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Older homes often need new gutters. There are different types and many are not too good. This Contractor Hiring Guide & Checklist helps you get the right ones. Read on to learn about gutter installation and about gutter and downspouts repairs.

Click on the titles to read these columns, contained right here in this document. At the end of each section, there is a link to more information available at the AsktheBuilder's web site.

But first, here are links to four exclusive Contractor Hiring Guide & Checklist videos that will help you with Finding a Pro, Contracts, Payments and Change Orders.





Finding a Pro is not always done on the Internet or using the phone book. Tim explains a better method.



After the bids are in and the contractor selected, what should be in the contract? Tim outlines eight item that must be in your contract.



Payments are important. When do you make them and how much? Tim explains three important concerns regarding your payments.



Change Orders can cost more then just additional money. They can delay the whole project. Discover what to do ahead of time.

Gutters & Downspouts

<u>Aluminum Gutters - Traditional vs. Seamless</u> - Aluminum gutters advanced gutter technology greatly. Seamless gutters do have seams and can leak. Traditional aluminum rain gutters are available that look seamless, come in lengths up to 37 feet long and have an invisible hanger system, like some of the seamless gutter systems. When selecting a gutter for your home, focus on attributes that will make your gutters last.

<u>Hanging Gutters Requires Skill</u> - Aluminum gutters can prevent long-term damage like efflorescence, wood rot and peeling exterior surfaces on your house. The flashing should drop into the gutter, directing water into the drain pipes that all the gutters are slanted toward. These gutters hold onto the fascia board through fasteners.

<u>Gutters and Gutter Hangers Installation</u> - If you're planning installation of new gutters, this article will explain the process. Everything from transport of your rain gutters, through cutting and tools, to sealant and gutter hangers. Before you tackle your first gutter, read up here first for some helpful pointers on gutter installation.

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<u>Downspout Drainage Pipe Installation Tips</u> - Drainage pipe installation is simple. Downspout drainage pipes do not have to be buried deeply. The drain pipes should also be installed in undisturbed soil about 6 feet away from the foundation. Lay drain pipes in beds of gravel for best results.

House Plans & Planning

<u>Home Plans</u> - House plans with detailed interior and exterior elevations and exact specifications will help make your dream home become reality. Be specific with house floor plans, and make your plans reflect exactly what you want down to the smallest detail. Avoid problems by drawing up precise home plans before your new home construction begins.

<u>Building a New Home - Get Organized</u> - Building a new home requires hundreds of choices. Get organized by keeping all of your choices and plans for your new home building project in a binder so no decisions fall through the cracks. Blueprints and specifications along with this binder will keep track of the entire project. Select amenities for your new home at the start so that workmen can plan openings and utility adaptations to stay on schedule.

<u>Detailed Plans and Specifications Minimize Mistakes</u> - Detailed blueprints, plans and specifications will help you avoid being sued by a contractor. Keeping a detailed account of work each day, along with photos, will arm you with data should a problem with your contractor arise.

<u>Home Remodeling</u> - Remodeling and new home construction share a lot of common items. But they differ in one major area - remodeling is done in the house where you are living. Daily routines are altered. Certain areas of your house may be unavailable during remodeling. No kitchen or bathroom will be a real problem. Read these tips to help minimize your interruptions.

<u>House Plans</u> - Additional columns covering house plans can be found online in the House Plans section of Askthebuilder.com.

Payments

<u>Contract Payments</u> - Detailed contracts noting exact contractor and homeowner specifications and listing payment schedules help avoid payment disputes.

<u>Payment Suggestions</u> - Before payment or work begins, establish detailed contracts, building plans, payment dates, affidavits and helpful construction reports.

When to Pay for Remodeling Plans - Never pay all of the money due for remodeling plans before the plans are complete. Once you give cash in advance for incomplete work, you lose all of your leverage. Up-front payment has left tens of thousands of people disappointed when the person never finished the job after being paid.

<u>Payments</u> - Read other online columns regarding making payments during construction at the AsktheBuilder.com website.

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The columns shown above are only a sampling of the columns available to help you. Check the <u>AsktheBuilder</u> website for more information on this and all aspects of Home Improvement.

Homeowner:	Contractor:	
Address:	Address:	
City/State/Zip:	City/State/Zip:	
Phone:	Phone:	
Email:	Email:	
Contractor's License Number # (where application / Johnston Address):		
Project Location (Jobsite Address):		
Date Bid Submitted:	Date of Plans & Specifications	
CHECKLIST		
What material are the gutters and downspout ☐ Aluminum ☐ Galvanized ☐ Copper ☐		
Gutters and downspouts can be made using metals of varying thicknesses. Thicker materials are stronger. Metal thicknesses are represent as decimal values. The number .027 represents a thicker metal than one that is .032. What is the thickness of the material which is being used? (What is the gauge?)		in. (Thousandths)
Who is the manufacturer of the gutters and o	downspouts?	
	· · · · · · · · · · · · · · · · · · ·	
Are the gutters pre-formed at the factory, or f	ormed at the job site?	☐ Factory☐ Job site
How many linear feet of gutter do you plan to	install?	Lineal ft.
How many downspouts will you install?		
How do you intend to seal the seams and end	d caps of the gutters?	
Is this sealant approved by the gutter manufa	acturer?	□ Yes □ No

□ Yes □ No
□ Yes □ No
□ Yes □ No
□ Yes □ No
☐ Yes ☐ No
☐ Yes ☐ No
☐ Yes ☐ No
inches on center
□ Yes □ No
☐ Yes ☐ No
☐ Yes ☐ No
□ Yes □ No
year(s)

OPTIONAL ADDITIONAL NOTES

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JOB COST BREAKDOWN

Materials
Permit
Demolition and Debris Removal
All Necessary Materials
Labor
Total Labor
Insurance
Workman's Compensation
Unemployment Tax
Overhead
Profit
TOTAL JOB COST:

PAYMENT SCHEDULE

Excessive advance or periodic payments before or during the work is completed often put a homeowner at risk. The homeowner basically become a lender. This is especially true if the job does not require any special or custom ordered materials at the beginning of the job. A fair payment schedule is one that allows the homeowner to pay only for labor and material that has been completed in a satisfactory manner. Periodic payments can occur every 3 - 4 days for small jobs or each week or month for large jobs. On large jobs, the amount of money paid out at any given time should not exceed the total sum of the items listed in the above cost breakdown plus a proportionate amount of contractors overhead and profit for completed in-place work. A homeowner should not have to pay full price for work that is unsatisfactory or incomplete.

Do you agree with this philosophy? ☐ Yes ☐ No

If "Yes", please complete the Payment Schedule on the next page.

PAYMENT SCHEDULE
First Payment:% of Total Job Cost.
To be paid when the following work is complete:
Second Payment:% of Total Job Cost. To be paid when the following work is complete:
Final Payment:% of Total Job Cost.
To be paid when all work is complete and satisfactory and all debris is removed from jobsite.
NSURANCE DOCUMENTATION
Contractor's Workman's Compensation Risk number or Private Policy number and Carrier number:
(PLEASE ATTACH A COPY OF YOUR CURRENT STATE CERTIFICATE OR PRIVATE CARRIER CERTIFICATE)
Contractor's Liability Insurance Company and Policy number:
(PLEASE ATTACH A COPY OF CERTIFICATE OF INSURANCE)
ANTICIPATED STARTING DATE:
PROJECTED COMPLETION DATE:

REFERENCES (List only jobs of similar scope and nature)	
Job completed approximately 4 years ago:	
Name:	
Address:	
Phone Number:	
Job completed approximately 2 years ago:	
Name:	
Address:	
Phone Number:	
Job completed within the past 60 days:	
Name:	
Address:	
Phone Number:	
Bidding Contractor's Signature:	
Date:	
OPTIONAL COMMENTS	

End of Checklist

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CONTRACTOR HIRING GUIDE & CHECKLIST HELPFUL HINTS

Thanks for purchasing one or more of my Contractor Hiring Guide & Checklist products. I am quite sure you will be pleased with how they help you find a professional - or more importantly - allow you to quickly spot a scoundrel!

