IMPROVING BUILDING VALUE THROUGH FAÇADE WEATHERPROOFING

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A – Unique Projects

No matter how experienced you are, no two projects are the same. Even those with exactly the same design will be at some point different, and will also place different challenges during their different stages.

Such projects' differences may arise, among others, from:

- Design
- Project errors or emissions
- Experience factors, such as experience from previous projects
- Manpower and labour conditions
- Workforce related factors, such as morale, fatigue or attitude
- Site conditions and site access
- Project location
- Weather conditions
- Source and location of power
- Proximity to transport and logistics
- Governmental or regulatory requirements

Each project will create different challenges and require different approaches and solutions. Many of these challenges are unpredictable and will only come up during the construction phase. However, some, such as predicted weather conditions or difficulties on having skilled people at the job site, should already be considered as possible through project planning.

Project planning should consider this predicted reality, and actions to void or minimize its impacts on a project's final schedule, cost and quality, should be planned and implemented.

The most common challenges at the job site, that can be related to almost any action occurring there, but specially to do with any façade connection sealing task, are:

- Project errors or omissions
- Weather constraints
- Lack of specialized labour on site
- Difficult site conditions
- Shortened installation schedules
- Logistics

1. Project errors or omissions

All time spent on preparing detailed drawings and planning for each specific project detail, and then, what ends up being built, is different from what had been planned:

- Details that simply were not predicted
- Materials already applied are not in accordance with what has been specified
- Interfacing details did not considered some of the materials that are being applied
- Job done by other contractors is not in accordance with the project

Fist analysis will always be to determine if the solution previously preconized is adaptable to these project changes. If so, problem is easily solved. If not, it is important to understand if the solution can be adapted to new project's requirements, with minimal changes, or if a new solution has to be preconized. In any scenario, the support from a strong supplier will be crucial.

A good supplier will be able to support a project manager, analyse project changes, visit the job site whenever deemed necessary, and propose solutions in order to minimize project delays, with minimum impact on project cost and quality requirements.

2. Weather constraints

With regards to any weatherproofing solutions, and specially to façade connections sealing solutions, the most common installation recommendation will be " do not install under rain or with high humidity conditions". However, for many projects, especially those which are located in wet countries, it's impossible to stop work every time it rains or temperatures drop to negative values. Inefficiencies and delays would simply not be acceptable, largely affecting a project team morale.

If it is predictable that work will need to occur with adverse ambient weather conditions, then preconized solutions should, since project planning, consider these scenarios and should be compatible with applications in such conditions. At least a back-up plan must exist. Project planning must consider a solution that would still be possible to be applied under adverse weather conditions. In many cases, such solutions do exist and are easily implemented. For many façade connections sealing solutions there are system accessories that allow installation to occur under low temperatures or with high humidity rates. For example, the use of a specific primer may allow the use of a sealant or adhesive to proceed in such conditions. To consider a continuous minimum stock of such accessories is a project manager's responsibility to allow work to occur easily despite weather constraints.

In this type of project it might also be strongly helpful to preconize solutions that require minimum labour at the job site: most of the work or pre-fabrication is made at the factory without being subjected to such constraints.

If weather constraints were not predicted then the best way to go would be to contact solution's suppliers. They should be available to understand project specific constraints and support the project team finding the best solution.

3. Lack of specialized labour on site

As is the case in any business, people are a construction organization's greatest resource. Construction operations depend on the knowledge and skills of people planning and executing the work. Having talented management in place to guide and direct operations is crucial. On the contrary, having an adequate number of skilled workers to perform the work is a core necessity. However, finding and recruiting sufficient numbered of skilled and talented people is becoming increasingly difficult.

Project planning may consider having an acceptable number of skilled workers to do the job, but at that moment they simply may not br available. The available team does not have proper training or experience to perform the work properly without risks of compromising quality standards.

The most important thing to do would be to offer proper training to the workforce before staring any work. It's better to stop the work for a couple of hours, and organize a proper training session, than to keep working with high possibilities for installation defects. These defects will soon or later affect project quality standards and strongly impact the final project's results.

Of course that proper training has to be organized with the solutions' suppliers. They would be the only ones to fully understand a solution's characteristics and its integration within a project's requirements.

For monitoring purposes, visits at the job site can also be organised, in order to assist the workforce throughout the installation's development, making them feel confident and reducing the probability of human error.

Training also provides the opportunity for upward mobility and gives motivated individuals the chance to advance professionally. Empowerment leads to high levels of commitment, enthusiasm, self-motivation, productivity, and innovation with, major benefits for project's final outcome.

4. Difficult site conditions

Operations may take place within physically limited spaces, through other contractors, resulting in congestion of personnel, leading to the inability of using tools conveniently, increased loss of tools, additional safety hazards, increase in visitors, etc.. If work is in a confined space with limitations of ventilation that places limitations when working with products classified as hazardous, requiring special safety equipment and clothing. Restrictions may limit time and exposure of workers to the area.

To select solutions that are easy to apply and that do not require complex tools for installation will always be helpful. Pre-fabricated solutions are the way to go, because they will significantly reduce the amount and complexity of work that has to be done at the job site.

In case in spaces with ventilation limitations the best solution would be to select non-hazardous materials, without or with minimum VOC content. This will allow work to occur with restrictions, protecting workers health and not placing additional special requirements for materials storage. Most of times, there are actually solutions with such characteristics that offer the same levels of performance without requiring additional installation times.

5. Shortened installation schedules

Initially there was a comfortable schedule to perform the work but for some reason schedule was shortened.

The project's team may be required to work extra shifts

It can be required to the project team to work more hours. However this can only be done below certain parameters. Experience shows that for extend periods of time, this will only led to physical fatigue and poor mental attitude, with final lower work output.

It can also be asked to the workforce to increase installation speed, but again, if above reasonable levels, this will only lower team motivation and led to work defects, affecting final project quality requirements, and increasing, for example, future maintenance costs.

Solutions with minimum installation times would help. To consider the possibility of requiring pre-fabricated solutions will many times contribute to reduce installation times, by reducing significantly the complexity of the installation at the most complex details, such as corners or other interfaces.

6. Logistics

Work simply cannot occur if there isn't enough material at the job site. This can occur for several reasons:

- delays on deliveries that are responsibility of the supplier
- delays on ordering material due to non-defined project details
- contract or project changes
- material that was stolen from the job site

The best solution will always be planning with much anticipation as possible in order to reduce possibilities of delays, or having some space for any setback. In cases where this wasn't possible, the only solution will be to rely on flexible suppliers/partners that will offer solutions when things do not go properly, with strong logistics. Suppliers that will be available to dispatch material quickly, to required address.