National Sunroom Association

October 14-16
FALL MEETING
2007

Codes, Standards & Hot Topics

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Technical Committee Members

1	Bob Lizardi	Admiral Sunrooms
2	Henry Taylor	Architectual Testing, Inc.
3	Tom Zagore	Ashland Specialty Chemical Co.
4	Dave Mills	Azon USA, Inc.
5	Martin Goss	Champion Enclosure Suppliers, Inc.
6	Dan Ochstein	Champion Enclosure Suppliers, Inc.
7	Craig Joss	Craft-Bilt Manufacturing Company
8	Jason Albany	C-Thru Industries
9	Marco Pacheco	C-Thru Industries
10	Mike Leigh	C-Thru Industries
11	Duncan Helwig	C-Thru Industries
12	Tom Blackwood	Custom Patio Rooms, Inc
13	Rick Edwards	Custom Patio Rooms, Inc
14	Bob Wasko	Falcon Foam Corp.
15	Chris Amundsen	Four Seasons Sunrooms
16	Alex Spyrou	Four Seasons Sunrooms
17	David Bronzino	Four Seasons Sunrooms
18	Lyndon Johnson	Harvey Industries, Inc.

19	Wantao Chu	Joyce Manufacturing
20	Mike Francis	K2 USA, Inc.
21	Bill Kaufmann	Metals USA Building Products
22	Scott Schimming	Owens Corning
23	Russ Weir	Owens Corning
24	Tony Bouquot	Patio Enclosures, Inc.
25	Tim Gaumer	Plymouth Foam, Inc.
26	Carl Putnam	Putnam Engineering
27	Zach McCartney	Seaway Mfg. Corporation
28	Andy Snelling	Seaway Mfg. Corporation
29	Greg Header	Solar Innovations
30	Jim Dunlop	Sun Room Concepts
31	Dean Schwartz	SunPorch Structures, Inc.
32	Joe Burns	SunPorch Structures, Inc.
33	James Hall	TEMO, Inc.
34	Bill Robertson	Terrapin Testing, Inc.
35	Terry Cavanagh	Terrapin Testing, Inc.

Codes & Standards (Cont'd)

- 2007 I-Codes Supplement is now available
- ICC Hearing Schedule for the 2009 I-Codes
  1) Deadline for proposals - 8/20/2007
  2) Publication of monograph - 12/18/2007
  3) Code development hearings - 2/18 to 3/2/2007 (Palm Springs, CA)
  4) Publication of hearing results - 4/24/2008
  5) Deadline for public comments - 6/9/2008
  6) Publication of "Final Action Agenda" - 8/15/2008
  7) Final Action Hearing - 9/17 to 9/23/2008 (Minneapolis, MN)

Codes & Standards

- International Code Council (ICC)
  - NSA submitted seven code proposals
  - IRC, IBC, IECC Chapter 2:

    Sunroom – "A one-story structure attached to a building with a glazing area in excess of 40 percent of the gross area of the structure's exterior walls and roof. "

Codes & Standards (Cont'd)

- IRC, IBC, IECC Chapter 2:

  Thermal Isolation – "Physical and space conditioning separation from conditioned space(s), consisting of existing or new wall(s), doors and/or windows. The conditioned space(s) shall be controlled as separate zones for heating and cooling or conditioned by separate equipment.

Codes & Standards (Cont'd)

- IRC & IBC Structural: Deflection of Glazing Bars
  - IRC Table R301.7, Footnote "c" (and corresponding IBC footnote)

"For aluminum structural members or panels used in roofs or walls of sunroom additions or patio covers, not supporting edge of glass or sandwich panels, the total load deflection shall not exceed L/60. For continuous aluminum structural members supporting edge of glass, the total load deflection shall not exceed L/175 for each glass lite or L/60 for the entire length of the member, whichever is more stringent. For sandwich panels used in roofs or walls of sunroom additions or patio covers, the total load deflection shall not exceed L/120."

2009 I-Codes – Crystal ball

- What might we expect to come up?
  - Codes are now 7 years old – still had 2,261 proposals for 06 / 07 cycle!
  - NOTE: The discussion to follow is speculative – we do not have knowledge of any actual 2009 proposals yet!
  - Increased emphasis on fire performance
    - Charleston, S.C. furniture store fire, California wildfires
    - Last cycle a proposal was made to make residential sprinklers mandatory – it failed by a narrow margin
    - Passive Protection – Last cycle a number of proposals sought reductions in allowable areas for building construction, increased fire ratings (they failed)

2009 I-Codes – Crystal ball

- Increased stringency in energy codes
  - Higher required R-values for components, lower U-values for assemblies (walls, roofs, windows)
  - Mandatory “cool roofs”?
    - ASHRAE 90.1 Addendum already submitted
  - Higher efficiency levels for HVAC equipment
  - Prescriptive methods become more conservative
  - Shift toward analysis or certification of performance
  - Tighter building air leakage provisions
  - Incorporation of new insulating materials
    - 2007 cycle incorporated SIPs (New section R614)

