

Puzzling specs: who supplies the missing pieces?

It becomes apparent very early to anyone who has to read and interpret blueprints and contract specifications that some specification writers lack the know-how, skill, or experience to be clear. In the worst situations, the specifications seem to be deliberately obscure.

Sometimes a single line is drawn on the roof plan with no clear explanation of what it represents and no specific detail given in the drawings. Meanwhile, the specifications themselves randomly list everything under the sun, including items that don't apply to the project being specified. To complicate things further, specifications might include a "grandfather clause" stating that the owner will accept nothing less than six plies of the finest grade felts woven of silver and applied with a 25-pound-per-square mopping of 24-karat gold. To top it off, the specifications ask the contractor to conform to every known roofing principle, including all testing agencies' standards, the roofing manufacturer's guidelines, the local codes, NRCA's recommendations, and all the rules listed by OSHA, MOSHA, *Copper and Common Sense*, ASTM, Underwriters Laboratories (UL), Factory Mutual (FM) and any others the specifier can remember and/or invent along the way. And of course, while attempting to conform to these sometimes contradictory or irrelevant standards, the contractor must also install the system to the satisfaction of the owner or architect.

I have always had a problem with designs that make the roofer guess at specs or improvise details. If the ambiguity is caused by the specifier's lack of experience, there's no telling what will satisfy him. If you have ever done a job for someone who tries to change his mind half way through the change he has just made, you know what I mean.

Obscure on purpose

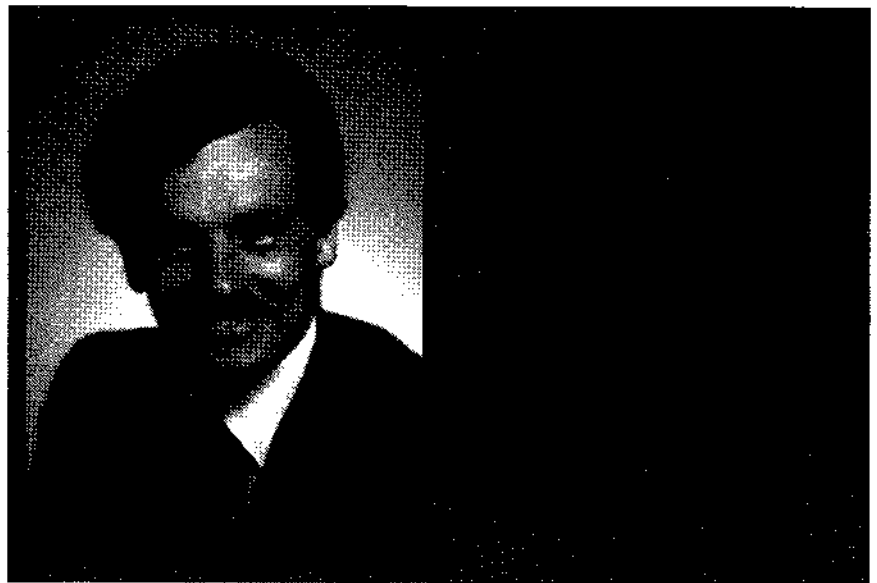
It can actually be to the specifier's benefit to write obscure specs. The reason for this was explained to me one day during a conversation with an architect and an engineer.



The engineer had just left a firm that wrote intentionally ambiguous specs. One reason the company did this was to encourage omissions in the bid. The specification writers reasoned that a contractor who was not thoroughly familiar with the building's engineering, the architect's desires, or (most importantly) his own trade, was more likely to omit certain items such as expansion joints, proper tie-ins or warranties. And these missed details spelled cheaper estimates.

The missed items are usually required by the roofing manufacturer or some other agency such as UL or FM in order to address potential problems and create better roofs. Even though these details are not addressed in the specifications and are overlooked by the contractor, they must be followed nonetheless. Contractors trying to fulfill these requirements are put in the precarious position of guessing at materials and details, or trying to read the architects' mind. In the worst cases, contractors try to invent their own details.

Which brings me to the second reason for obscure specifications. According to the engineer I spoke with, the specifiers know that once the roofer takes it upon himself to solve roofing problems, he has made himself re-



One reason the company was obscure in its specs was to encourage omissions in the bid.

sponsible for the design of the system. In effect, he is playing the role of the roofing expert in this case. If the roof should fail or otherwise prove to be inadequate, the architect/engineer, along with the owner, the contractor, and, possibly, a judge and jury, will then turn to the roofer-turned-expert and demand an explanation. At this point the roofer's brow will probably break out in a cold sweat as he does some serious soul searching. At least this will be his reaction if he's conscious enough to realize the ramifications of his own actions. If he doesn't know what he has done, he will soon find out.

