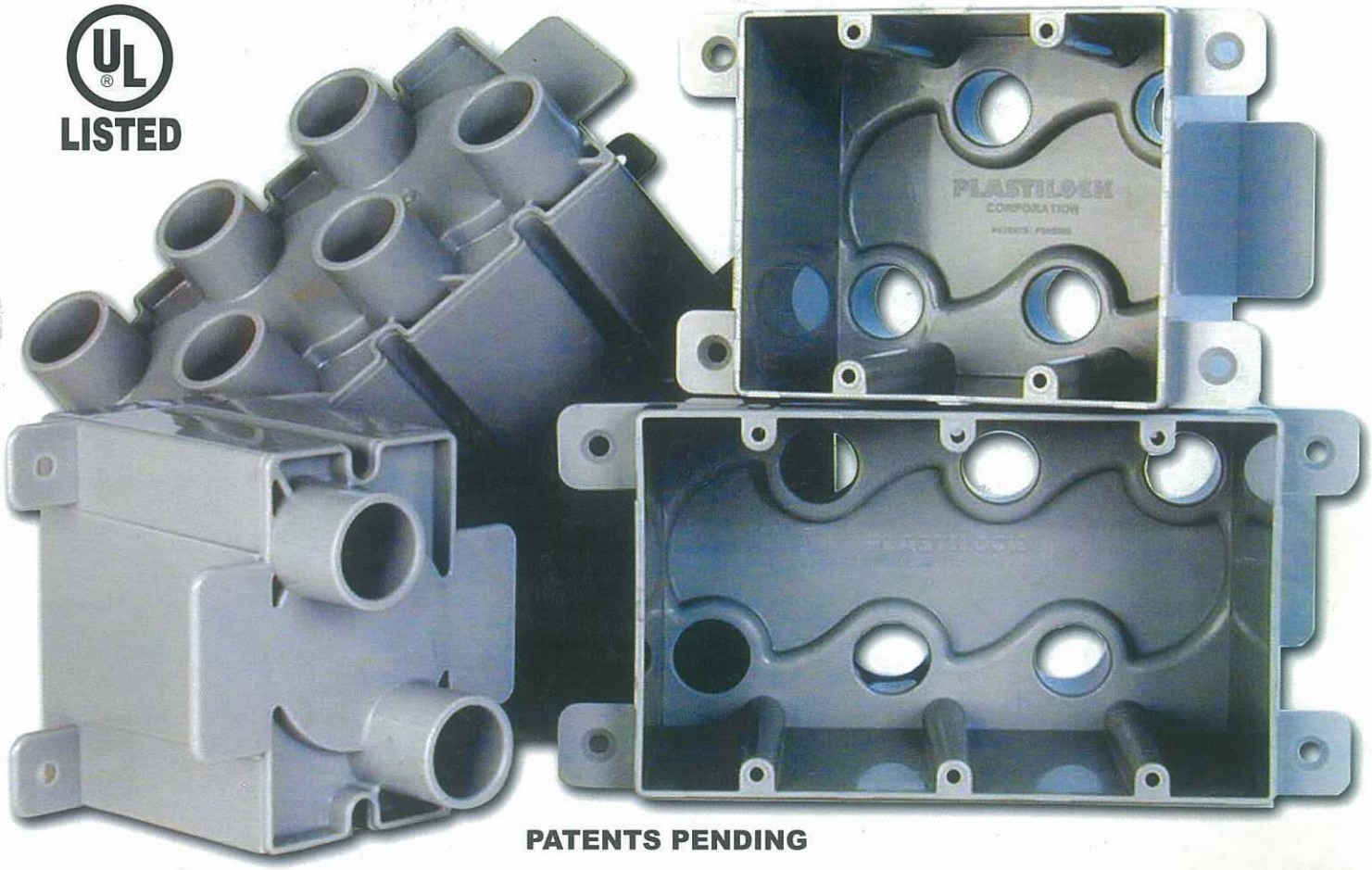
PLASTILOCK

The ONLY electrical boxes UL tested and listed for use in ICF systems.

UL® LISTED



PATENTS PENDING

ELECTRICAL BOXES
FOR
INSULATED CONCRETE FORMS

What are the Benefits?

Add Value for Your Home Buyers.

