



Awkward Roofs

In today's urban environment, contractors are often asked to construct roof systems that they hope to never see again. What is meant by this? Well, every time a roof is installed on a high rise building, or on a plaza deck that is subsequently covered with paving or landscaping, or on an elevation that requires several lifts and set-ups to access, or in a myriad of other difficult situations, the building owner, the designer, and, especially, the roofer hope to never have to see those roofs again.

The building owner, for obvious reasons, wants minimal maintenance costs. The designer wants to problems on the roof system that he has designed. And the roofing contractor can't afford the expense of call backs to a roof that's difficult to access.

So what's the answer to this dilemma?

Well, one simplistic answer is to spend more money. A roof system for an "awkward" location should be of a higher quality and require less maintenance than a roof system for an easily accessible location such as a warehouse in an industrial park. The real answer, of course, is more complicated and usually, but not always, requires more money. Also, the real answer requires asking a series of questions during the design stage. Some of the questions that might be appropriate are:

- Will the roof be used as a construction platform for other trades? If so, how should it be protected?
- Can the roof be easily repaired?
- Can the components of the roof system be reused or renewed for reroofing? Reusable and renewable components would help address economic and environmental concerns of the future.
- Have the interfaces with the other parts of the building been properly designed? How a waterproofing membrane ties into parapets, "rain screen" wall systems, air barriers etc. directly affects its performance and the performance of the entire building envelope.
- Should water cut-offs be installed to aid in future leak detection and isolation?
- Should a conventional or protected membrane system be specified?
- Does the system meet wind blow off requirements for high rise construction?
- Will the membrane resist increased temperature caused by reflections from adjacent glazed walls?
- Will the membrane specified for a plaza deck resist deterioration from constant exposure to moisture, soils, roots, etc.?
- If the manufacturers' warranty is required, will it cover the cost of access to the roof membrane?

One could argue that this checklist, or one like it, would be appropriate for every roof. The one difference, however, is that cost is usually the first question that comes up for a "normal" roof. The question of cost should always come at the end of the list for "awkward" roofs. **The roof should be**

designed first, and, then, the budget should be set. To budget first and design later is a prescription for future problems.

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