Avoiding trouble

As I listened to the engineer's explanation, I was dumbfounded. I remembered how often I had called or written to specifiers for clarification, little realizing that by making this small effort prior to bidding or quoting I was averting a great deal of turmoil and trouble.

I also remembered the jobs I had passed up because they presented too many problems. The contractors would call me and angrily demand to know why I was not quoting a price to them, and I would tell them, "There are just too many problems with this job, and I'm not getting any answers." They would reply, "You're the expert. Just put something together and give me the lowest price in town. You know more than those engineers do anyway!"

When a roofer caves in to this sort of pressure, it can only mean trouble. Many times I've been called out to look at roofs that were improperly installed because the people making the design decisions were roofers rather than engineers, architects or manufacturers. The roofers should have remembered that these roofs were produced by manufacturing corporations that employ staffs of engineers to create systems that are to be specified by engineers and architects who know the building and its use.

It has always been my policy to leave the design responsibilities to the experts, whoever they may be. My duty, as I see it, is to install the designed system in accordance with the manufacturer's instructions and recommendations. Following these instructions makes me a good roofer. I don't worry about passing up the jobs that require me to design the system. I can come back to the owner five years later and try to catch the reroofing work that will be needed when the system fails prematurely.

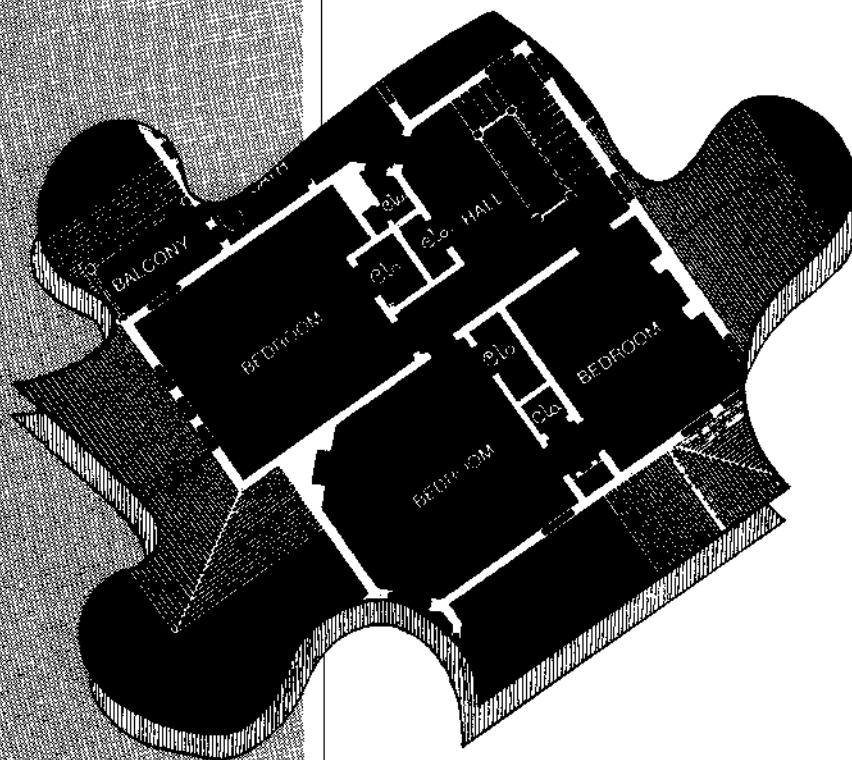
Dangerous warranties

Roofers aren't only being asked to design roofs, they're also being asked to guarantee the entire system, including materials, labor and flashing for 10, or in some cases even 20, years. In the past year I have noticed an increasing number of specifications containing these "Special Project Warranties." At first, they were only being required on some of the larger and more sophisticated new construction projects. Then, I began to see them required for reroofing work. Now, they have begun to appear in repair work specs as well.

If you are a contractor, you may be thinking to yourself, "What's wrong with guaranteeing my work for 10 or 20 years? If I'm a good roofer, my work should last that long with no problems. Besides, I can offer lower prices by not buying a manufacturer's warranty. And I can't afford to lose potential customers by telling them that their warranty requirements are unrealistic."

These warranties might be worth a closer look, however. Once you see what they require and some of the potential problems associated with them, you may find it a bit harder to close your eyes to the serious, but hidden, dangers they present.

First of all, let's look at the reasons these warranties are being called for. Owners, architects, and general contractors believe Special Project Warranties are necessary because of their previous experiences with poor roofs.



