

20 Questions to ask when buying a roof

With the myriad roofing systems on the market today, selecting the best roofing system to meet your needs can be an overwhelming task. The fact that over 75 percent of all construction litigation is roofing-related only underscores the importance of making the right roofing decision. Where should a building owner start? How can you weed through the promotional jungle in order to determine which roofing system is right for your building? One way is by asking the following questions about a proposed roofing system.

1 Is the UL label displayed on all roofing material delivered to the job site?

It should be. This is the only way to guarantee that the roofing materials installed on your roof are the same materials tested by Underwriters Laboratories. Displaying the UL label in a promotional brochure does not mean the same thing — it only means one specific sample of that product met certain UL standards. However, if the UL label appears on the product or product packaging, that means that ALL products bearing that label are consistent with those product samples tested by UL.

You should also double-check that the roof assembly, which includes the insulation and deck, is also UL-classified and labeled. If you use an insulation other than the one tested with the roofing membrane, you may void the UL classification. One way to confirm a roofing system's UL classification is by checking in the UL Building Materials Directory. If the roofing system you are buying is not listed in the directory, then insist on seeing a

photocopy of the UL's letter of approval for verification of the classification.

2 Does the system pass the Factory Mutual Wind Uplift Test?

Wind uplift damage can be extensive and expensive, so select a system which does well on this test, a basic industry standard. This is particularly important now that FM has recently updated its design requirements. You can choose from several levels of wind uplift rating based upon the design of your building and maximum typical winds to be expected in your geographical location.

3 How much weight does the total system add to the dead-load weight of the roof structure?

Certain types of re-roofing systems can adversely affect the load bearing capacity of your old roof deck. By the same token, you can save on structural steel costs in new construction by using a lightweight, flexible membrane roofing system. Look at these comparisons: a four-ply built-up roof with gravel weighs approximately six pounds per square foot. A PVC or EPDM roof with ballast can weigh 10 to 15 pounds per square foot, while a mechanically attached, flexible membrane system weighs approximately one-third of a pound per square foot. Lighter systems can often be applied directly over an old roof, whereas the heavier systems usually require an expensive tear-off and disposal of the old roof.

Your questions should also focus on the roofing manufacturer. Some questions to ask:

4 Does the company actually manufacture the system, or are they just a marketer?

Manufacturers tend to have more experience and technical staff than marketers,

so they can offer better support and faster responses to questions and/or problems. They also have more of a commitment to the roofing business. If they do manufacture, do they follow an ISO-9002 process? A roofing systems marketer or a "converter" that buys a particular roofing system from another manufacturer typically has less control over the quality of the roofing membrane in that system.

5 How long has the company been in the business?

Beware of fly-by-night operations which might not be around if the roof starts leaking. Instead, look for a reliable, stable firm with a long-term presence, a good name and reputation in the industry.

6 What is the company's financial strength?

Look for a roofing manufacturer with the size and financial stability to stay in business and back up its warranty. A 10 to 15 year warranty is only as valuable as the ability of the issuing firm to remain in business for the life of the warranty and to cover any claims made on the warranty.

7 Can the company supply a list of references (preferably installations which are similar to yours)?

A company's product may be perfect for one situation, but not acceptable for a different application. For instance, one roofing system may have a reputation for resisting wind-uplift damage, but an inferior record when it comes to withstanding damage from contaminants vented onto the roof. If your building has kitchen or other rooftop vents, you'd want to take this into account before making a roofing decision. That's why it's important to find references with similar features, climate, building uses, etc.

A roofing system must be durable enough to withstand extensive UV exposure. Special equipment, like the EMMAQUA tester shown here, is used to determine a membrane's long-term weatherability.





Adhere closely to the guidelines of your warranty and always request manufacturer approval for intended alterations.

The roofing contractor also should be carefully considered. Be sure to ask:

8 What is the financial strength of the contractor?

Under the terms of many roofing warranties or manufacturer's applicator agreements, the roofing contractor is liable for defects in workmanship during the first two to three years of the warranty term. Therefore, it is important to reassure yourself that the contractor will remain in business and will be able to deal with any claims made against his workmanship by the building owner or roofing system manufacturer.

9 Has the contractor been certified and trained to install the roofing system you've selected?

Roofing systems vary widely in how they are installed, so it is important that the contractor have experience in installing the roofing system you've chosen. A good rule of thumb is that the contractor should have installed at least 100,000 square feet of that system in the past 18

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months and be approved by the manufacturer to install that specific system.

