

CODES and STANDARDS

Bringing Products to Market

International Conference on
Woodfiber Plastic Composites

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Laboratory

Presentation Outline

- Building Codes
- Product Standards
- Evaluation Criteria
- Market Implications

Building Codes

What are building codes?

- Minimum performance requirements
- End-use limitations

To ensure safe and healthy structures

Building Codes

Building Codes:

- Are developed by Code Officials
- Can be changed by anyone
- Evolve with experience, data, and engineering judgment
- Make no guarantee of product performance

Building Codes

Building Codes define:

- Load requirements
- Safety Factors
- Deflection limits (usually)
- Application Limitations
 - Interior vs. Exterior
 - Structural vs. Nonstructural
 - Combustible vs. Noncombustible

Building Codes

Building Code Limitations:

- Important end-use conditions
- Property Interactions
 - (e.g., moisture, temperature)
- Special applications
- Differences between codes

Building Codes

Building Code Limitations:

- Do NOT expect the Building Code to have all the answers
- Do expect to negotiate a solution

Product Standards

Product Standards:

- Clearly defined procedures to evaluate a product or system

Product Standards

Types of Standards:

- Test Methods
- Specifications
- Guidelines
- Practices
- Others

Product Standards

- Test methods ◀ Define the procedure to conduct a test
- Specifications ◀ Define performance limits for the product

Set the basis for a code listing

Product Standards

Are all standards the same?

No.

While **ANY** standard
is better than **NO**
standard,
some are better
than others.

Product Standards

- Nonconsensus-based

- Consensus-based

Example - ASTM:

- Anyone can contribute
- Anyone can object
- All objections must be satisfied

PREFERRED

Broad technical review

Evaluation Criteria

Evaluation Criteria:

- A clearly defined path to achieve a building code listing
- A reasonable set of procedures to assure compliance with code requirements

Evaluation Criteria

- ICC – Acceptance Criteria
- CCMC – Technical Guides
- International Criteria
 - BRE
 - CTBA
 - Others

Evaluation Criteria

Two approaches:

- Design Values –
Test to determine engineering design values
- Performance Rating –
Test to code prescribed requirements for a particular application

Evaluation Criteria

Evaluation Criteria:

- With a few adjustments for climatic variations, should be the same worldwide
- Example – Performance rating for deck boards and guardrails
 - ICBO ES, AC174

Evaluation Criteria

Manufacturer's Responsibility:

- Assist in the development of Evaluation Criteria
- Maintain product performance at or above code minimums
- Pay for product performance problems

Evaluation Criteria

Code Official's Responsibility:

- Contribute to the development of meaningful Evaluation Criteria
- Utilize the expertise of others (consensus standards)
- Enforce the intent of the code

Summary

- **Building Codes**
 - Minimum set of requirements to assure safety and health
- **Product Standards**
 - Test Methods
 - Product Specifications
- **Evaluation Criteria**
 - Procedures to assure compliance with a building code

Market Implications

- Decking products are structural
- Code listing required
- Forces rigorous QC
- Powerful marketing tool

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