You will run into some resistance from contractors when they see the Contractor Hiring Guide & Checklist(s). Some will reject it entirely. That is OK. Be patient and continue to call contractors until you find one who accepts the Contractor Hiring Guide & Checklist at face value - a document that protects both you and the contractor.

USE TIPS

- 1. Insist that all questions be answered. Incomplete answers can lead to incomplete jobs.
- 2. Test the contractor's phone number on several occasions. Do you get a machine, voice mail or a human? Humans solve problems, not machines. Note response times. If it takes days to get a return call, this could spell trouble if you start a job with this type of person.
- 3. The cost breakdown is so important. It allows you to compare quotations quite easily. You can see why one quote is low and another is high. On larger projects, a blank space in the breakdown tells you an item has been forgotten!
- 4. Insurance coverage is mandatory. You want real copies with current dates to show that you will be covered if someone gets injured on your job. Remember that sub-contractors must have their own separate insurance coverage!
- 5. Start Stop Dates will help you determine if the contractor is serious about your job. Ask about who will be working on your job and when they intend to show up. Ask about delays what causes them and how long might they last.
- 6. References are critical. The key is to find ones from the different time periods. Ask the people different questions. The most recent reference can provide you with interesting data. For example, did the workers arrive when promised? If there was a delay, what was the problem? How long was the delay? Was the jobsite kept clean? Did anybody play loud music? What would the referral do differently if allowed to start the job over from the beginning?
- 7. Ask the referral from two years ago about warranty claims. Was repair work necessary? Were their severe problems? Was the contractor responsive? Were the defects fixed correctly the first time or were repeated attempts necessary?
- 8. The oldest referral has good information too. Ask how well the work has held up. Ask what they would do differently? Would they hire the contractor again, OR have they since found a different contractor who does better work? You might be surprised by their answers!

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9. Contract Documents - Give serious consideration to attaching/referencing the Checklist as a part - or addendum - to your contract that you and the contractor sign. It can be used as a fact sheet/specifications describing what was promised by the contractor. Since I am not an attorney, I can't give legal advice. You may wish to consult with an attorney to see if your state law permits these kinds of attachments or addendums. I believe that virtually every state permits you to do this.

HOW TO REALLY FIND A PRO

Finding a reliable, competent and skilled builder or remodeling contractor that can do all of the work will take some time but it is by no means impossible. If you understand some of the basic principles by which these people work, the task is not as mystical as it may seem. Quality contractors are proud of their work. They want it to be perfect or nearly so and they do not want any call-back or warranty problems. To achieve trouble free results, they know that high quality materials are an integral part of each project. Real professionals know that problems are public relations nightmares and drain profits.

Knowing this, you start your search for contractors by visiting the businesses that supply quality materials to these individuals. You might be surprised to find out that these businesses are often places that you have never heard of. In your instance, open the Yellow Pages and look under the heading Roofing Supplies. Many of the listings under this heading will be businesses that cater primarily to contractors and not consumers like you. Visit two or three of these places if possible. Try to do this in the middle of the morning or the mid-afternoon. Never go early in the morning, at lunch or the end of the business day. These are busy times when contractors are picking up supplies.

Once there, ask to speak with the manager or possibly the owner. Briefly describe your job to this person. Ask for a customer who has been buying for 15 or more years, one that routinely buys the highest quality materials, and who pays his monthly bill on time. If the business manager obliges you, you will have a list of high quality candidates. The final question to ask, if possible, would be names of contractors that this person would use to work on his or her own home.

If the manager will not release names, then go to Plan B. Do a stakeout of the business in the early morning and get business cards from the contractors who are buying supplies. Look for ones who are driving well kept vehicles that project a look of professionalism. You will still need to do more detective work, but your chances of hiring a pro are quite good.

Thanks again for your purchase. Don't hesitate to email me if I can help you in any way. Simply go to my website - AsktheBuilder.com - and look for the Ask Tim icon on the home page.

Click here for other Contractor Hiring Guide & Checklists available from AsktheBuilder.com.

Best regards!

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HOME PLANS

Home plans are the core documents that communicate what the home owner wants and what the builder needs to build. Without great house plans, a new home construction project can quickly become a sea of confusion, frustration and arguments. Many people think that house plans are just pretty pictures and floor plans, but believe me, they serve a far more important purpose.

Can you remember the last time you were involved in a dispute over anything? Chances are you prevailed if you had some form of tangible written evidence, photograph or object that proved your statements were true. But all too often people argue about spoken words that frequently turn into broken promises, simple misunderstandings, or worse yet - deception. This misery takes place everyday in the residential building arena. Homeowners get into heated disputes with builders and remodelers about any number of issues.

The sad fact is a vast majority of new home construction disputes can be settled quickly and efficiently with crisp plans and specifications that are developed long before the first spade of soil is turned at the jobsite. There are many reasons why good plans and specifications never get developed. Often the customer is unwilling to pay for the time and effort to produce the documents. Another common reason is the homeowner looks at a set of blueprints and thinks they are sufficient. Without ever seeing a first-class set of prints I can see why they might feel a deficient set will make do. After all, if they are good enough for the building department then they must be good enough for all involved.

Perhaps a few examples of dispute issues might convince you that you need top drawer plans and specifications for your new home. Imagine if you will a discussion between you and your builder about crown molding. You say you want it in all downstairs rooms. The builder agrees and draws one simple squiggly line on the plans in the cross section and adds "Crown Molding" with an arrow pointing to the line.

Months later while walking through the house as the finish work is being completed you see a small and simplistic paint-grade crown molding that is barely noticeable up in several rooms. You grumble and wonder why the carpenter didn't install the two piece stained oak crown molding you "thought" you mentioned to the builder.

As you walk into the bathrooms upstairs you shake your head and wonder who in the world put the toilet paper holder on the opposite wall from the toilet. It is barely reachable. Fortunately the carpenter who installed it walks in and you ask about the placement of this fixture. He simply states that is where he always put them. Need I go on?

The failure to develop good specifications and plans can also lead to cost overruns and a limited product selection for your finishes. A great set of plans includes numerous interior elevations that show you in two dimensions what a wall will look like when it is finished. These elevations can be as detailed so as to show exact locations of electrical outlets, switches and yes, toilet paper holders. New computer software allows architects and designers to show these in three dimensions as well.

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Knowing what you are going to see before it happens can often prevent costly change orders. Many people are unable to visualize what something might look like looking at a simple floor plan. Elevations help solve this problem.

Plans and specifications that do not include the actual selections of all fixtures, cabinets, tops etc. can cause you problems if you try to decide what you want during construction. A builder may ask you to go to the tile store 6 weeks before he needs the tile. But once there you fall in love with a special order tile that take 10 weeks to get. Who will pay for the time delay should you decide to order the special tile?

There are hundreds of scenarios that can be described. But one thing is for sure: Detailed plans with clear and precise specifications that outline each and everything you want will save you if push comes to shove. Time and again when I consult in the forensic construction expert work I perform I find that a great set of plans that were ignored by a builder or sub leads to their capitulation if the dispute is headed for a courtroom.

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BUILDING A NEW HOME - GET ORGANIZED

DEAR TIM: My husband and I are getting ready to build a new home. I am astonished at all of the details that need to be addressed. Each time we have a meeting with our builder all sorts of decisions need to be made. I am afraid that lots of information is going to fall through the cracks before the final walk through. What is a good way to keep track of all of this information? Julie J., Stillwater, MN

DEAR JULIE: Many people decide not to build a new home for this very reason! They are overwhelmed with the decision and product selection process and simply don't know where to start. Many people are afraid of making the wrong decision. The key is to approach the task in an orderly manner and start making product selections and decisions long before ground is broken.

