



Commissioning and Design Assistance

Building Envelope Commissioning is a process for developing systems and criteria that meets defined objectives that are measurable and verifiable and interface with all aspects of a buildings performance. This includes performance criteria, quality control and durability. The building envelope commissioning process can begin before the schematic design phase of a project, continuing throughout design and construction into the operational phase of a building.

Building Envelope Commissioning services for glazing, exterior walls, waterproofing and roofing may include:

Pre Design Phase

- Identify desired performance metrics.
- Assess site or existing building conditions as they relate to the building envelope.

Schematic Phase:

- Project Meetings: Attend design team kick-off meetings and any required subsequent project meetings.
- Building Code Review: Review local codes and site requirements as they relate to the exterior building envelope.
- Design Criteria: Develop appropriate design criteria for wind, water, seismic and other environmental hazards.
- Schematic Design Review: Provide preliminary review comments.
- Cost Estimates: Provide square foot estimates for building envelope items.

Design Development Phase:

- Design Development Sketches and Details: Consult to develop details, sections and drawings, as required.
- Outline Specifications: Assist with the preparation of a set of Outline Specifications, identifying basic performance requirements and generic material types.
- Project Meetings: Attend design team project meetings as required.

- Peer Review of design development documents to verify compatibility with performance requirements.
- Cost Estimates: Assist with the preparation of budget construction cost estimates for exterior building envelope components.

Construction Documents Phase:

- Assist with Development of Working Drawings.
- Assist with the Development of Specifications: Assist with the completion of specifications. Recommend appropriate materials, manufacturers and performance criteria.
- Fifty Percent Review: Comprehensive review of plans and specifications at fifty percent of completion with written comments and suggestions, as required.
- Ninety Percent Review: Comprehensive review of plans and specification at ninety percent of completion with written comments and suggestions, as required.
- One Hundred Percent Review: Comprehensive review of plans and specifications at one hundred percent completion with written comments and suggestions, as required.
- Project Meetings: Attend design team project meetings as required.
- Cost Estimates: Assist with the preparation of final construction cost estimates for exterior building envelope components.

Bidding and Negotiation Phase:

- Review Proposals: Review relevant building envelope subcontractor proposals to verify they are in compliance with the project documents and provide written comments as required.
- Value Engineering Proposals: Review and analyze value engineering proposals for building envelope components and provide written comments and recommendations.
- Review Subcontractor Qualifications: Research and qualify prospective subcontractors for major building envelope components, including verification of past performance on similar projects and checking references within the industry.
- Project Meetings: Attend pre-bid and pre-award project meetings, as required.

Construction Phase (Administration):

- Witness Mockups and Tests: We will observe the construction of laboratory mockups and test specimens and witness laboratory testing to verify constructability and compliance with the project requirements.
- Review Submittals: We will review contractor submittals required by the project documents for building envelope components and provide written comments.
- Respond to RFI's: We will review and respond to relevant RFI's to help provide the requested information.

Construction Phase (Quality Control):

These services are often provided directly to the Owner or Construction Manager.

- Change Order Review: Provide review and comments for Change Order requests, as required.

- Site Inspections: Conduct periodic site inspections to review the quality of work and check for conformance with the project requirements. We provide a written report upon completion of each inspection.
- Moisture Surveys to verify building interiors are dry during the construction process and at completion.
- Field Water and Air Infiltration Tests: Conduct field tests of representative glazing and wall system assemblies to verify acceptable performance. We use ASTM E 1105 test method for water infiltration tests and ASTM E 547 for air infiltration tests.
- Project Meetings: We will attend and participate in project meetings at the site, as required.

Building Operations Phase:

- Training of Building Operations Professionals to review warranty obligations, maintenance requirements and quality control checks.
- Warranty Inspections (typically at 11 months) of building envelope systems and components including glazing, waterproofing, sealants and roofs to verify performance.
- Moisture survey to confirm building interiors are still dry.
- Continuing inspections and training to insure durability and performance of systems.