Market the Hottest New Technologies.

Integrate Your ICF Energy Efficient Product With the Smart Tech House!

Provide Them a Service with Boxes for:

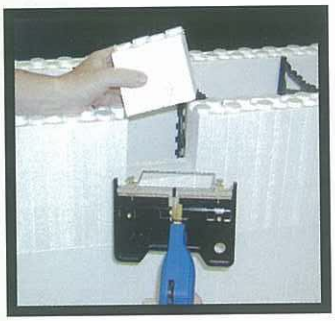
- *Multi Room Audio*
- *Telephone & Intercoms*
- *Cable & Satellite Hookups*
- *Ethernet & Networking*
- *Exterior Security Lighting & Cameras*
- *Home Automation*

Show Them the Benefit of Planning at the Building Stage!

How does this benefit the ICF homeowner?

Think about it! Conduit based electrical systems are the standard in commercial construction. Why? For one, they allow for easy upgrades to data, audio, video or electrical wiring circuits. ICF construction, in combination with Plastilock boxes and poured-in-place conduit systems, can provide the homeowner with this same flexibility! CAT-5 wiring for high speed data connections or RG6 cable for home theaters may be the best technology available today, but what about tomorrow? Why not build in a quick way to upgrade those systems now by providing a poured in place chase? But that's not the best part!

Using Plastilock electrical boxes and a conduit based wiring system can actually SAVE the homeowner money in construction costs! How? Because any additional labor billed by the ICF contractor to set the boxes can be more than offset by the savings in the electrician's time for having to cut-out all that foam! Electricians are familiar with pulling wire through conduit. But few are experienced with "cutting-in" the wiring once the ICF walls have been poured. And fewer, still, will want to bid the job without billing extra just for the hassle!



Arlan DeJong -ICF Consultant

"I've seen lots of new innovations, and different ideas on how to finish and install electrical. By using Plastilock boxes my customers get commercial grade quality for safety and upgradeability of the electrical and home automation in their residences."

Stu Oates - ICF Consultant

"Why not put the conduit and boxes in up front, so when you get the whiz-bang features down the road, you're already set up? No one is going to do it later. It is a major expense to upgrade wiring circuits after-the-fact if you don't have conduit installed to make it easy."

How does this benefit the ICF contractor?

Simply put, the ICF contractor puts more dollars in his own pocket! The Plastilock boxes and electrical conduit are placed in the foam forms BEFORE the pour, by the ICF contractor. Standard up-charges being billed by contractors now using the Plastilock boxes are $20-$25 per box set (including the sweeps and conduit).

On a typical 2500 sq.ft. home, that means 100 to 150 outlet, switch, cable, audio, and data line boxes just in the ICF walls! Do the math! It is a fast and easy add-on for the ICF contractor, and a huge benefit for the homeowner. Any ICF contractor who says,

"It might take too much time"

or

"Let the electricians deal with it"

is "leaving money on the table!"

As you think about the opportunities to enhance your per job income, you will see that using Plastilock boxes on every job is an easy and profitable way to succeed!

WHAT CAN THE CONTRACTOR MAKE INSTALLING PLASTILOCK BOXES?

Dollars Per Level

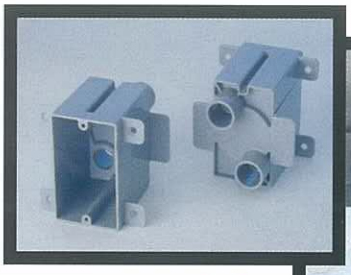
* The above figures are based on $20 per box billed fee. 25 to 35 percent of that figure would be material costs.

FAST. EASY. LEGAL.

"Absolutely the best way to wire an ICF house. Period."