The building and remodeling playing field is actually a minefield. Making decisions out of order or selecting a product without checking for conflicts with other products can trigger an explosion of extra costs and delays. Once upon a time a client of mine picked two elegant wall light fixtures that hung on each side of a bathroom medicine cabinet. Once they were installed I quickly discovered they prevented the medicine cabinet from opening. Because the homeowner had fallen in love with the fixtures, the problem was solved by relocating the electrical boxes. It was a costly mistake that I paid for.

You can avoid nightmares like mine with a simple job organizational binder. This is a nifty tool that works alongside your blueprints and any written specifications. I have found that the binder works best when it contains a section for each room of the house as well as a separate section for the exterior. Typical things you would find in each section would be photographs or illustrations of fixtures, installation instructions for appliances, fixtures or products, technical information showing supply pipe sizes, wire sizes, and the proper rough-in locations of these utilities.

Each section of the binder should also have a room finish schedule. This is a table that communicates to the builder and his subcontractors exactly what you want on every wall, floor ceiling, trim, door surface in each room. If the data in these schedules is accurate it is entirely possibly for the workers to finish the job with little or no verbal communication.

You will need more than one binder for the job. At the very minimum you need three: one for you, one for the builder and one that is safely stowed in a lockbox at the job site. The subcontractors need the job site binder to refer to as they work each day. Use clear plastic pocket protectors to keep the individual pieces of paper safe from wet job site conditions.

Creating a complete organizational binder means that you need to make product selections before construction begins. This may seem unusual but you might as well resign yourself to it. There are numerous advantages. Pressure decisions are eliminated. Because it is early in the process, you have time to get items that might have to be special ordered. Waiting until the last minute to make selections often eliminates certain items because the job may have to grind to a halt for weeks or months.

Carpenters, plumbers and electricians need to know what they are installing three or four months from now so they get openings, pipes and wires in the correct spots. Every time I have tried to use

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ESP because I was trying to guess what a customer would want, I guessed wrong. Providing your builder with the correct information simply takes the guesswork out of the process.

If you really want your job to run smoothly you and your builder need to look at all of your selections and insure that there are no conflicts. Imagine your dismay when you discover that the electrical outlet for your night stand is behind your bed. Similar frustration happens when a central vacuum outlet becomes hidden behind a door that is always open. Pesky mistakes like this can be avoided with a little thought and attention to detail.

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DETAILED PLANS AND SPECIFICATIONS MINIMIZE MISTAKES

DEAR TIM: Recently, I received a summons to appear in civil court. The contractor who walked off my job is suing me for the remainder of the unpaid money stated in the contract. Because he avoided repeated calls and letters, I hired other workers to finish the job. What do you think is the best evidence I can produce to prove to the court system that I was a victim? In my opinion he deserves no money. Sue D., Sedona, AZ

DEAR SUE: Let me begin by telling you that I am not an attorney and can offer no legal advice. I can tell you, based upon my many years of being involved in differences of opinion with homeowners, what has saved me from having to work for free. The items that eventually become supporting evidence can be a thorn in one's side as the job progresses, but they are worth their weight in gold if a dispute arises at a later date. Hopefully you have many of the following things.

Perhaps the most powerful weapon a homeowner can possess when the going gets rough is an excellent set of plans and specifications. All too often standard plans have far too little detail. Too much is left to interpretation. For example, if the plans say you are to get crown molding does this mean a small thin piece of molding or a large combination crown molding? Detailed plans and specifications make these issues black and white not various shades of gray.

Almost every job requires multiple face to face meetings where many issues are discussed. It can be hard to take notes during these meetings, but this written record of the discussions can help jog the memory of a participant when the wrong light fixtures or floor tile are delivered or installed. These notes become iron clad if you write a letter summarizing the key points and send a copy to all who participated in the meeting. To make the notes armor plated, consider including a sentence stating that if a participant disagrees with anything in the letter they must respond in writing in a timely manner.

Photograph or video tape the progression of the job. Be sure to use a camera that can burn the date onto the image. Take many photographs, including close up photos, of things that will be hidden at a later date. Photos of structural connections where things are nailed or bolted together are often critical. Try to photograph concrete forms just before the concrete is poured. Imagine how difficult it is to guess the thickness of a concrete slab without doing destructive testing or using an expensive diagnostic device. A 35 cent photograph may come to your rescue.

A detailed diary of the events that happened each day can be very helpful. Long delays or periods of time when no one showed up to work are cast in stone with written daily notes kept in a journal. It is very hard to reconstruct events if they are taken from memories that are six or nine months old. Write down who showed up and what was accomplished. Photographs can be added to the diary that show daily progress.

In certain instances, weather data may help support your arguments. If you are not a trained meteorologist, data that you keep may not be considered accurate or true. Fortunately you can obtain vast amounts of weather data at little or no cost from your local National Weather Service office. They keep hourly logs of temperature, humidity, precipitation etc. On more than one occasion this precise data has won a court case for me.

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Almost all jobs have changes as the work progresses. These change orders must always be in writing. In addition to the description of what is changing and the cost of the change, each change order must contain a section that states how much extra time the change will add or detract from the job. You can see the value of this added feature when it is used in conjunction with the start and completion dates that are contained in the original contract.

Finally, if all communications break down, then all contact with the contractor must be in writing. All letters must be sent certified mail with a signed receipt request. You want to be able to prove that you tried your best to keep the lines of communication open at all times.

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CONTRACT PAYMENTS

DEAR TIM: You and other people constantly write about how homeowners need to protect themselves from contractors who take their money and perform shoddy work or no work and disappear. What about homeowners who don't pay for work? I have had several customers who nit pick a job to death and withhold tens of thousands of dollars until several small items are completed. I have bills to pay just like everyone else. What is a fair way to solve money problems between homeowners and contractors? Robin S., Kansas City, MO

DEAR ROBIN: Touche! Years ago, I was in a similar situation. I am convinced that hundreds and thousands of homeowners torment contractors for all sorts of reasons. Some of them are legitimate while others are based on past bitter experiences, lack of goodwill, and distrust of contractors as a whole. Unfortunately, there is a small group of very bad homeowners who simply wish to cheat contractors out of money just as there are deceitful contractors who abscond with hard earned homeowner dollars.

When I perform autopsies on these problems, I typically discover a common flaw. The contract between the parties is very vague about the payment terms and conditions. In some instances, wording allows contractors to get too much money in advance. In other instances, homeowners advance money to contractors in a spirit of good faith. Unless these homeowners are working with a contractor who has the highest level of professionalism and honor, the advancement of money before certain things are complete can be a recipe for disaster. The incentive to continue to work at the highest level of efficiency and quality has been removed once the money has been paid.

Contractors routinely present contracts to homeowners that contain loopholes. Imagine language that states, "Payment is due upon completion of work." Well, if I were a homeowner, I could feel justified in holding back the monies if the job were not completely finished. Imagine the nightmare of a job where \$100.00 worth of exterior work can't be completed until the spring thaw yet \$80,000.00 or more is due upon the total completion of the job. If both parties agree to the terms of a contract, then I maintain that they should abide by what the contract states.

There are countless ways to solve payment problems. Several have worked well for me no matter how large or how small a job might be. One element missing in almost every contract I have seen is a tiebreaker clause. It is wise for the parties to agree up front on an independent inspector who is willing to give a ruling as to the quality and completeness of work. In the event of a dispute between the parties, the inspector issues a written ruling that goes one way or the other.

I have found that it is very effective to state that progress payments are made on given dates for the work that is in place and completed to the satisfaction of the homeowner and/or independent inspector. A job cost breakdown that assigns a fair and real number to each aspect of a job is invaluable for this to happen in a fair way for both parties.

The homeowner has a given amount of time to make the payment after the bill is produced. Since the homeowner knows when monies are due, all inspections would have to be scheduled in advance. This allows the homeowner to feel confident the work is satisfactory as he writes the check to meet the deadline. The contract could contain language allowing the contractor to pull off the job if the

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money is not paid on time. No contractor really wants to do this for any number of reasons, but it limits the amount of financial exposure to a fixed sum of money. It also gives the contractor some leverage as very few homeowners want their job to be at a standstill.

