

engineered wood  
and panel solutions



# Traversing the Maze of Adhesive Standards and Regulations

PELICE 2016 - By Jim Griswold - Hexion

When it comes to adhesive standards and regulations, ever feel like this?



# Traversing the Maze

- Why does it seem like standards and regulations are continually changing?
  - Building Code Revisions
    - International Building Code (IBC) Revision - 3 years
    - Standards revised - 5 years
  - Environmental Standards
    - State
    - Federal
  - “Green” Building Standards
    - Consumer Driven
    - Multiple Options Available



# International Building Code - IBC

- In 2000, first IBC was published by the International Code Council (ICC).
- The ICC was a merger of three predecessor organizations which published three different building codes. These were:
  - International Council of Building Officials (ICBO) Uniform Building Code
  - Building Officials and Code Administrators International (BOCA) The BOCA National Building Code
  - Southern Building Code Congress International (SBCCI) Standard Building Code



# Intent of new ICC

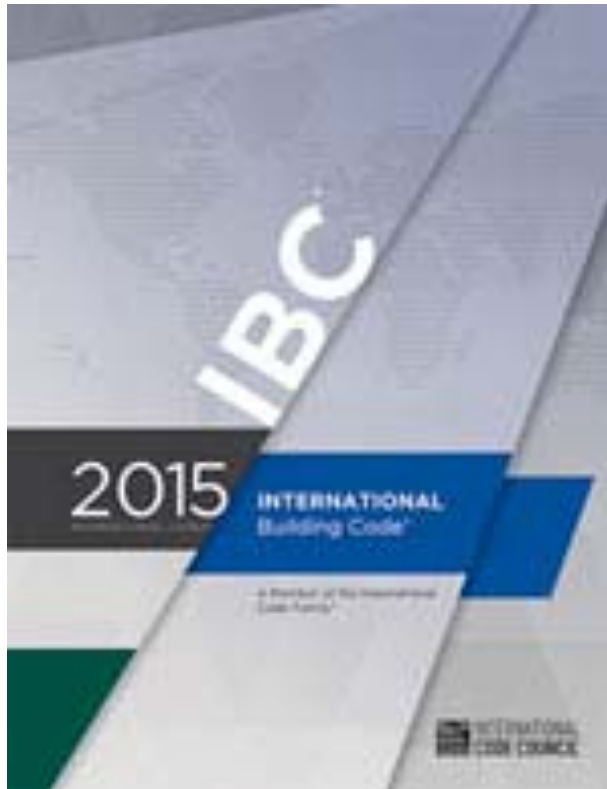
- The new ICC was intended to:
  - Provide consistent standards for safe construction
  - Eliminate differences between the three different predecessor codes



