

# Facilities | Building Enclosure Commissioning

A building enclosure should be a facility owner's most important asset: a multitude of interconnected systems working efficiently to create a durable, comfortable, healthy environment for occupants, and maximizing your return on investment. Building enclosures have become more complex, skilled labor has become scarce, and the materials used to construct buildings have become increasingly engineered. Therefore, establishing and understanding the owner's project requirements is critical.

Improper installation and insufficient coordination between trades during construction as well as a lack of technical assistance during design can result in serious consequences for your facility, including:

- Water intrusion and uncontrolled air leakage
- Premature deterioration of structural and finish components
- Poor air quality
- Increased energy and operating costs
- Inefficient HVAC performance
- Poor occupant comfort
- Decreased worker productivity and production downtime
- Costly investigations and repairs

Whatever the concerns, whatever their cause, the bottom line is the same; building enclosure commissioning can help contribute to your project's success and lower life cycle costs.

## ■ What is Building Enclosure Commissioning

Building Enclosure Commissioning (BECx) is a process that begins with the establishment of the Owner's Project Requirements (OPR) and endeavors to verify the exterior enclosure meets those requirements. BECx helps to confirm that those elements intended to provide environmental separation within a building or structure meet or exceed the expectations of the Owner as described in the OPR, and as defined by the Contract Documents, industry standards, and guides.

Ideally, the BECx process begins at project inception during the pre-design phase. The BECx process provides its biggest benefits in the design stage and construction phases, and continues for the life of the building.

## ■ Experience and Expertise

Terracon's facilities professionals not only understand the commissioning process but are also building enclosure specialists. Our team understands the complexities of building enclosure materials, components, and systems.

Our national BECx team of enclosure specialists differentiates themselves by supplementing their commissioning experience with work on existing buildings, routinely performing evaluations and investigations to identify deficiencies and provide solutions that increase performance and reduce operating

expenses and potential liabilities. Our knowledge and direct experience in real-world conditions allow our experts to provide you effective, whole-building solutions needed to maximize your facility's durability, performance, and cost efficiency. Services include:

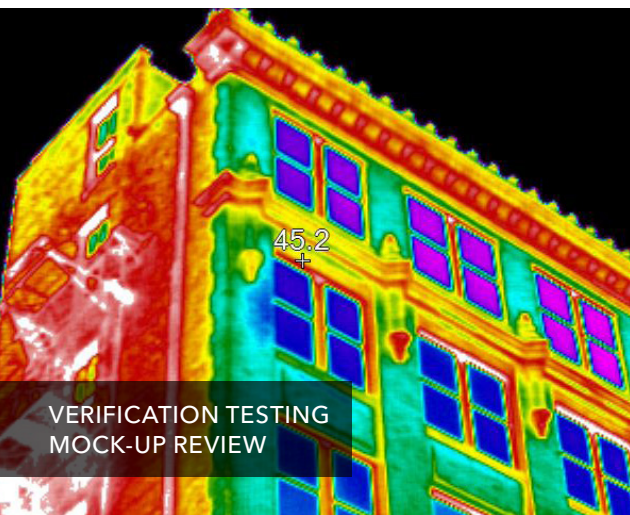
- Fundamental and enhanced commissioning
- Technical assistance and documentation during the development of the OPR and Basis of Design (BOD)
- Design Document Review
- Testing expertise
- Participation during bidding/negotiation, pre-construction, construction administration, and occupancy/operations phases of the BECx process
- Submittal, shop drawing, and RFI review
- Construction quality assurance (QA) observation
- Performance verification testing:
  - Fenestration air and water tightness testing (ASTM/AAMA)
  - Whole building air leakage
  - Electronic Leak Detection (ELD)
  - Masonry cavity testing
  - Electrical impedance (moisture scans)
  - Infrared thermography
  - Roof membrane uplift testing
- Hygrothermal Modeling (WUFI)
- Thermal Bridge Modeling (THERM)



VERIFICATION TESTING  
MOCK-UP REVIEW



CONSTRUCTION PHASE  
QUALITY ASSURANCE OBSERVATIONS



VERIFICATION TESTING  
MOCK-UP REVIEW

## Why Terracon?

**Resourceful.** Terracon Building Enclosure Commissioning professionals can help prevent and resolve a wide variety of issues through our extensive experience and in-depth knowledge of building enclosure systems and products.

**Responsive.** With our national network of offices, Terracon can mobilize quickly to deliver practical solutions that optimize your building's systems performance with the goal to extend service life and reduce cost of ownership.

**Reliable.** Terracon delivers consistent and high-quality service through our proactive, collaborative approach, yielding systems that perform beyond expectations and maximize your return on investment.

*"Terracon provided technical expertise in reviewing and recommending the appropriate products and strategies that contributed to a successful project."*

-GARY VERLINDEN, PROJECT  
MANAGER, PARSONS  
(SCOBEE PLANETARIUM,  
SAN ANTONIO COLLEGE, TX)

### ENR Rankings 2023

- #1 Asbestos and Lead Abatement
- #11 Top 100 Pure Designers
- #20 Top 500 Design Firms
- #44 Top 150 Global Design Firms
- #63 Top 200 Environmental Firms



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