2009 I-Codes – Crystal ball

- Increase in prescriptive structural provisions
  - Wind borne debris regions
    - Last cycle: wind-borne debris protection & attachment requirements (anchors permanently installed)
  - Introduction of new prescriptive material data
    - Last cycle: SIPs panels and log structures were added
    - Last cycle: Prescriptive deck ledger attachment procedures
    - Last cycle: Wood plastic composites (decking)

ASCE 7 Potential Changes

- ASCE working on 2010 edition
- Gable roof snow drifting (unbalanced) formula is getting another look – might be eliminated for a simplified method

~~(70/W + 0.5)~~ ASCE 7-05

W	Slope 70/W+0.5	x:12
5	14.50	3.10
6	12.17	2.59
7	10.50	2.22
8	9.25	1.95
9	8.28	1.75
10	7.50	1.58
14	5.50	1.16
16	4.88	1.02
37.25	2.38	0.50

Current Method

New Proposal:

$70^{o} \langle x \langle 2.38^{o}$

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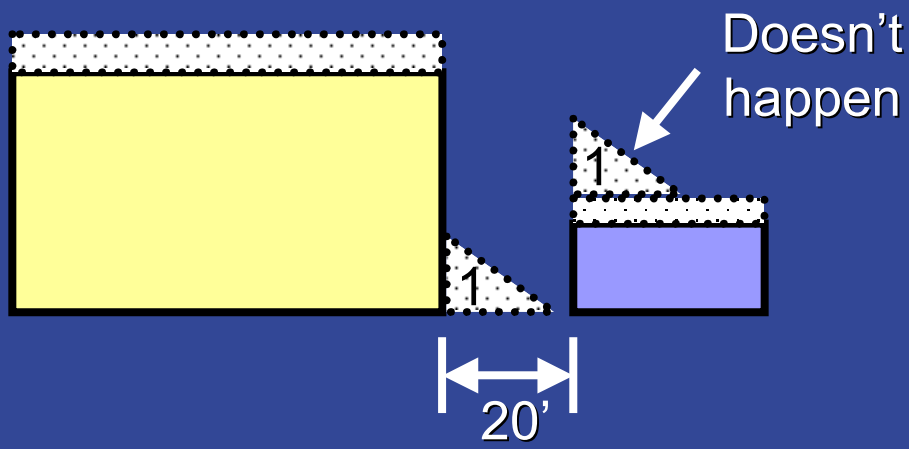
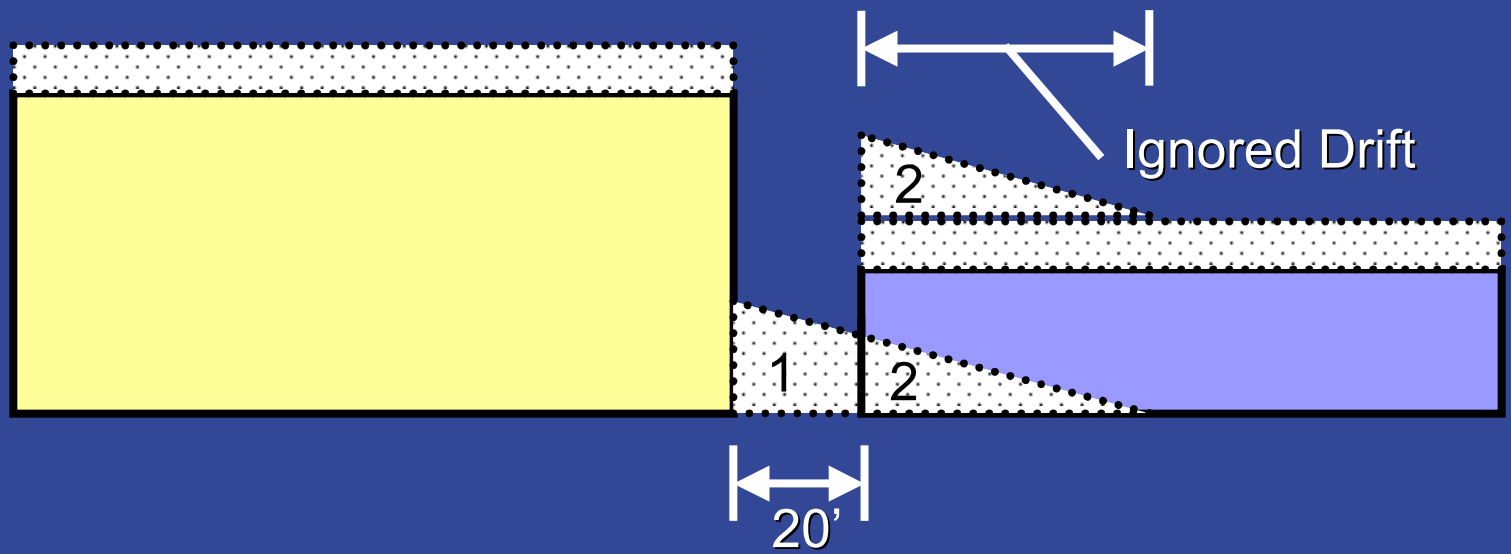
… ASCE 7 Potential Changes