Set standards in the contract, if possible and reasonable, with respect to work meeting the building code or more importantly set forth manufacturers' specifications. A benchmark of quality must also be established or you may never meet certain homeowner's expectations. The independent inspector may come into play in this event as well.

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PAYMENT SUGGESTIONS

DEAR TIM: My house was severely damaged by a natural disaster. My husband and I hired a contractor who was referred by a friend and whose state license is in good standing. We visited other smaller jobs to review his work. We signed a contract with him to perform \$250,000 in repairs. He has taken all of our money and only 1/3 of the work is complete, much of it against code. What should we have done to avoid this nightmare? J.C.

DEAR J. C.: After reviewing all of the details of your story, I can see that this person was a con artist from the start. All of the facts that you have presented indicate that this individual was not capable of performing a job of your scope. Furthermore, it appears that he had every intention of stealing your money. He has no honor and makes life miserable for all honest, stable, and trustworthy contractors.

Some state laws permit contractors to ask for and accept deposit money the day the contract is signed. In many cases, deposit money forwarded by a homeowner to a contractor is nothing more than a loan. You put yourself and your money at great risk if you advance money to a contractor for no good reason. Some contractors use deposit money to pay the bills of other jobs currently in progress. This business practice is often referred to as under-capitalization. In other words, their financial gas tank is running near empty.

Contractors deserve advance money in certain instances. For example, they may have to order custom non-returnable objects such as kitchen cabinets or custom windows or doors. A build/design firm may want the cost of the design work and the building permit covered as these items can only be used on your job. Design and planning costs can be negotiated during the bidding process. Costs for custom materials can be verified by asking for copies of the quotes from suppliers. Honest contractors generally will not hesitate to provide you with these numbers.

I also noticed that you allowed the contractor to begin work without finished, detailed plans that were approved by your local building department. This was a critical error on your part. It is vitally important to have finished plans and specifications BEFORE the contract is signed. The plans should be an integral part of the contract documents. An investment of \$250 or so with a attorney to review your contract would have been very prudent. The contract could have contained language telling the contractor that all work must be performed in accordance to the plans and specifications.

Payments of additional monies as the work progresses must be tied to specific progress points. You can agree to pay weekly or monthly for work that is complete and satisfactory. To aid you in determining what is a fair price to pay at each of these times, a detailed cost breakdown of the job costs is required. Had you obtained this breakdown of costs on your job, the money to pay for the yet unfinished work would still be in your possession.

I suggest that you contact your local building department as well. Often these agencies provide written progress reports during construction. These reports tell you whether or not the work is being completed in accordance with the building code laws. Make the contractor submit these reports, if they are available, at each request for payment.

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In addition, be sure you receive notarized affidavits from each person who has worked on your property or material supplier who has delivered materials. If your contractor has not yet paid these people, your nightmare is just beginning.

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WHEN TO PAY FOR REMODELING PLANS

DEAR TIM: My husband and I are remodeling our home to accommodate for our new arrival. We've been working with an architect who is not fully licensed at this time. This individual has been drawing up plans for our new project. The plans are not yet signed and sealed as he wants to send them to a licensed architect to have this done. But he wants us to pay the full amount of the plans prior to getting them signed and sealed. We're not sure if we should pay for the plans until everything is finalized. Please let me know if we should pay for them up-front or if we should wait until the plans are completely done. Julie S., Orlando, FL

DEAR JULIE: Congratulations on the expanding family! The answer is very simple if you ask me. I feel you should never pay in full for something until such time as you are completely satisfied. The fact that the unlicensed architect-to-be asked for the money before the job is complete is very troubling to me.

There are all sorts of reasons you should not pay in full until the job is complete. The money in your account is the only leverage you possess. The instant you hand over all of the money for the plans, you then rely on integrity, hope and good will to get what you want. This individual may have all of these qualities and more, but I do know he does not yet possess good business sense.

I can produce countless examples in the real world where you do not pay for things in advance in-full before you get them. There are many things where you do put down a deposit and possibly make timed payments as the work progresses, but to pay in full before delivery is a recipe for disaster.

Here is a true story that just happened to the son of a close friend. This young man wants to become a commercial pilot. He signed up for flying lessons and all the necessary ground school training to get the commercial license. The cost was staggering - somewhere above \$15,000. My friend co-signed a loan for his son with a bank, took the funds and paid the flight school for the flying lessons and schooling. They did this in advance to get a slightly reduced price. A month ago the flight school went bankrupt and the son only had 10 percent of his training complete.

The son and father still owe the money to the bank and they have virtually nothing to show for it. A similar thing could happen to you. This unlicensed architect may have made an enormous amount of mistakes in your plans. It could take many hours of redrawing to correct them. Once he has the money, he may be reluctant to make the changes in a timely manner. One thing we know for sure is that his incentive to do so will be greatly reduced. In fact, he will find that the additional work will create a large mental obstacle as he feels he is not getting any money to correct his mistakes should they exist.

At this point in time, you have enormous leverage. The plans he has been working on are of no value to anyone but you and your husband. No other homeowner would have interest in them as they are house-specific remodeling plans.

You simply tell this person that you are more than willing to write a check for 90 percent of the total due once the plans are signed and sealed by a real licensed architect. You then tell the architect-to-be that the remaining 10 percent of the money will be paid as soon as the building permit

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is issued. Keep in mind that the building department may request minor changes in the plans before a permit is issued. You still want to have some financial leverage in the event this happens.

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HOME REMODELING

25 Things You Must Know If You're Remodeling

Remodeling is as different from building a new home as night from day. When you visit your new home construction site, you can look around and then go home. You don't have to deal with the workers and the mess.

Remodeling is the exact opposite. Your normal routine is rocked to its core. Strangers, whom you have never seen, invade your home. The excitement of the job starting soon wears off and becomes a dull headache.

If the remodeling job is a major one, such as kitchen remodeling, or bathroom remodeling or even a room addition, the impact on your life will be significant. Many people are not prepared for the disruption, dust, and missed deadlines.

To make a remodel job go smoothly, it require enormous amounts of planning. Be sure to convey your bathroom remodeling ideas or basement remodeling concerns or what ever room you are doing to your contractor at the beginning of the remodeling projects. The remodeling contractor is responsible for this, but you must make sure he or she has covered all of the bases. In my opinion, you can only do this if you have a clear understanding of all of the things that can go wrong during the remodeling process. With this knowledge, you can already have a strategy in place to eliminate problems before they happen.

Asbestos and Lead

Harmful basic chemical elements lurk like hidden time bombs in many existing homes. Two of the most prominent are asbestos and lead. Asbestos was commonly used in insulation pads that sat on top of furnaces and was used in wrapping materials around forced-air heating and cooling ducts.

Asbestos was also used in floor tiles, roofing, piping, adhesives, etc. In other words, it can be found just about everywhere. You need to make sure you identify potential trouble areas in your home and make sure your contractor deals with the danger in an approved manner during the asbestos removal.

Lead is a very serious hazard that can be found in many homes built prior to 1978. If your remodeling job involves scraping, sanding or removing anything that might contain lead paint, you better make sure all precautions are taken so your home does not become listed as a Superfund site. Lead poisoning is a possibility if not handled properly.

Bid Breakdowns

When you are soliciting bids from different contractors for your upcoming remodeling project, it is imperative that they submit detailed itemized bids. You need to know how much money is allocated for the labor and material for each part of the job.

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This information will be used by you to why the low bidder is low and why the high bidder is high. If there is an enormous amount of disparity between contractors when you compare the cost of the same task, this is an area that needs further discussion. For example, if you are getting a new roof put on and painting done and you have specified the exact shingle you want, then the actual itemized number for the shingles should be within \$50 or so of one another as both contractors should have calculated the same number of shingles.

The breakdown will also be an invaluable tool when you need to make payments. When a payment is requested, it becomes your job to view the work that is complete and ensure it is satisfactory. Refer to the initial bid breakdown and make sure to only pay for that amount of work along with a pro rata portion of contractor overhead and profit.

