

ASTM E06.55.09

STANDARD PRACTICE FOR BUILDING ENCLOSURE COMMISSIONING

20 JULY 2011



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Re-Introduction to ECx and Mission of the Task Group

Design profession increasingly compartmentalized

Enclosure systems and assemblies increasingly complex (and less forgiving)

Declining skill in the trades

Existing Performance outcomes not being achieved

More stringent outcomes to come....

ECx is a (clear, concise) process built on marshalling appropriate expertise during the design and construction phases of a project and quantifiable performance verification through testing

Re-Introduction to ECx and mission of the Task Group

NIBS Guideline 0(2005): The Commissioning Process

"The Commissioning Process is a quality-oriented process for achieving, verifying, and documenting that the performance of facilities, systems, and assemblies meets defined objectives and criteria. The Commissioning Process assumes that owners, programmers, designers, contractors, commissioning team members, and operations and maintenance entities are fully accountable for the quality of their work. The Commissioning Team uses methods and tools to verify that the project is achieving the Owner's Project Requirements throughout the delivery of the project."


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- Define the goals of the project (OPR)...make them quantifiable whenever possible. (*define HP...*)
 - Require qualified BECx providers.
 - Perform an independent, third-party peer review.
 - Establish a minimum amount of functional performance testing to verify OPR.
 - Require construction observation at appropriate intervals
 - Achieve consensus in the industry
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Structure of the Standard

Levels of ECx (Design and Construction...)

Enhanced ECx

Direct and substantive participation on behalf of the Owner during the development of the OPR, BOD, and enclosure-related construction document drawings and technical specifications, including the establishment of appropriate and quantifiable enclosure-related performance metrics, test standards, and test methodology as necessary to validate the OPR and BOD. Oversight during construction and functional performance testing (per OPR).

Fundamental ECx

Review and qualitative evaluation of the OPR developed by others during the Pre-Design phase of the ECx process, followed by the development of an appropriate and quantifiable BOD, and enclosure-related construction document drawings and technical specifications, including the establishment of appropriate and quantifiable enclosure-related performance metrics, test standards, and test methodology as necessary to validate the OPR and BOD. Oversight during construction and functional performance testing (per OPR).

...adopted by GL-3

Structure of the Standard



Mandatory Annexes

A.1 OPR Development Matrix

NIBS/DHS/ASTM Software Development
Web-Based “Living” Analytical Tool
Granular and Transparent

A.2 ECx Durability and Performance Testing Matrix

Product and Materials Testing

Validation of Component Durability and Performance

DHS Advanced Materials Database and SITE

Pre-Construction Laboratory Testing

Validation of Design, Construction, and Integrated Performance

Field Testing and Validation During Construction

Validation of Installed Performance

Post-Occupancy Testing and Evaluation

Validation of Service-Life Durability and Performance

Structure of the Standard



Non-Mandatory Appendices

X.1 NIBS/DHS Guideline for Enclosure High-Performance-Based Integrated Design and Construction

X.2 DHS Guideline for Curtain Wall High-Performance Integrated Design and Construction

X.3 AAMA...

X.4 NCMA...

X.5 BIA...

The Non-Mandatory Appendices will allow the ASTM ECx Standard to be updated and expanded quickly and easily to reflect "best practices" published by interested and appropriately aligned industry groups and standards-writing organizations.

COLLABORATION/CONSENSUS

LIAISONS:

AIA/BETEC: WAGDY ANIS AND DAVID ALTENHOFEN

NIBS (GL-3): ROB KISTLER AND BILL NASH

ASHRAE (GL-0): GARTH HALL

ICC AND IGCC: CHRIS MATHIS AND STEVE THORSELL

ASTM D08: JIM STRONG

Collaboration/Consensus



OPR
Development
Software



Recent Progress...

Issued for concurrent Main and Sub-Committee Ballot
(January 15, 2011)

NIBS submission of Standard to USGBC (place holder)

Outcome of Balloting

- 70% +/- Rate-of-Return
- 92% +/- Affirmative
- 10 Total Negatives
- 8 of 10 Negatives Formally Withdrawn via Email
- 2 Remaining Negatives were resolved following last committee meeting (changes incorporated into new draft)

The Road Ahead...

June-August 2011:

Further Develop Annexes and OPR Development Software
Further Align Standard with On-Going Update of GL-3
Join ASHRAE Cx Standards Committee Align with Potential
Re-Position of GL-o

Re-Ballot to Revision Only (ASTM E2813, *Standard Practice for Building Enclosure Commissioning*)

Explore Joint-Development of BECx Certification and Training
Program with ASHRAE/NIBS

Explore Development of Annex A3: RBECx

August-September 2011:

Solicit Review/Comment on:

Annex A1 and the OPR Development Software (Working Version
of Software for Beta-Testing Anticipated)

Annex A3 for RBECx

October 2011: ASTM Committee Week (Tampa, FL)