I have reviewed the guarantees of many distraught owners and contractors whose roofs have failed three to five years after installation. The terms of their guarantees were so inadequate that I could only wonder why no one had asked the roofer or the manufacturer for the details of the agreement ahead

The first of these is the fact that the system is not a simple one. It is a complex system, and the behavior of the system is not predictable. The second is that the system is not a simple one. It is a complex system, and the behavior of the system is not predictable. The third is that the system is not a simple one. It is a complex system, and the behavior of the system is not predictable.

[illegible]

The first of these is the *Journal of the American Medical Association* (JAMA), which has been the most influential of the medical journals in the United States since its founding in 1883. It is a weekly publication, and its content is primarily focused on the latest research and clinical practice in the field of medicine. The journal is published by the American Medical Association, which is a professional organization of physicians in the United States. The journal is known for its high standards of quality and its commitment to providing its readers with the most up-to-date and accurate information available in the field of medicine.

The second of these journals is the *New England Journal of Medicine* (NEJM), which was founded in 1812. It is a weekly publication, and its content is primarily focused on the latest research and clinical practice in the field of medicine. The journal is published by the Massachusetts Medical Society, which is a professional organization of physicians in the United States. The journal is known for its high standards of quality and its commitment to providing its readers with the most up-to-date and accurate information available in the field of medicine.

The third of these journals is the *Lancet*, which was founded in 1823. It is a weekly publication, and its content is primarily focused on the latest research and clinical practice in the field of medicine. The journal is published by the British Medical Association, which is a professional organization of physicians in the United Kingdom. The journal is known for its high standards of quality and its commitment to providing its readers with the most up-to-date and accurate information available in the field of medicine.

These three journals are the most influential of the medical journals in the United States, and they are the primary sources of information for physicians and other medical professionals. They are also the primary sources of information for the general public, and they are the primary sources of information for the media.

My duty is to install the designed system in accordance with the manufacturer's instructions.

of time. In many cases the roofer was the one who issued the warranty. But after repeated and costly callbacks to fix the system's problems, the roofer and his company seemed to evaporate.

Warranties issued by the manufacturers offered little more security. Most stated that the manufacturer would replace only the defective materials (although they generally excluded replacement of the roof insulation, which can be a very expensive item). The manufacturers' warranties still left it up to the owner to hire someone to install the replaced materials and pay for the labor.

When faced with a warrantied repair, most owners didn't know who to trust. They didn't believe they could rely on the "jackleg" roofer they had before, but they were also leery of the manufacturer. Their solution was to hire an engineer, architect or roof consultant to remedy the situation. When this person heard the owner's horror story, he took steps to prevent this situation from happening again by concocting a Special Project Warranty. This was to make sure there was someone (anyone) on the hook if more problems should surface.

I can't really blame the owners for trying to safeguard their interests. However, the special warranties they chose to protect themselves with leave the roofer in a dangerous position. Should a roofer accept these terms, he will be the one telling the horror stories the next time.

Warranty calls for deep pockets

As an example, one warranty required in 1987 by the State of Maryland for repairs to an existing roof states: "The contractor agrees to repair any work that leaks water, deteriorates, or otherwise fails to perform as required due to failures of workmanship, without financial limitation for the entire duration of the guarantee period."

This clause sounds innocent enough until you realize that it makes no distinction between problems caused by leaks in the new repair work and problems with the owner's existing rotten roof. My only advice to a contractor who must honor this clause is, "Keep

lots of money in your bank account to cover the costs of repeated callbacks or a lawsuit."

Another paragraph in this same warranty describes the terms of the guarantee. It calls for the roofer to make annual inspections of the roof and to make repairs, "without reference to or consideration of the cause or nature of leaks or defects in the roofing and associated work. Repair work required because of failure of materials or workmanship within the guarantee period will be completed without cost to the owners."

Maybe there's a roofer out there with a crystal ball that can predict what repairs will be needed and how much they will cost for the next 10 or 20 years. If this is the case, he can probably conjure up the money he will need to cover the costs of materials and labor for repairs. Anyone else should avoid such terms. A roulette wheel in Atlantic City would probably be a safer gamble. With a roulette wheel, at least, the roofer could stop when he's had enough. A clause like this in a contract, on the other hand, could plague a roofer until he's reroofed the entire building a couple of times.

To follow up this discussion we must ask ourselves what makes a good warranty and what we can do about the unrealistic warranties that are out there. Unfortunately, the answers aren't as cut and dried as we might think. One viable solution is to become a manufacturer's certified roof installer, or even better, an installer certified for no-dollar-limit warranties. Manufacturers who certify their installers usually consider problems occurring within the first two years as workmanship problems. Any problems occurring after that are considered material failures, which the manufacturer remedies. Sometimes the manufacturer covers all problems for the entire guarantee period. In any case, these kinds of warranties are the safest way to protect both the owner and the contractor from potential problems.