Customizing Touches

One of the most fulfilling things, I experienced as a remodeling contractor, was doing extra special things for customers. Creating special nooks or crannies, delightful custom window seats, maybe it was a special set of steps leading from a deck to a patio.

If you start to gather photographs from magazines and even the Internet that depict things you especially like, an experienced carpenter, painter or other trades person might be able to create it for you with very little extra work.

But you need to communicate these wants and desires in the planning stages. Photographs are an ideal tool for communicating what you want. My wife did this exact thing with me as she saw a gorgeous wood picket fence in a magazine. Without any plans and just working from the photo, I created a nearly exact copy. It doesn't cost one dime to ask for a price or express an idea.

Debris Removal

It is surprising to many people how much debris and garbage are created during a moderate to large remodeling job. The problem on a remodeling job is that you don't want it scattered or piled in the yard or left inside if at all possible. Any trash that is combustible represents a serious fire hazard as it is commonly stacked so there is lots of air around it. A spark from a plumber's torch, a carelessly discard cigarette, etc. can create an inferno that can cause serious damage.

To make matters worse, when debris is being created, often the structure is being altered. Some structures can lose much of it's fire stop characteristics, especially if drywall and plaster have been removed. Open walls and ceilings provide a pathway for rapid fire spread.

Include in your contract that all debris will be cleaned up each day and placed in a metal container that is placed safely away from your home. Request that the work area be broom clean each day and vacuumed at the end of each work week.

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Duration of Job

The last thing you want is your house torn up for an extended period of time. If you have seen your friends', relatives', co-workers' and neighbors' homes go through a remodeling job of any size, you know it can take a while. Anything that delays the job causes the pain threshold to rise exponentially.

Using your past experience and observations of other people's projects, you might be able to get a feel for the length of time a job should take. If a contractor says they can do a small room addition from start to finish in 10 days, ask him what magician will show up. You may be surprised as he may have the addition pre-built at a modular home factory!

It is possible to compress time schedules, but your job during the bidding process, is to request a detailed time line of what tasks are going to happen each day or each week. Compare the schedules that each contractor provides to see if each one has accounted for each task. If a contractor refuses to produce a schedule, it might be a sign of disorganization.

Dust Control

Even small remodeling jobs create dust. Large-scale demolition can create dust storms within homes. When you are interviewing contractors, during the bidding process, have detailed discussions about dust.

Take notes during these discussions. If the contractor says something that doesn't sound right, ask for clarification. When you talk with past customers of each contractor, ask specific questions about how well dust was controlled.

Some dust is inevitable, unless the contractor sets up a negative pressurization environment where the work is taking place. This setup costs extra money and is widely used by the mold abatement companies if you or someone in your family is sensitive to dust.

Keep in mind that homes equipped with recirculating forced air systems must be turned off during periods of dust creation. The return air aspect of the system can inadvertently pull dust into the system and broadcast it throughout the home.

Extra Telephone

It seems as if everyone has a cellular telephone today. But it is entirely possible for a battery to die or a cell phone to be forgotten at home or become damaged at the jobsite.

The last thing you want is a contractor or one of his subcontractors using your phone. One or two phone calls is not bad, but day-after-day use of your home phone can become very annoying.

It gets worse, some contractors give out your telephone number because they might expect a return call. You then become an unpaid secretary or a receptionist for the branch office of your contractor.

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The solution is simple. Place language that your contractor must install a temporary land telephone line or at the very least buy a temporary cell phone that is kept at the jobsite for all subcontractors and employees to use. We have more options now than ever with respect to communication.

Fumes

Many parts of the remodeling process can and do create fumes. The assembly of PVC plumbing pipes creates very noticeable fumes. Soldering copper tubing creates fumes as well, Drying paint liberates vapors into the air that contain a brew of different chemicals.

Urethanes, adhesives, etc. all create fumes that can invade your home during time periods where windows must be closed. These accumulated fumes can cause discomfort and actually sickness to people who might be acutely sensitive to some of these very peculiar chemical vapors.

Temporary space heaters used for all sorts of heating and drying purposes can create deadly carbon monoxide. Fumes can enter your home quite by accident and cause a problem. A heater placed innocently next to an air intake might cause massive amounts of carbon monoxide to be inject into your interior air. It is extremely important to discuss fumes with the bidding contractors and what they plan to do to minimize them in your home as they work.

HVAC Sizing

If your remodeling project involves adding additional space, there is a strong possibility you will have to upgrade or modify your existing heating and cooling system. Your existing furnace and air conditioner might be at the limit now with respect to the amount of heating and cooling BTU's they can handle.

It is extremely important that you discuss this possibility with the remodeling contractors during the bidding process. Talk with them about heat gain and heat loss calculations. If the contractor or sales person squints or tilts their head when you mention those words, you might be talking with the wrong person.

Once you have awarded the job to a contractor, it is imperative that the heating and cooling contractor come out and gather the necessary data to perform the needed calculations. These tell them whether or not your existing heating and cooling equipment will work.

Insurance Certificates

Unfortunately, we live in a society that seems to be over-populated with attorneys. These people need to feed their families and some of them seem to love to work on accident claim cases. You need to make sure you are never named as a party to one of these lawsuits.

You can do this by taking about insurance certificates with the bidding contractors. It is not always enough for a remodeling contractor to show you he has coverage for his employees. What is important is that each and every person who shows up to work at your home is indeed covered.

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Although it is a lot of work, you must insist upon doing it. You must make it very clear to the bidding contractors that they must supply you with current workman's compensation and general liability insurance certificates for all subcontractors who plan to work on your job. These documents need to be produced the day the contract is signed.

Matching Materials

Clothing, automotive, etc. styles change on a constant basis. The same is true for products used to build your home. Your existing home may have very unusual interior and exterior woodwork or plaster. If your remodeling contractor is a professional, he or she will know how to get exact matches on many of the materials used in your job.

There are many woodworking mills that can easily create identical profiles for door and window casing as well as crown molding and baseboards. It will cost more than buying stock trim, but the long-term value you add to your home by doing this will be well worth it.

With lots of extra effort, it is sometimes possible to get very close matches on brick and even ceramic tile. If you are trying to match brick, always go for the color match first and then the texture match. From the street, you rarely can detect texture but readily notice differences in color.

Pavement Problems

Do you have a gorgeous driveways, sidewalks and patios right now? If so, it would behoove you to take very good photographs to prove it. Remodeling activity almost always causes damage to existing paving materials around a house.

Dumpster deliveries, concrete trucks, lumber trucks, etc. can not only crack and break apart paving, but they can spill seas of motor or hydraulic oil on pristine concrete or blacktop.

It is imperative that you and the bidding contractors talk about how your paved surfaces will be impacted by the remodel job. Document what each contractor says and decide who has the best plan to protect your current investment. The last thing you need is an argument that a crack or an oil stain was already there. This is the reason for the photos you took prior to the remodeling project.

Be aware that large loaded delivery trucks can weigh as much as 20 times what your car weighs. It is no wonder thin concrete slabs crack and blacktop driveways crumble when a truck backs up onto it. Read the delivery tickets that are signed by the workers and most have damage waivers that relieve the truck companies of responsibility if a person allows them to drive onto your paved surfaces.

Payment Schedules

This is one of the most important parts of your remodeling job. The money you possess is the only leverage you have to ensure your job gets completed and done to a level of quality you have agreed upon in your contract.

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All too often, people advance large sums of money to the contractor when the contract is signed. The only time this is necessary is when your job requires special order materials to be ordered before the job starts. Examples of this might be semi-custom or custom cabinets, a custom front door, custom garage doors, etc. Any materials that are commodity items that can be purchased at supply house do not qualify.

Keep in mind that your contractor should have open accounts at all suppliers. If he does, why would he need advance money? He doesn't pay workers in advance, nor does he pay for supplies in advance.