10 Do you have a choice of certified applicators in your area to provide you with competitive bids?

You don't want to be at the mercy of someone who has no competition, and can therefore charge as much as he or she wants.

If there is a problem with the roof after it is installed, you'll want a strong warranty to fall back on. Find out as much as you can about the warranty, by asking:

11 Who issues the warranty?

The warranty could be issued by the roofing manufacturer, the roofing supplier or even a contractor. Whoever it is, make sure they have the financial resources and intention to service and honor the warranty in the years to come.

12 Who backs the warranty?

Is it a manufacturer or perhaps an insurance company? The roofing manufacturer is the preferred party, since they have the most vested interest in wanting to keep the customer happy.

13 Does the warranty cover the entire system – or just the membrane?

While small items, such as fasteners, fascia, and insulation may not seem like big-money items, repairing or replacing them can be labor-intensive – and thus expensive. Know in advance what parts

of the roofing system are covered by the warranty to avoid expensive surprises later.

14 Does ponding water void the warranty?

It is virtually impossible to avoid all ponded water – which can be caused simply by a clogged roof drain or deflection of the roof deck in between the support beams. Beware of warranties which exclude normal ponded water.

15 What are the other warranty exclusions?

As a general rule, the longer the term of the warranty, the less it covers. Therefore, it is important to consider how many exclusions the warranty has, since exclusions are the limitations of the warranty. Some exclusions to question include:

- “Gale force winds” – The Beaufort Scale lists four levels of gale force winds, which range anywhere from 32 to 63 miles per hour. Find out the manufacturer's miles-per-hour definition of gale force winds. Additionally some warranties are voided if gale force winds ever occurred during the life of the roof regardless of whether the wind caused the damage or not.
- “Environmental fallout” – This could mean anything from acid rain to snow. Determine, in writing, specifically what the term means.
- “Undefined substrate movement” – All buildings expand and contract, and a good roofing system is flexible enough to accommodate this movement. Thus, this exclusion can give the manufacturer a loophole he could use later.
- “Normal foot traffic” – A building owner must have access to a roof for maintenance and inspection. A warranty which excludes normal foot traffic is looking for exclusions.

16 What are the physical properties of the roofing membrane?

Some manufacturers publish only the minimum stated performance specifications for a membrane. Other manufacturers give a membrane's “typical” as well as “minimum” performance specifications. When comparing roofing systems, be sure to establish the same “typical” or “minimum” performance criteria for each system under evaluation.

Ask how many Langley units – the EMMAQUA test's standard unit of measure – the roofing system has endured without cracking, stiffening or discoloration.

17 What is the seaming method used on the roofing system?

Roofing systems have different types of seaming methods, and like anything else, some work better than others. For example, the hot-air welded seams of certain types of roofing materials can be made as strong as the membrane itself. As such, a hot-air welded seam can be up to eight times stronger than the butyl adhesive seams of glued roofing systems and up to five times stronger than a taped seam. Remember, while weatherability of the membrane is important, it is meaningless without a reliable seam.

18 How well does the membrane weather?

The EMMAQUA Accelerated Weathering Test is the industry standard means of estimating the life of the mem-

brane. This method uses actual sunlight and exposes the membrane to the full range of the sun's destructive ultraviolet radiation. Ask how many Langley units – the EMMAQUA test's standard unit of measure – the roofing system has endured without cracking, stiffening or discoloration. An accepted minimum is three million Langleys; four million is a more realistic standard for comparison.

19 Does the roofing system contain plasticizers?

Usually membranes containing plasticizers must be covered with ballast or coated to prevent exposure to ultraviolet radiation. The migration of these plasticizers can leave the membrane stiff and brittle – just like an automobile dashboard or a vinyl shower curtain which, over time, shrinks and cracks as the plasticizers leech out.

20 What is the membrane's dimensional stability?

As mentioned earlier, a roofing membrane should be able to handle the expansion and contraction of the building. However, don't be too impressed with large numerical percentages of elongation capability. If your building moves the 50 or 100 percent that the membrane is capable of, then the roofing system is the least of your worries. Instead, pay more attention to the shrinkage percent that the manufacturer states can occur with the product – since that's what can cause the real damage. Is the membrane prone to shrinkage? Even one percent can cause movement of one foot in a 100 foot long building. This is enough to precipitate a roofing system failure. Look for dimensional stability in fractions of a percent.

Selecting a roofing system can be a complicated and confusing task. However, knowing what questions to ask can lead to a more educated decision, which in turn should result in a roofing system which is a good match for your needs and your building. ▲

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