- Alternative method: Default uniform snow loads (proposed)
  - Ground Snow (P_g) + 5 or 10 psf
  - Would require the project to meet certain limitations (parapet height, roof steps, no sliding snow from above)
- Snow drifts caused by adjacent buildings
  - Change would eliminate drift load if separation distance is greater than calculated drift width
  - 20 ft distance ignored drifts in some cases

Examples





ASCE 7 Potential Changes

- How do these changes affect sunrooms?
  - For the most part, these do not
  - What's the point?
    - Standard is undergoing continuous improvement
    - There are opportunities for research
  - Anything special about sunroom snow loads?
    - Small projection structures
    - Usually lower than house – aerodynamic effects
      - Windward & leeward drifting, sliding, unbalanced

Energy Efficiency Legislation

- H.R. 3221, “Renewable Energy and Energy Conservation Tax Act of 2007”
- Introduced in the U.S. House on July 30, 2007
- Passed House of Representatives August 4, 2007 [Vote Count: 241 – 172 – 20]
- Next stop is the U.S. Senate, then President

Energy Efficiency Legislation

- Summary of Pending Legislation
  - 2010 to be 30% more efficient than 2004
  - 2020 to be 50% more efficient
  - If they don't meet this, DOE will propose modified codes that do
  - Gives states 2 years to adopt codes that save as much energy as national models
  - Within 3 years, states have to achieve 90% compliance, verified by inspections of sample buildings

Energy Code Compliance

- Thermally isolated sunrooms
- 2006 IECC

402.2.10 Thermally isolated sunroom insulation. The minimum ceiling insulation *R*-values shall be R-19 in zones 1 through 4 and R-24 in zones 5 though 8. The minimum wall *R*-value shall be R-13 in all zones. New wall(s) separating a sunroom from conditioned space shall meet the building thermal envelope requirements.

402.3.5 Thermally isolated sunroom *U*-factor. For Zones 4 through 8, the maximum fenestration *U*-factor shall be 0.50 and the maximum skylight *U*-factor shall be 0.75. New windows and doors separating the sunroom from conditioned space shall meet the building thermal envelope requirements.

Energy Code Compliance

- Thermally isolated sunrooms
- 2006 IRC

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Above Energy Code Programs

- How do sunrooms fit in?
  - Residential Programs
    - LEED-H
    - NAHB National Green Building Standard
  - Commercial Programs
    - LEED
    - Energy Star

Industry Issues / Concerns

- Window Safety / Preventing Child Falls
  - Minnesota window fall protection
    - Currently at MN Finance Committee
    - SF0356 – If passed, would require:
      1) Safety devices for windows (screens, guards, hardware)
      2) Education for caregivers
      3) Report from commissioner on effectiveness
    - SF0356 includes reference to ASTM
    - Rule set to be effective July 1, 2009 if adopted as written

Industry Issues / Concerns

2006 IBC & R613.2 Residential

1405.12.2 Window sills. In Occupancy Groups R-2 and R-3, one- and two-family and multiple-family dwellings, where the opening of the sill portion of an operable window is located more than 72 inches (1829 mm) above the finished grade or other surface below, the lowest part of the clear opening of the window shall be a minimum of 24 inches (610 mm) above the finished floor surface of the room in which the window is located. Glazing between the floor and a height of 24 inches (610 mm) shall be fixed or have openings such that a 4-inch (102 mm) diameter sphere cannot pass through.

Exception: Openings that are provided with window guards that comply with ASTM F 2006 or F 2090.

Industry Issues / Concerns

- ASTM F2006-00(2005) Standard Safety Specification for Window Fall Prevention Devices for Non-Emergency Escape (Egress) and Rescue (Ingress) Windows

- ASTM F2090-01a(2007) Standard Specification for Window Fall Prevention Devices With Emergency Escape (Egress) Release Mechanisms

Fire Performance

- 2006 IRC
  - 314.2 Labeling and identification
  - R314.3 Surface burning characteristics
    - Flame spread < 75
    - Smoke developed < 450
    - Max thickness of 4”, otherwise use R314.6
  - R314.4 Thermal barrier
    - 15 minutes required, ½” gypsum wallboard tested to NFPA 286, FM 4880, UL 1040 or UL 1715
  - R314.6 Specific approval
    - NFPA 286, FM 4880, UL 1040 or UL 1715 or tests related to actual end-use configurations
    - Includes seams, joints, actual use details

NSA Code Monitoring

- Technical Committee
  - Code Modifications Subcommittee
  - Geographic Issues Subcommittee
- TA staff will coordinate and assist with reviews
- TA staff attends all code hearings of IBC, IRC, IECC (and many other non-ICC)
  - See code / standards list circulated via NSA Bulletin 99-07 dated July 17, 2007

Questions?