You must always retain a sufficient amount of money to complete the project no matter what stage it is in. When you do pay for completed work, the contractor must supply you with notarized affidavits from all who have work on the job as well as all companies that have supplied material. Never issue a payment without having these documents. Get your payment calculator out and be sure the total amount you pay each time needs to match the amounts on all of the affidavits.

Plans - Triple Check Accuracy

As with new construction, the plans, blueprints, and written specifications are the primary tool that communicates to the remodeling contractor, suppliers and all subcontractors what is going to happen at your home. The ideal set of house plans would be ones that are so complete and so detailed that no one ever has to ask you a question. It is possible to do this as I have been blessed to work on such a job.

But this goal is very hard to reach. It requires you to think through the simplest things, such as the exact place where a toilet paper holder might go. You need to make all product selections, even paint and stain, before the job is even bid.

Is there a value to all of this? Absolutely, yes. If your plans are this complete, the bids you receive should be highly competitive. Dishonest contractors can't play the famous bait and switch game with absurdly low allowances for things when plans and specifications are complete and accurate.

Plumbing Disruptions

Many remodeling jobs involve plumbing. What may seem to be a very simple task of just turning off your main water valve and turning it back on can wreak havoc in an older home. When water lines refill from the rapidly incoming water, it can dislodge pieces of sediment from the sides of the older pipes. This sediment can clog faucet aerators, toilet fill valves and faucet valve cartridges.

It is very important that you discuss all plumbing jobs with your contractor before work begins. If water needs to be shut off to solder pipes, what happens if a small fire starts? If drain lines need to be cut into to install a new branch drain line, how long will the toilets in the house be inoperative? These simple questions need solid answers.

Avoid major plumbing changes on Fridays. If leaks develop after workers go home, will you be able to get instant repair service over the weekend? If you must have work done on a Friday, have a

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contingency plan in place. Make arrangements such that you can easily contact the plumber or the remodeling contractor in the event of plumbing problems.

Porta-Potty

Bathrooms are private places. The last thing you need is a bunch of strangers with dirty clothes and muddy boots walking onto the clean throw rugs in your bathrooms or powder rooms.

Major remodeling jobs that will see many people at your home for weeks on end need a temporary toilet facility. Many of these are quite discreet and they allow you to maintain control of a very important part of your home. This is an important issue and you should not budge on it.

Make it very clear to the bidding contractors that a temporary toilet must be on the jobsite and that it must be serviced once or twice a week.

Pre-Order Materials

Any type of delay on a remodeling job creates havoc and stress. You can minimize delays by making sure the exact materials you need are at the jobsite long before they are needed.

This concept may seem simplistic, but it is often overlooked. If you have a safe and secure place to store products that are not readily available, why not buy them in advance and have them on hand?

Examples of this would be specialty faucets, hardware, light fixtures, ceramic tile, special-order windows and doors, and any other material that is not ordinarily in stock. It is also very important to inspect these items to make sure there are no defects and that they are exactly what you ordered. It is not uncommon for the wrong product to be shipped.

Protecting Finishes

Imagine how many trips up and down your stairs a remodeling contractor and his subcontractors might make as they remodel a second-floor bathroom. Without protection, the stairs, carpeting, handrails, walls, etc. can easily be damage or scuffed.

I suggest having a very frank and open discussion with your contractor about what steps will be taken to protect all existing surfaces both inside and outside of your home. Take very good notes and write down in the contract any promises the contractor makes with respect to what he or she intends to do.

The marketplace is crammed with many surface-protection products that help contractors keep dirt and dust away from things that are important to you.

But keep in mind it doesn't stop with existing materials. Many a new tub has been scratched by a drywall or ceramic tile subcontractor. Finish carpenters can scratch new hardwood floors with tools when they come back to install toe stripping. Discuss all of these issues with your contractor so things that are in excellent shape stay that way.

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Scheduling

One of the top complaints of homeowners who have gone through a major remodeling job are delays caused by scheduling snafues. Large construction projects employ special people who are experts at coordinating the arrival of both materials and workers so that the job continues from start to finish with no disruption.

Small remodeling contractors can create simple charts that do the same thing. The trick is to correctly identify the realistic amount of time it takes to do a particular task and then place it in the right position on the schedule.

The next task is to determine which jobs can occur on the job at the same time. It is often possible for a plumber to be working inside a room addition while a bricklayer or siding contractor is applying the outer skin to the job.

Request a written schedule from your contractor in the bidding phase. See if any of the contractors you are talking with can produce one they are currently using on an existing job. If they can't, you better talk with past customers to see if the jobs they did progressed with little or no interruptions.

Selecting the Real Professional

I often think this is the Holy Grail of both new home building and remodeling. Every homeowner wants the best contractor, who is both professional and honest. These people do exist. They can often be found in just about every city and county in the nation.

If you hope you have the right contractor for the job, you may already be in trouble. You can't ever base decisions on hope. You start the process of finding the professional by conducting a thorough and in-depth interview. This may seem unusual, but it is a common practice in the business world.

You can ask very interesting questions and get some fascinating information. For example, ask a contractor the names of the last three books he has read. Ask if he attends remodeling conventions. If not, ask why. Ask them if they volunteer time. If so, where? Do they coach children's teams? When asked to produce an ID, does the contractor show you a driver's license or some other card? Never forget that it is your home and it represents an enormous investment. You must be sure you and your contractor are a close, if not perfect, fit.

Temporary Kitchens and Baths

If you have never kneeled down to wash dishes in a bathtub, you are not missing a thing. It is miserable and it is humiliating. It is also unnecessary.

If your kitchen is going to be torn up for several weeks, ask the bidding contractors how they intend to provide you and your family with temporary sinks, cooking appliances and refrigeration. Creative and professional remodeling contractors can often throw together a temporary kitchen that can roll into and out of the kitchen in progress each day.

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Bathrooms are even more critical. It is not uncommon for a professional remodeling contractor to build a temporary shower in some location while the primary bathroom is being remodeled. Sinks and toilets are a must. There must always be functioning sanitary plumbing fixtures for you at all times. Excuses are reasons for failure. Do not tolerate them.

Trees and Landscaping

The landscaping around your home may be priceless. How many years has it taken a particular tree to reach its current height? You may have tens of thousands of dollars invested in expensive flower, bushes, shade plants, etc. The last thing you need is permanent and irreversible damage to your trees and vegetation caused by an unknowledgeable contractor, subcontractor, excavator or delivery truck driver.

The best way to ensure you preserve all of your plants is to arrange a consult with a certified arborist long before your project begins. Get written instructions from this person as to what needs to be done to make sure all trees and plants will survive the remodeling ordeal.

Make these written instructions part of the bidding documents and part of your contract. Be sure the contractor you choose has sufficient general liability insurance to cover damages and that the policy specifically covers damage to trees and landscaping.

Valuables

This is an uncomfortable subject, but one that must be discussed. There is no doubt in my mind that your home contains valuables. They may be cash, jewelry, guns, art or stamp collections or even musical instruments.

Remember that your remodeling job will bring with it people you have never met, and employees who work for those people who may have never been properly screened. Never tempt these people by leaving valuable objects in plain view.

If you have things of great monetary or sentimental value in your home, it may behoove you to move them to another safe location during the remodeling process. Accidents can happen. Fires can start. Worse yet, loose talk at a drinking establishment might tip off criminals who learn about all of the wonderful and tantalizing things within the confines of your four walls. Eliminate this problem from the start by eliminating the source of temptation.

Weather Protection

Many remodeling jobs involve opening up your house to the weather. Extreme jobs could actually involve tearing off your entire roof or a part of it to add a second story or a large dormer. The job might be as small as adding a skylight. But Mother Nature might spoil the fun with a pop up thunderstorm or five days of non-stop rain. A snowstorm may even be thrown in for good luck.

The point is simple. You must know how your remodeling contractor is going to protect your home against all forms of weather while your home's outer defenses have been compromised by

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work-in-progress. You need to understand that giant tarps can blow away in moderate winds. Wind pressure can be enormous over large expanses of plastic or fiberglass.