Harley Lyons - ICF Homeowner

- **Neat & Clean.**
- **UL Tested for ICF's.**
- **Fast & Easy to install.**
- **Fits 1/2" or 3/4" Conduit.**
- **Secure Mounting in Walls.**
- **No Slow Cutting for Wiring.**
- **Chase for Future Upgrades.**
- **Fits 2" to 2.75" ICF Systems.**
- **Single, Double & Triple Gang Sizes.**



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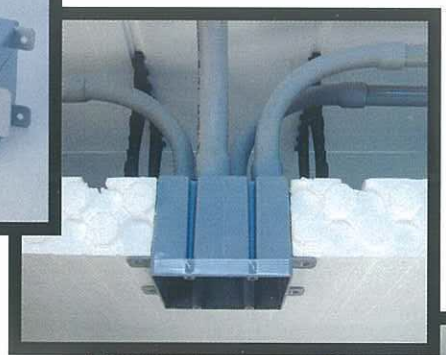
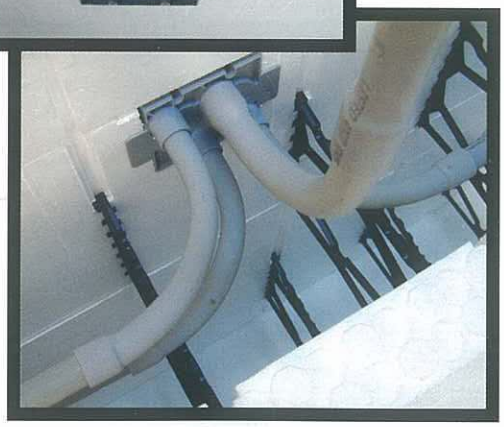




"I can buy a box for $0.49!"
"Why would I pay $3.50?"

Price Comparison of True Costs

	Electrical Box Type			
Parts	General 2" Metal	Masonry 3" Metal	Stud Wall Plastic	ICF Wall Plastilock
Box Price	$0.49	$3.00	$0.19	$3.50
Shims or Mud Rings	✓		✓	
Romex connectors @ 2	✓	✓		
Tapcon Screws @ 2	✓	✓	✓	
Ground Wire & Screw	✓	✓		
Spray Foam	✓	✓	✓	
Conduit Sweeps @ 2				✓
Conduit @ 10'				✓
Total Parts Cost	**$6.51**	**$6.73**	**$5.48**	**$6.24**
Install Time (Includes cutting foam for wiring runs and/or boxes, installing boxes, attaching Romex connectors or sweeps & conduit, depending on box type.)	**15-20** (minutes)	**15-20** (minutes)	**15-20** (minutes)	**3-5** (minutes)
Cost per Box Set (Ready for wiring rough-in)	**$25-$30**	**$25-$30**	**$25-$30**	**$20-$25**
Rough-in Wiring Labor Cost Premium	**+20-30%**	**+20-30%**	**+20-30%**	**0%**
Meets Code	**?***	**?***	**NO**	**YES**

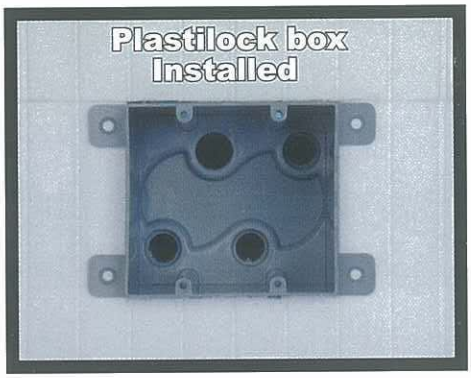
* Will meet code if metal box is properly secured, and wiring is securely attached inside "cut-in" foam channels at least 1" from finished foam surface.

The total cost for materials per box is about the same for any box used.
The total cost for box install and wiring path rough-in is $5-$10 less with **Plastilock** boxes.
The total cost of the wiring rough-in is 20-30% less with **Plastilock** boxes.
Plastilock boxes will meet Code, where "cut-in" wiring may or may not.
Plastilock boxes and conduit will always provide a chase for future upgrades!

This...

"But once the drywall goes up, *who cares?"*

or This!



"Very clean!
An electrician's dream!"

So... How Do You Integrate With the Homeowner and Electrician?

It's simple! In most states, pulling a building permit requires that the electrical plan must also be done. This will show what goes where in terms of receptacles, switches and dedicated circuits. Meet with the homeowners and find out their general use of equipment in each room. Meet with the electrician and mark out the plan before the foam walls are constructed, instead of waiting until after the walls are poured. You will typically meet with the electrician anyway, so simply do it sooner rather than later.