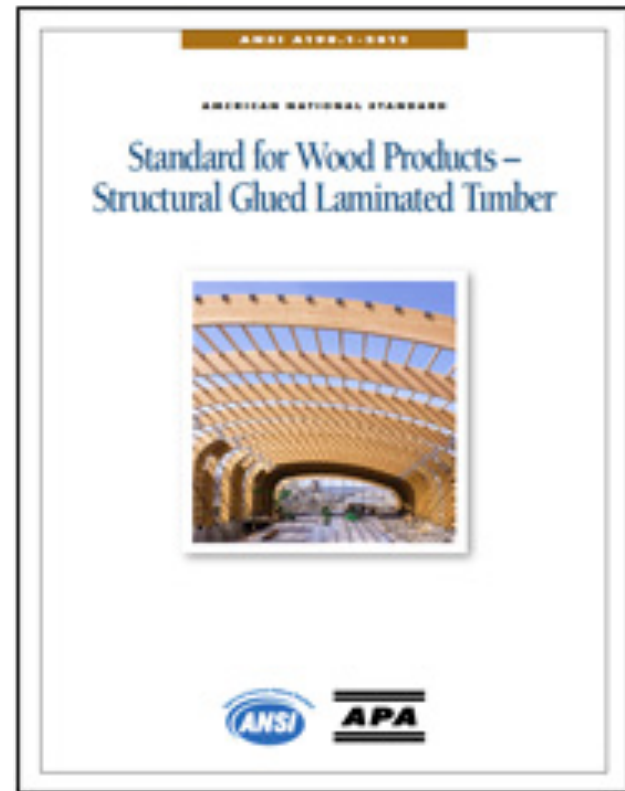
# Glulam Example



IBC - 2015



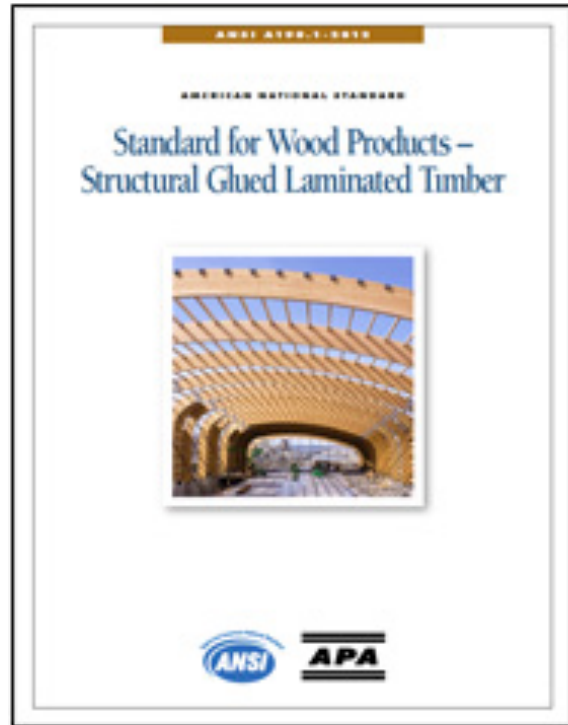
ANSI A190.1-2012



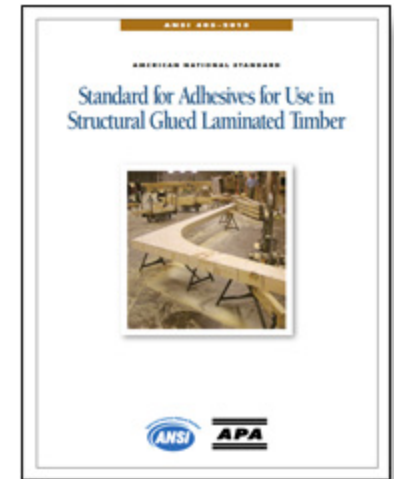
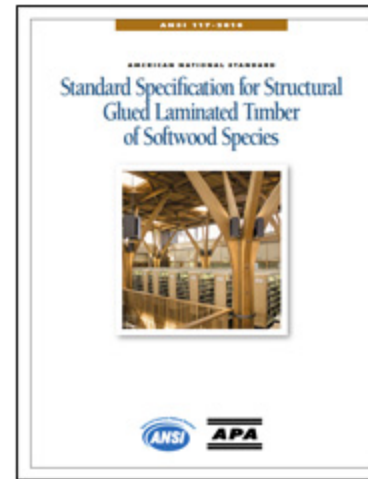
# Glulam Example



ANSI A190.1-2012

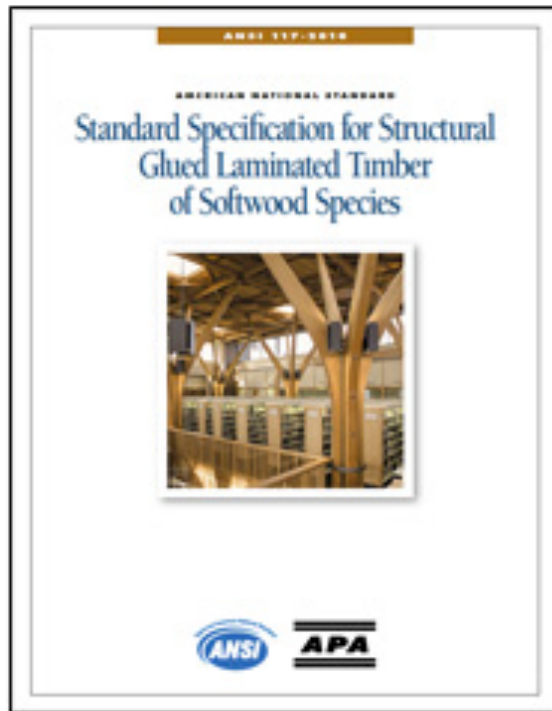


ANSI 117-2015 ANSI 405-2013



# Glulam Example

## ANSI 117-2015



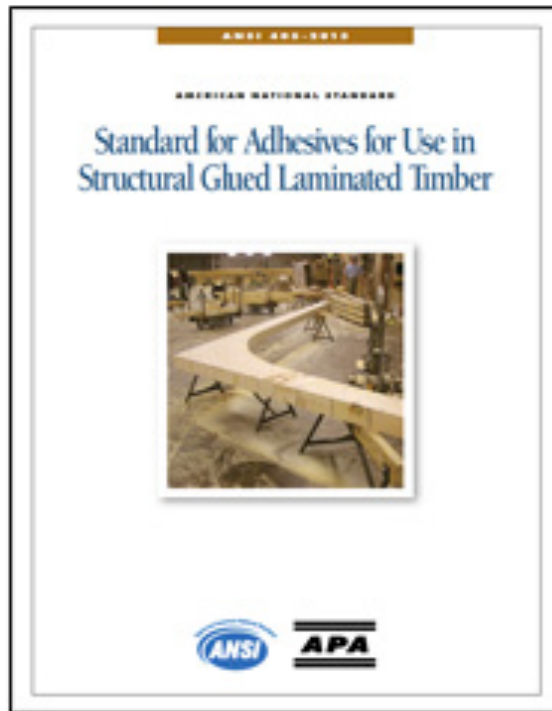
## References

- AITC/WCLIB 200-09'
- ANSI O5.2
- APA 15' QA Policy – Glulam
- ASTM D143
- ASTM D2395
- ASTM D2915
- ASTM D3737
- ASTM D4442
- ASTM D4444
- ASTM D4761
- ASTM D7341
- ASTM D7469
- AWC 15' NDS for Wood Construction