Not only can rain and wind-driven rain be a problem, but extremes of heat and cold can create enormous amounts of discomfort. Discuss with your contractor, before the job starts, how air leaks will be stopped until such time as enough work is in place to minimize any loss of conditioned air from your home.

Work Days

Within a week or two, you will grow tired of the flow of people who come to your home to perform the remodeling work. It is important for your sanity and peace of mind for the workers to maintain a strict work schedule. When you get home from work, the last thing you need is noise, dust and activity at your home. Yes, that may be part of your families ordinary activities, but you don't need additional input for the remodeling contractor.

When you are bidding the job, ask each contractor to state the normal times workers will arrive and leave each day. Ask about weekend work. If you do not want workers to be around on weekends, make it clear for the beginning.

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ALUMINUM GUTTERS - TRADITIONAL VS. SEAMLESS

Back in the late 80's, I did a remodeling job on a house that was only three years old. The challenge was to convert an open-air deck into an enclosed room. I always prided myself in being able to match all interior and exterior details of the jobs I did. However, this new home included a product that I only used when a customer insisted - "seamless" gutters.

Now don't get me wrong. It's not that I don't like seamless gutters - the concept is fantastic. My dissatisfaction was with the companies and techniques used to install them. The particular people I had to use employed technicians who were definitely at the bottom of the food chain.

Steel vs. Aluminum

Aluminum gutters are a great product. They don't rust, are available in popular colors, can be painted to match other colors and can be shaped quite easily. These rain handling devices have been around for close to 30 years. Prior to the early 60's gutters were made from galvanized steel. Steel gutters were strong and durable. However, installing them took talent. Joints required solder. Painting them was a challenge. If you didn't remove the mill oil finish, the paint would rapidly peel. Aluminum gutters offered a breakthrough in technology.

Seamless - A Myth???

Have you been approached by a salesperson telling you the benefits of seamless gutters? They tell you about how seams leak. They say how your leak problems are gone forever. Hogwash! Seamless gutters have all kinds of 'seams' - places where leaks can develop. There is a seam at each end of the gutter. There is a seam at each outlet tube. There is a seam every time the gutter turns a corner. All of these places can leak. So, don't buy a 'seamless' gutter just because it supposedly doesn't leak.

Aluminum Alternative

OK, so now you don't want seamless gutters. What do you do? Well, how about aluminum gutters that are just like seamless gutters but offer more advantages? Forget about avoiding seams. It is impossible to do, no matter what material you choose to use: steel, copper, tin, or aluminum.

Did you know you can get a traditional aluminum gutter system that looks like a seamless gutter, is stronger than most seamless gutters, and comes in lengths up to 37 feet long? Did you know this same system has an invisible hanger system so you don't see those ugly spike heads?

Comparison Points

If you are selecting gutters for your house, I suggest you focus your attention on important attributes that pertain to how long the system will last. For example, how are the gutters attached to your home? Old fashioned spikes and ferrules or new floating hangers? Floating hangers allow the gutter to expand and contract. Spikes and ferrules do too. But guess what? The spikes and ferrules will loosen over time as the gutters go back and forth!

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What about the thickness of the gutter material? The best aluminum gutters are made using aluminum that is .032 inch thick. A thinner material may dent or crease when a branch strikes it or you set a ladder against it.

Hang 'em High

Some seamless gutter systems and traditional gutters are available with a special hanger system. These hangers take the place of the older spikes and ferrules. Aside from being unattractive, spikes also attach to your house in the weakest possible manner. The spikes are driven into the end grain of the rafter tails. Nails driven into the end grain of wood have the lowest holding power.

Some new hangers allow you to nail down through the roof sheathing into the top of the rafter. This maximizes holding power. The hangers also allow the gutter to 'float'. It can expand and contract without restriction as temperatures fluctuate. Expansion and contraction problems can lead to leaks. The gutter will relieve these stresses at the weakest point - usually a seam!

Traditional aluminum gutters can deal with expansion. At least one manufacturer - Alcoa - has a special expansion joint designed to relieve stress. These joints are easy to install. Expansion joints should always be installed on any gutter that extends more than 40 feet. In addition, these joints will minimize stress on mitered joints. So, if your gutters turn corners, say on a hip roof, you had better consider these wonderful devices. Expansion joints are often not available with 'seamless' gutters.

What About Size - 5 or 6 inch?

Aluminum gutters are available in two common sizes: 5 inch or 6 inch. Most houses have 5 inch gutters. A 6 inch gutter can handle more water before overflowing. However, a 6 inch gutter also requires some preplanning. The fascia or gutter board behind the gutter needs to be sized correctly.

Most builders install a 1x6 gutter board. This works well for 5 inch gutters. 6 inch gutter must have a 1x8 gutter board. Without it, the bottom of the gutter can actually fall below the bottom of the gutter board. This often looks very awkward.

Corrosion Problems

Aluminum will not rust. That's a fact. But, it will corrode. Never place aluminum in contact with another metal such as steel, copper, or tin. Electrolysis will happen and the aluminum will actually disappear! Not only that, the chemicals in concrete, stucco, brick mortar, and treated lumber can cause corrosion. You need to isolate the aluminum from these materials with a sheet of rubber or heavy plastic.

Time to Decide

OK, it's time to buy. What to do? Well, think about hangers. Think about expansion. Think about size. Above all, think about warranties and who will install your gutters. Look for a company and an installer who will be around if a problem occurs. Avoid bottom feeders! Think smart.

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Downspout Quantity and Sizing

Downspouts come in two common sizes: 2 x 3 inches and 3 x 4 inches. Downspouts depend entirely on gravity to function. Water isn't 'pumped' through them. So, a 2 x 3 inch downspout will comfortably carry the average rainfall from approximately 600 square feet of roof area. A 3 x 4 inch downspout will handle the rainfall from 1,200 square feet of roof. As far as I'm concerned, you can't have too many downspouts. Avoid trying to empty one long gutter at one end with a single downspout. Place a downspout at each end. A 2 x 3 inch downspout is made for 5 inch gutter. The 3 x 4 is for 6 inch gutter. The outlet tube configuration is what limits this fact. Don't forget the bird cages or leak strainers! These devices prevent clogs in underground pipes.

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HANGING GUTTERS REQUIRES SKILL

DEAR TIM: I have decided to add aluminum gutters to my home. The lack of them caused cascading rainwater to damage the lower portions of my exterior walls. There is a drip flashing in place that goes under the roofing shingles and extends downward on the face of the fascia board. Does this flashing go behind the gutter or does it drop into the gutter? What is the best way to attach the gutters to the fascia board? Where should the rainwater go? Bob B., New Smyrna Beach, FL

DEAR BOB: You are doing yourself and your home one huge favor. Most people don't have a clue how much water flows off the average house roof in a given year. It is not uncommon for many parts of the United States to have 36 inches or more of rainfall in a year. If your roof area has a footprint of 2,800 square feet and you get 36 inches of rain in a year, the runoff amounts to 62,832 gallons of water. That is enough to fill a gasoline tanker truck nearly nine times!

Uncollected rainwater erodes soil and causes excess water to splash up on the side walls of houses. This water can cause painted exterior surfaces to peel, wood framing and siding to rot, masonry walls to effloresce and foundations to settle. Common sense should tell you that the water falling from even a low roof has an enormous amount of energy that allows the water to wreak havoc over a period of time.

Gutters and down spouts collect water and divert it away from the base of the house. Rain water can be used for drinking, cooking and bathing as well as to irrigate gardens and landscaping. People who live in the country routinely use cisterns to capture rainwater for future use. As the population grows in different parts of the nation and puts a stress fresh water supplies, I believe we might see a resurgence of cisterns. At the very least, new homeowners can use rainwater for lawn watering and landscape irrigation.

The flashing that is in place needs to drop down inside the gutter. The bottom edge of this flashing should have a bend in it that directs water towards the center of the gutter. If the flashing does not have this slight bend, capillary attraction can draw water up between the flashing and the back wall of the gutter. This water might actually run down the back of the gutter and rot out the gutter or fascia board.

