Excellence in Building Product Evaluation and Certification

December 1, 2017

SIGNIFICANT CHANGES TO ICC-ES AC273 FOR HANDRAIL AND GUARDS

Reminder on Changes:

In June of 2017 ICC-ES and the Standards Committee approved revisions to AC273 Acceptance Criteria for Guards and Handrails. These changes continue to create many questions regarding current or future evaluation reports. These changes are significant and may require additional testing.

What you should consider:

- Attachment of the guard system to the supporting structure is now addressed in section 4.2.
    - For guard systems that are attached to rigid supporting structures only (such as steel, concrete or masonry) or when the supporting structure attachment is outside the scope of the evaluation, test guard systems shall be attached to a rigid test support using anchor bolts based on intended installations or end use conditions.
    - For guard systems that are attached to either rigid supporting structures or flexible supporting structures (such as wood decks), the guard assembly test specimens shall be attached to a worse case wood supporting structure to be recognized in the evaluation report.
        - This means that if the guard system is intended to be installed to a flexible (wood) structure and testing was not completed on a wood structure, the report would not address this connection and shall note that the attachment to the supporting structure is outside the scope of the evaluation report.
- ASTM E 935 and E 985 were added as primary references to the sections specified. Test assemblies, structural test requirements are now defined within these test methods.
- With the references to the ASTM standards, a vertical concentrated load test is now required. Additionally, vertical loads are required to be tested separately. Tests completed in the past using a single (vector) load are no longer acceptable.
- Structural tests for guard rails using a single bay configuration now require posts to be tested and evaluated under section 4.3 unless a two-bay assembly is tested. Alternate posts and post anchorage has been added to sections 4.3, 4.4 and 4.6.
- Deflection criteria is specified by ASTM E 935 and E 985 in addition to the new requirements stated in AC273. Post deflection is now clarified to be measured at the top of the rail height and not the top of the post.
- A minimum of three replicate test assembly specimens are to be tested per section 4.2.2.
- Posts shall be unbraced during testing, allowing the posts to deflect. During tests, replacement of failed components or connections shall not be permitted, and the sequence of testing shall follow as stated in section 4.2.3.
- For all assemblies that contain wood component(s), the factor of safety is increased from 2.5 to 3.0.

If you have any additional questions or comments regarding this matter, please contact me at your convenience at (574) 773-7975.

Respectfully,

Dale Arter
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