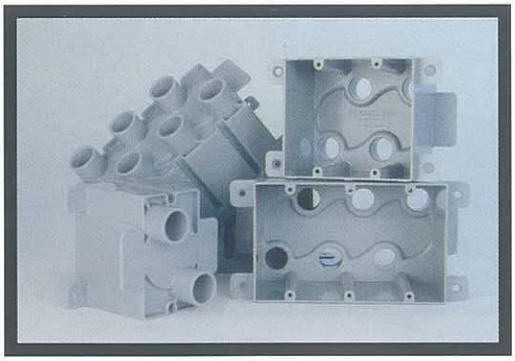
All your boxes should have a run of conduit to the nearest interior wall and get stubbed out there. Common circuits may be looped together up to a maximum of six boxes per circuit and then stubbed to the nearest interior wall. For ease of pulling wiring, there should be a maximum of four 90 degree sweeps between each box.

A switch box will typically be joined with a ceiling box, an outlet below the switch, and/or an outdoor fixture of some sort. This conduit usually runs vertically and is stubbed out into the framed rafters or floor joists. This provides access to all of the exterior wall conduit chases, and makes the job of the electrician to follow much easier.

For the homeowner's low voltage scheme the same applies. When meeting with them, discuss any needs for TV, telephone, intercom and speakers, computer networking, security and cabling. Place a box at these locations and stub out with conduit to the nearest interior wall. Their subcontractors for these services will know where to place these receptacles.

The above guidelines are typical for most jobs, regardless of house design. Any electrician understands this type of layout because conduit is common in commercial construction. As long as they have access to the exterior wall conduit paths through an interior wall, floor, or ceiling they can easily wire the whole house. When you stop and think about it, the Plastilock system really is the best solution for everyone involved!

PLASTILOCK
The Right Parts for the Job.



HOW TO INSTALL PLASTILOCK ELECTRICAL BOXES

The ONLY electrical boxes UL tested and listed for use in ICF systems.

STEP 1

Lay out the first course of ICF block & mark interior wall intersections. Mark for outlets every 8' or according to local code. Also plan placements for light switch, speaker, TV/home theatre, phone, data, security, and any other interior or exterior electrical needs.

STEP 2

Cut openings in the top edge of the ICF blocks to fit the Plastilock box being installed. Cut outlet boxes into the first course and switch boxes into the third course. (**HINT:** *Save foam cut-out and insert back inside box for protection until wiring is ready to be pulled.)*

STEP 3

Install the Plastilock boxes into the cut out opening. Boxes should fit securely enough to prevent concrete leakage, but not so tight as to deform the sides of the electrical boxes.

STEP 4

Insert the cut-out foam block back inside the Plastilock box. This protects the box from any distortion or spilled concrete during the pour.

STEP 5

Glue standard PVC sweeps and conduit onto the boxes to complete the wiring raceways. Finish running each course of ICF block, placing additional boxes and conduit as needed. Tie conduit to rebar within 12" of the Plastilock box to prevent shifting during pour.

STEP 6

Using the Plastilock boxes and conduit make it easy to connect interior and exterior wiring paths for outlet, lighting, security, speakers, etc. No more drilling through finished concrete and rebar!

STEP 7

Indicate the conduit directions on the foam, to illustrate for the electrician where the conduit paths go once the walls and flloors have been poured.

STEP 8

Complete the concrete pour. Wiring can now be pulled through the conduit in the ICF walls by any electrician. No more messy and time consuming cutting of wiring channels into the finished foam walls! The wiring circuits can now be upgraded at any time!

"Yeah, but how long does this all take?"

"On average, it takes me less than five minutes per box to do everything. That includes all of the steps shown here. When the electrician arrives, all he has to do is pull wire through the conduit paths."

"Now, compare that to the time it would take to "cut in" all the wiring channels and box openings with a saw or hotknife, drill & screw the boxes to the concrete, and secure all the wiring with clamps so it meets code. That takes a heck of a lot longer! Plus, electricians hate installing wiring this old way!"

"At my rate of $20 per box set, you can see why I like putting these Plastilock boxes in, almost as much as my customers like the benefits of having them! ***- Dave VanMatre - Builder***

Why Use The PLASTILOCK ICF Electrical Components?

Listen To What This ICF Builder Has To Say.