Traditional long spikes and hollow tube ferrules are old technology. You can purchase very nice aluminum gutters that come with special internal hidden hangers that have long screws that pass through the gutter or fascia board and bite into the ends of the roof truss or rafter tails. Be sure the screws hit solid framing material behind the fascia board if you want the gutters to stay on your home. Gutters can fill to the brim with water because of debris that clogs outlet holes. The weight of the water-filled gutters is in the hundreds of pounds. Keep in mind that the average gutter length may only have three or four fasteners and all of this weight is carried solely by them.



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The drip edge flashing often needs to be trimmed around the hidden screw hangers. You can make two vertical cuts on either side of the hanger and simply bend the flashing tab up and over the top of the gutter hanger.

When hanging your gutters, slant them slightly towards each drain outlet hole. You can't use the plumbing rule of thumb of 1/8th inch of fall for each foot of horizontal run. If you do this, the bottom of the gutter can fall beneath the fascia board on long runs. As long as the gutter is level or has a slight pitch, Mother Nature will direct the water to the outlet hole in the gutter.

If you do not pipe your rain water to a cistern, check with your local building officials with respect to this runoff. Many cities have strict codes that address where this water must be piped. It is almost always against the law to pipe this storm water into sanitary sewers. Storm water that is mixed with sanitary sewage can send too much water to the sewage plant and cause flooding inside houses. Many cities and towns have separate storm water systems and often request that you connect roof drains to these systems.

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GUTTERS AND GUTTER HANGERS INSTALLATION

Continuous aluminum gutters are absolutely the dominant rain handling device in the USA today. It is no wonder, as they are virtually maintenance free. You never have to worry about rust. They rarely require painting, unless you change the color of your home. They are indeed a great product.

Transport

I prefer to use Alcoa aluminum gutters. These come preformed from the factory and are available in lengths up to 36 or 37 feet. That is one long gutter. They come in smaller lengths as well. But don't think you are going to strap these things to the top of your car and drive home. They need to be supported and preferably protected from the wind. They will bend back on themselves if you drive too fast. I have transported them on top of a long ladder. Perhaps the best way is to simply pay the roofing supply company a reasonable delivery fee to bring them safely to your home.

Cutting Gutters

Believe it or not, I use my power miter box saw and an older somewhat dull blade to cut aluminum gutters. It makes a painful sound but the job gets done and the cut edge is very crisp and square. You can use a traditional hacksaw but be sure you use a blade with many teeth instead of an aggressive blade that has fewer teeth per inch.

If you use a power miter box saw as I do, be sure to bring the blade up to speed and drop the blade SLOWLY into the metal. Do not cut quickly. You must wear goggles as little bits of metal go flying all over the place.

Other Tools

Assembling aluminum gutter parts requires a power drill with an 1/8 inch bit, a pop rivet gun with aluminum rivets that match the color of the gutters, a hammer, a ½ inch sharp wood chisel and a hex nut driving tool to twist the screw on the hanger.

Assembly

I prefer to assemble the entire gutter on the ground and then lift it in place. You need to cut the gutter to length keeping in mind the small overhang of shingles at the edge of the roof. I made a mistake years ago and stopped my gutter just beyond my gutter board. My shingles extended about 1.5 inches beyond the end of the gutter. Each time it rained I would get a drip, drip, drip from the end of the roof. It was a big nuisance!

The gutters come with left and right end caps. They already have pre-drilled holes for the rivets. Pop the caps onto the end of the gutter and drill through the holes to make a matching hole in the gutter. Immediately install a rivet before proceeding to the next hole. Make sure the cap is tightly fitted before you drill into the gutter.

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The Outlet Tube

Installing outlet tubes is the hardest part of the job. You must make sure you locate them in the right place with respect to the downspout location. I typically use a framing square on the wall below to translate the center line of the downspout up to the gutter board.

Once you know where the centerline of the outlet tube is in the gutter you can mark its location. Use the actual outlet tube as your template to draw the hole shape. Drop it upside down into the gutter and trace the inside outline of the hole.

Slide a scrap piece of 2x4 or other wood under the gutter at the location of the outlet tube. Make sure the gutter is not on pavement that will scratch the underside of the gutter. The block of wood allows you to use the wood chisel to cut the hole.

Note that the wood chisel has a flat black side and a taper or angled face. The angled face always should be facing to the inside of the outlet hole. Use the hammer to tap the wood chisel. It will cut through the aluminum. It may also slightly bend the bottom of the gutter as you cut the hole. Don't worry about this. Be sure you are cutting the right sized hole. The tolerances are very tight. Cut too small and the tube won't fit. Cut too large and there will be no gutter left at the pre-drilled holes in the outlet tube flange.

Once you have cut the hole, put the block of wood inside the gutter and use the hammer to flatten the bottom of the gutter. The drill and pop rivets are installed now. I prefer to have the rivet heads on the bottom of the gutter. The little dimple points will stick up inside the gutter but who cares.

The Sealant

Alcoa manufactures a special sealant that makes their systems leak proof. This product comes in squeeze tubes and is very sticky. It contains very flammable solvents that evaporate rapidly. The product skins over in just seconds so you must work quickly. I prefer to squirt the sealant into the cracks of the end caps while the gutter is on the ground. You can tilt the gutter slightly to get the sealant to the top of the cracks. After the end caps are finished, apply the sealant liberally over the flange of the outlet tube. Be sure to have it span over onto the gutter and seal each rivet.

Start at the Middle

Believe it or not, you can carry and install a 35 foot piece of gutter by yourself. The trick is to hold it in the middle so it is balanced. Position the ladder in the right place. Be sure no overhead electric lines will come in contact with the gutter. The gutter needs just a little bit of fall as it heads towards the outlet tube. You can't slope the gutter as you would a plumbing drain line. If you do, it will end up hanging below the gutter board.

Always install the gutter hangers at a rafter tail, unless you are lucky enough to have solid framing behind the entire length of the gutter board. This is a luxury. If you can paint your gutter board before installing the gutter, do so. Paint the entire surface of the board.

For color photos of screw type gutter hangers, click here.

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DOWNSPOUT DRAINAGE PIPE INSTALLATION TIPS

Frequently, I see builders install downspout drain lines close to the foundation of a new house. They do this long before the backfill dirt around your house has compacted. This is a mistake.

Piping installed in uncompacted ground will often develop negative pitch. This means that the pipe drains the wrong way! In many cases, the stress on the pipe caused by compacting soil actually fractures the pipes or cause joints to leak. This is unacceptable.

The better choice is to install this piping in virgin soil which was undisturbed by the original foundation excavation. This may mean staying 5 or 6 feet away from the foundation. What a small price to pay for long term peace of mind!

Always try to lay the pipe in a bed of sand or gravel. Don't allow an underground pipe to act as a beam. If a pipe has a hollow spot beneath it, it will become a beam just as soon as dirt is piled on top of it. The weight of the dirt (often 100 lbs per cubic foot!) will cause the pipe to bend or break.

If your soil is rocky, be sure to cover the downspout drain pipes with sand or smooth gravel. Sharp rocks can crack piping materials.

How Deep are They Buried?

Downspout drain lines do not have to be deeply buried. In fact, if your lot is fairly level, you must be very careful as to how deep they are installed. If you go too deep, the pipe may still be underground when you get to the discharge point!

Think about starting the installation at the point where the pipe will discharge. Work backwards towards your house. Keep in mind that you may have to pass under sidewalks or driveways. Never install a "trap" in a downspout drain line. A trap is a low spot where water or solid particles can collect. The solid particles may eventually clog the pipe. If you live in a cold climate, trapped water may freeze and burst the pipe.

In many instances, I would dig a trench only 16 inches deep. This trench would follow the natural contour of the ground. A trench this deep allows you to have a foot of dirt over the pipe in many locations. Trenching machines work great! Set the depth and it follows the contour of the ground for you. Watch out for buried electric lines! ZOT!