# Glulam Example

## ANSI 405-2013



## ASTM /CSA Tests Referenced

- ASTM D2559
- ASTM D1151
- ASTM D7247
- CSA O112.9 Creep Resist.
- ASTM D1183
- ASTM 3434
- CSA O112.9 Boil-Dry-Freeze

# Getting Involved



## Proactive Approach

- Standards Committees
  - Voting Member
  - Non-Voting Member
  - Sign Up for Email Updates
  
- ASTM Technical Committees
  - D14 – Adhesives
  - D07 – Wood
  - Sign Up for Email Updates



## Proactive Approach

- Third-Party Inspection Agencies
  - Technical Advisory Committees
  - Newsletters/email Updates
  
- Adhesive Supplier
  - Technical/Code Contact
  - Usually part of the committees
  - Tests & Test Methods (ASTM)
  - Standards (ANSI or Product)
  - Need to stay on the leading edge of any developments

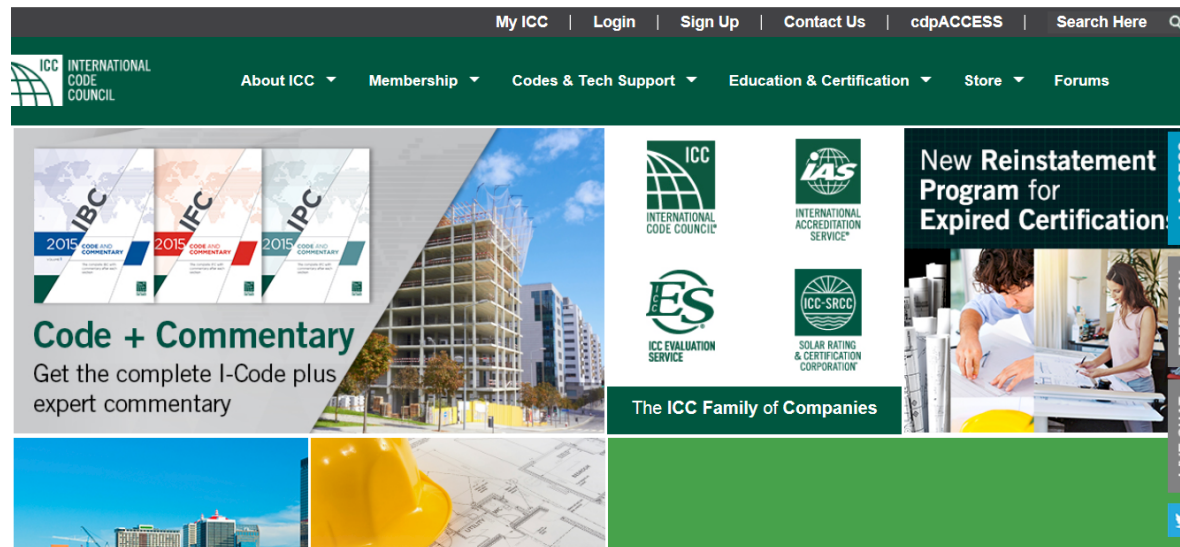


# Understanding Changes



## Reactive Approach

- ICC Web site
  - IBC – Summary of Changes
  - IRC – Summary of Changes
  - Several years until changes in code become enforced by state and local building inspection agencies.



- ASTM D7966 Resistance to Creep of Adhesive by Compression Loading
  - New creep methodology uses a simple loading jig to be used during environmental exposures.
  - Allows for a harmonization of creep testing between US and Canadian standards (CSA O112.9).
  
- ASTM D7247 Elevated Temperature Shear
  - Reviewing standard
  - Trend towards Fire Barrier / Flame Spread requirements in the building codes (12')
    - ASTM E-84 Flame Spread
    - ASTM E-119 Floor Burn

# Environmental Standards



- EPA deadline for final formaldehyde emission standards for composite wood products – May 2016
- Global trend seems to be follow CARB II type requirements



# Green Building Standards



- Various standards are vying for position in the market
  - Green Building Initiative - Green Globes
    - Draft ANSI standard has been released
    - Standard set for finalization in 2016
    - Science based exposure limits
  - USGBC - LEED v.4
    - New version scheduled for release Oct 31, 2016
  - ICC/ASHRAE 700 National Green Building Standard
    - ASHRAE, ICC, and NAHB Jointly released draft
    - Science based exposure limits
    - CARB II emission levels



# Green Building Standards



- Living Building Challenge
  - One of the most stringent “Green” standards
  - Material Red List
- Well Building Standard
  - Defers to:
    - LEED
    - Living Building Challenge







- Product Standards & Codes
  - Be Proactive
  - Get Involved
  - Email Updates
  - News Letters
  - Industry Contacts
- Environmental Standards
  - EPA revision
- Green Building Standards
  - Significant activity
  - Multiple options
  - Confusing until its sorted out

- Get involved
- Stay Informed



Questions?

 HEXION



sustainable solutions