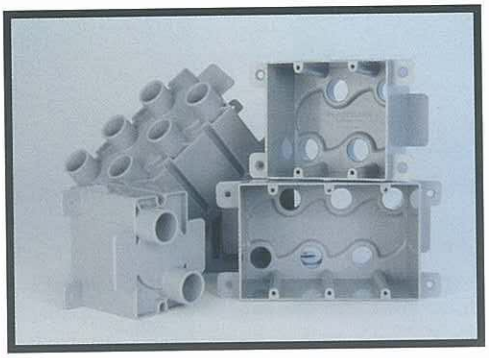
Chad Fillwebber, ICF builder from Colorado. Completes 24+ ICF projects per year.

Q: You specialize only in ICF construction, why is that?

A: Well, I guess because I really believe in them, and the demand has become so strong. I easily stay busy year round installing only ICF systems. I can't believe how popular they have become! But once people learn about all of the advantages, I guess it really is a no brainer.

Q: Do you see any problems still facing the ICF industry?

A: Yeah. Homeowners need to be selective when choosing an ICF contractor. Most of the problems you hear about usually result from poor workmanship on the part of some ICF installers, or the trades people who put the mechanical systems in the foam once the walls go up, like the electrical boxes and wiring. Even though ICF's have been around for a long time, it still seems like some guys are making it up as they go along, especially when it comes to the electrical system, which is really a shame.



Q: How do you handle the electrical installation on your jobs?

A: I use the Plastilock electrical boxes combined with a conduit based system that gets installed inside the walls before the pour. It's a faster, cleaner, easier way of doing the electrical on my ICF jobs, and it provides additional benefits for the homeowner. But man, I have seen it all! Some guys still insist on having the boxes and wiring "cut in" the finished foam walls. I guess so it becomes the electrician's problem. Let him hack through all that foam with a hot knife, router, chainsaw or whatever, right? That's crazy! Hot knives are slow, and chainsaws? Well, that just creates a heck of a mess, and totally chews up the finished foam. I've seen homeowners get real upset with that. Why cut away all that valuable insulation and lower the R-value when there's a better way?

Q: What advantages do the Plastilock boxes offer the homeowner?

A: First of all, your wiring paths are upgradeable. When faxes and computers first started showing up in people's homes, a lot of them wanted to upgrade to CAT-3 or CAT-5 wiring. Then came cable modems for high speed internet access, and the need to pull coaxial. Putting in a home theatre? Don't forget to run the good stuff, like RG6. Not to mention these new "smart homes" with all kinds of automation circuits for climate control, lighting, security, you name it. What's next? Fiber optic? Triaxial? The point is, wiring technologies will continue to improve. You want to be able to upgrade these circuits without having to tear out your walls to do it. Even your standard 120/240v power circuits will benefit by being accessible.

Wouldn't it be great if you could simply pull new wires through existing conduit paths, like they do in office buildings? My customers can, because I use the Plastilock boxes and conduit. But some folks just don't know any better. Think about it! If you wait until after the walls are up, and let some guy cut and foam the wiring in, that's it! There's no way to make simple upgrades later on without tearing out drywall.

I've read where they are starting to run conduit in stud framed walls to get this same upgradeability. Man, building with ICF's and using Plastilock boxes and conduit make this so much easier! Why do it any other way? Besides, most electricians hate having to cut the wiring into the foam. It's is a pain. So believe me, they are going to charge extra for doing it. My electricians just have to pull wires through Plastilock boxes and conduit that have already been set. That is a lot easier for them, and they are used to doing it on commercial jobs, so it takes less time, and they can charge less.

"Let's face it. People choose to build with ICF's because of all the advantages. Choosing the right electrical system to add to those benefits just makes sense." - Chad Fillwebber

Q: But as an ICF contractor, you make your money installing foam, not electrical boxes, right?

