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Specifications for Success

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The advent of the design-build process has brought about many innovations and advantages in the construction industry. However, the process has experienced some lack of coordination among the parties. One example of this is showing up in specifications that can, ultimately, lead to big problems for the project.

In the case of roof accessories, studies show that the result is roof leaks in the building and costly lawsuits against architects. Primarily, this can be traced to improper roof equipment support.

The solution is simple. Cooperation and coordination between the architect, specification writer, and the structural/mechanical engineer will assure that the roof

curbs that support accessories will mate not only with equipment, but will also match roof design.

The path for this coordination is that the design-build team must insist that the roof curbs be in the roof accessories portion of specifications (section 07720), not in the mechanical section. This is the method recommended by the *Construction Specifications Institute*.

When roof curb specification responsibilities are assumed by the mechanical engineer, he will typically specify that the curbs be supplied by the equipment manufacturers. Sound good, right? Wrong. The pitfall is that the curb will fit the equipment, but will not mate with the various roof designs applied in conventional, as well as pre-engineered metal buildings. Furthermore, many of these are knock-down, bolted, or clip lock type curbs that must be field assembled, insulated, and shimmed to match the roof pitch. This, then, leaves it to on-site contractors to try to correct problems — adding cost ... causing frustration ... and resulting in future roof leaks.

When structural roof curbs are architecturally specified in 07720 for all HVAC units, exhaust fans, piping, and other penetrations, the fit is guaranteed — for the equipment, the application, and the roof design. Total roof integrity is maintained.

Another specification flaw is to include self-flash skylight curbs. This is definitely an invitation for roof leaks. Utilizing structural roof curbs with curb-mounted skylights will provide positive results and efficiency.

Proper architectural specifications for roof accessories will help the bottom line on the project too. It allows curbs to be at the job-site when the steel is delivered, prior to installation of roof accessories and before the finished roofing process begins ... cutting labor costs and offering one-source responsibility.

Also, a money-saving feature of structural curbs is the elimination of most supporting angles for roof-mounted equipment because of the internal reinforcing and continuous welded corners. For curbs that span a minimum of two bar joists, no reinforcing angles are required. If the curb is between two joists, only two angles are required. This installation method permits the curbs to be flashed in and become part of the roofing system, thereby preventing leaks.

Those who think of roof curbs as a metal box to simply hold equipment are sadly mistaken. Curbs can be the key to a successful roof structure. And, after all, the roof is one of the most expensive and neglected elements in the building budget ... originally, and in future renovations and repairs.

The design-build process is a strong advantage for construction projects. Don't sabotage success with improper specifications.

INFO: Roof Products Inc. (www.rpicurbs.com)

Tips for Successful Specifications

- Specify roof curbs in section 07720. (Include a footnote in the Mechanical and Skylight sections that reads, "all roof curbs are specified in 07720.")
- Curb installation should be a part of the roof deck, not on top of insulation or roofing materials.
- Curbs should be a minimum of eight inches above the finished roof and factory-insulated to reduce condensation.
- Pressure-treated nailers should be provided by the curb manufacturer to receive roofing felts and eliminate noise transfer.
- Curbs should be sloped to avert water ponding.
- Structural roof curbs can be factory-designed and manufactured using a wide range of materials and weights, and with many options, such as burglar bars.