Elements of Commissioning Architectural Systems

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Synopsis

The building envelope is a critical design consideration for any building. Because the building envelope is typically not viewed as a system, it is often overlooked in the commissioning process. However, the functionality and performance of a facility is highly influenced by the performance of the components of the building envelope such as the air and vapor barriers, glazing, insulation, drainage planes and external environmental considerations. These components can greatly affect the Indoor Environmental Quality by preventing the microbial growth within the envelope, limiting infiltration of outdoor air, controlling humidity, enhancing the work environment, and reducing energy use. The building envelope system is key in the successful performance of all building systems. The failure of the building envelope to function optimally affects the ability for other systems to pass the functional performance test.

Applying the commissioning process to the building envelope system can help ensure proper design, installation, and function. This paper will show how all phases of the commissioning process should relate to the building envelope. Specifically, Owner's Performance Requirements (OPR), Basis of Design (BOD), design reviews, submittal reviews, pre-functional checklists, periodic site visits, functional performance tests, seasonal testing, and warranty reviews will be discussed.

About the Author

Tony Martin began his career as a project engineer and a project manager for a design/build mechanical contractor. There he designed and managed the installation of all types of mechanical and plumbing systems. Tony has spent the past four years working as a commissioning authority for WorkingBuildings, LLC headquartered in Atlanta, Georgia. Tony has millions of square feet of commissioning experience including projects ranging from small tenant improvement projects to large data centers, central energy plants, and high containment laboratories.