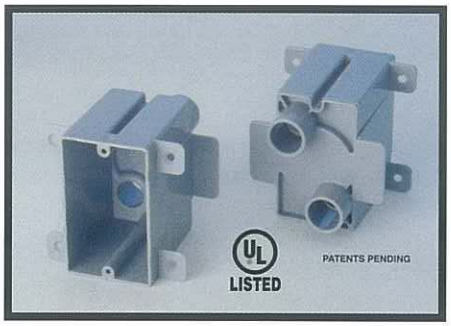
A: Hey, I make money doing both. The Plastilock boxes sure are a nice extra, though. Since I'm not an electrician, I can't pull wires. But I can set all of the Plastilock boxes and conduit. I just cut them into the top edge of the foam blocks as I go, and the conduit gets set right along with the rebar. I charge $20 per box for the materials and labor to set each one, including one sweep and a stick of conduit. It only takes me a few minutes per box. An electrician will charge around $25 to retrofit a "cut-in" box, and you're not even getting a wiring chase.

On a basement job, I might only set 30 boxes. But on a larger, all ICF built home there can be as many as 400 boxes to set! Do the math! I make good money installing the Plastilock boxes! Plus, using them in my current jobs actually helps get me future business, too. Once a potential customer comes by the job site and sees how clean the electrical installation looks, they are sold. It definitely gives me an edge over my competition. It's just one more thing I can offer my customers to add value, which might make the difference of me getting the job or not.

Q: But overall, doesn't it cost more for the homeowner?

A: Absolutely not!. Even though they are paying me to set the boxes and conduit, those materials and labor are things the electrician no longer has to charge for. Most electricians don't want to be there at that stage of the building process, anyway. And because the Plastilock boxes can be set so much faster while the foam is going up, compared to the time it takes to cut boxes and wiring into the finished foam wall after the pour, the net amount for the electrical is actually less.

I include it on the bid as a separate line item, so my customers can compare apples to apples, when figuring their total costs. When comparing bids, it is very important for a customer to understand the breakdown of costs, since some of the trades may overlap on an ICF home.



Q: What do the electrical inspectors think?

A: The inspectors I work with love the Plastilock boxes. Heck, they have seen more horror stories than me when it comes to people retrofitting 'off-the-shelf' electrical boxes that are no good for use in foam. The Plastilock boxes are UL Listed specifically for use in ICF systems. They were made just for foam forms, and they work great! I like using the right part for the job.

You know, some guys will take those cheap, blue plastic boxes and run a nail or screw through the back of them into the concrete, or just spray foam them in. Well guess what? That's not code! Hey, even if the inspector doesn't catch it and make them tear 'em all out, the first time someone yanks on the vacuum cleaner plug and the whole outlet rips out of the wall, don't you figure they're going to be upset? I would be.

Q: Will the Plastilock electrical boxes work with any ICF system?

A: Pretty much. They will fit in any foam form with a thickness of 2" to 2 ¾", which includes all of the major solid wall systems out there. Flange adapters can be ordered for the boxes when 2" foam is being used.

Q: Any final words for the ICF contractors reading this?

A: Sure. If you take pride in your work and want to way to make more money on every ICF job, do yourself and your customers a favor and install the Plastilock boxes and a conduit based wiring system for them. Don't just pass it off on the electrician as "Not my problem". No matter how good a job you do installing the foam and concrete, if the next guy that comes along butchers it all up to put in the wiring, not only will it reflect poorly on him, but also on you, me, and the whole ICF industry. It doesn't have to be that way.

Q: How about some final words to the homeowners considering ICF's?

A: Above all, go with a reputable contractor. If you are doing the work yourself, get lots of good advice. Don't let anyone sell you on the old way of cutting the wiring into the foam after the pour just because "that's the way we've always done it". By choosing to use ICF construction, you are being innovative. The components you use, like Plastilock electrical boxes, should be innovative too.

Q: So, given everything you have said, why would anyone still want to "cut in" the wiring?

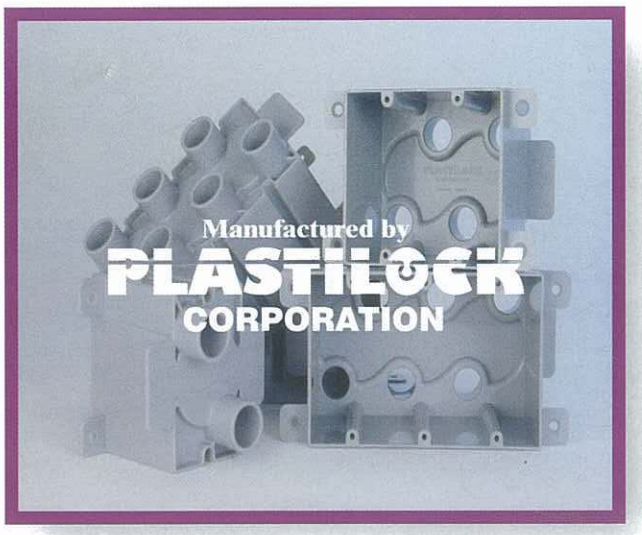
A: Well, let's see. It takes longer... it costs more... it's not upgradeable... and it creates a heck of a mess. I don't know, you tell me! I guess they just don't know any better. But then again, making a snowstorm on the neighbors' front yards by buzzing through your new foam walls with a chainsaw is a great way to have Christmas in July! So maybe they are just feeling festive!

Manufactured by
PLASTILOCK
CORPORATION
Encampment, Wyoming
(970) 215-1819

Electrical Boxes for Foam Forms.

Why make a special electrical box just for ICF's?

These new Plastilock electrical boxes were developed exclusively to meet the unique needs of ICF construction. They provide many advantages for both the ICF contractor and ICF homeowner, mainly a chase for pulling wire. Frequently, much of the electrical wiring being installed in ICF buildings gets treated as an after thought. Many of the methods, retrofits and materials now being used to install electrical services are labor intensive and not well suited for code compliant installations. And once these wiring schemes get covered with stucco or drywall, no additions or upgrades can easily be made. This actually becomes a *disadvantage* for ICF jobs wired this way vs. stick framing, where future wiring can still be pulled inside wall voids.



Prior to the introduction of the Plastilock electrical boxes, installing electrical services required extensive cutting of the finished foam walls. This type of "cut-in" electrical installation is slow, creates a mess, and can reduce the R-value that ICF companies work so hard to promote. Boxes must be drilled into the concrete, and securing the Romex wiring inside the carved out channels to meet minimum attachment and consistent depth distances required by Code can be challenging.

As ICF construction continues to gain main stream acceptance, new innovations developed with ICF's in mind are making the job easier than ever before. Plastilock electrical boxes are just such an innovation. In fact, they are the ONLY electrical boxes UL tested and Listed specifically for use in ICF systems! Contact us today!

HERE IS WHAT OUR CUSTOMERS ARE SAYING:

"Night and Day does not describe the difference between using the Plastilock boxes with conduit versus cutting the wiring in. Never again will I cut in my wiring on an ICF job. I'm a believer!" **Breck – Longhorn Electric**

"I do 8-10 complete homes per year. We use Plastilock boxes and conduit in every home we do. It's cleaner, neater, and it sets us apart from our competition. Plus, the customers love it because their options are left open. They can easily upgrade phone & data lines later on without the major expense of having to tear out drywall." **Dave VanMatre - Builder**

"It was a pleasure actually having the electrician give me a discount on my electrical rough-in because the Plastilock boxes were already installed. Even after figuring in all the materials and labor costs the ICF installers charged to set the boxes, I came out saving over $500 on the electrical." **Rodger Horton – Homeowner**

"I have been doing ICF's for 25 years. I have chain sawed, hot knifed and roto-zipped. There is nothing cleaner, faster or better than setting the electrical.boxes as I build. The total cost of the boxes, conduit and installation labor are less then 1% of the total building costs, but the choices you make here are important. Just think about the upgradeability you get! Plus, installing these boxes really helps my bottom line. I spec in as many Plastilock boxes as possible on every job. And my customers thank me." **Brad Hebig – Builder**

"Why retrofit your electrical system when there is an advanced technology in the industry? We have our ICF clients use conduit in the walls and Plastilock boxes." **Chris Chop – Structural Engineer**

"I love electronics and the possibilities of home automation. I had my home fully installed with the Plastilock boxes and a conduit system in my ICF walls so I can have features added as needed." **Brian Catalucci – Homeowner, Pilot**

"These boxes are slick! No cutting mess! And no having to screw the boxes to concrete! It can be a problem nailing or screwing retro-fitted boxes to the concrete, as they can loosen up over time, especially on outlets that get used a lot." **"T" - T's Electric**

Plastilock Elec-

www.~~icfelectrical~~.com

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